127-19 APPENDIX A – RESPONSE FORM

Company Name: ____

Company's Address____

Phone Number:________________FAX No: _____________ Email Address: _____________________________

☐ **I have read and understood the Sunshine Law/Public Records clauses contained within this solicitation. I understand that in the absence of a redacted copy my proposal will be disclosed to the public "as-is".**

RESPONDENT CERTIFICATION

By submitting this Response, the Respondent certifies that it has read and reviewed all of the documents pertaining to this Solicitation, that the person signing below is an authorized representative of the Respondent Company, that the Company is legally authorized to do business in the State of Florida, and that the Company maintains in active status an appropriate contractor's license for the work (if applicable). The Respondent also certifies that it complies with all sections (including but not limited to Conflict of Interest) of this Solicitation.

We have received addenda _______ through _______

____ ________________

Handwritten Signature of Authorized Officer of Company or Agent Date

____

Printed Name and Title

CONFLICT OF INTEREST
CERTIFICATE

JEA IFB No. _______________

Bidder must execute this form, if applicable, relative to Florida Statute 112.313. Failure to submit this form, if applicable, shall result in rejection of this bid.

I hereby certify that the following named JEA official(s) and employee(s) having material financial interest(s) (in excess of 5%) in this company have filed Conflict of Interest statements with the Supervisor of Elections, 105 East Monroe Street, Jacksonville, Duval County, Florida, prior to bid opening.

Name	Title or Position	Date of Filing
____________________	____________________	____________________
____________________	____________________	____________________
____________________	____________________	____________________

____________________________ Signature

____________________________ Company Name

____________________________ Name of Certifying Official (type or print)

____________________________ Business Address

____________________________ City, State, Zip Code

JEA Procurement Code

Original Effective Date – February 1, 1996
Revision(s):
1997
2004
2011
2015

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DEFINITIONS

Award is the written approval of the JEA Awards Committee that the Formal Procurement action was in accordance with the JEA Procurement Code and Florida Statutes. Once an Award is approved, JEA will either issue a Purchase Order or execute a Contract with the successful Company.

Awards Committee is the body composed of appointed personnel that approves Procurement actions as defined in this Code.

Best and Final Offer is a Company's final offer following the conclusion of contract negotiations.

Bond Insurance means an agreement supplied by an insurance company in conjunction with a debt issue that provides for the guarantee of payment of principal and interest to the debt holder.

Cap means an agreement obligating the seller of the Cap to make payments to the buyer of the Cap, each payment under which is based on the amount, if any, by which a reference price or level or the performance or value of one or more underlying interests exceeds a predetermined number, sometimes called the strike/Cap rate or price.

Change Order means a written order issued by the JEA Project Manager, after the execution of the Contract authorizing, including but not limited to, additions, deletions, or revisions of the Supplies or Services, or an adjustment in the Contract Price, the Contract Term, or Contract performance. The JEA Project Manager may issue a Change Order without the consent of the Company. A revised Purchase Order shall be issued to the Company after a Changer Order is issued. Additionally, a Contract Amendment may be issued to formalize the material changes to the Contract.

Chief Procurement Officer means the person holding the position created in Section 2-203 (Designation and Qualifications of the Chief Procurement Officer) as the head of the central Procurement office of JEA.

Code means the JEA Procurement Code.

Collar means an agreement to receive payments as the buyer of an Option, Cap, or Floor, and to make payments as the seller of the Collar of a different Option, Cap, or Floor.

Company means any person or legal entity that provides or desires to provide Supplies or Services to JEA.

Construction means the process of building, altering, repairing, improving, or demolishing any structure or building, or other improvements of any kind to any real property. It does not include the routine operation, routine repair, or routine maintenance of existing structures, buildings, or real property.

Contract means all types of JEA agreements for the Procurement of Supplies or Services, regardless of what these agreements may be called.

Contract Amendment means any written amendment issued by the Chief Procurement Officer or Designee, after the execution of the Contract formalizing any material revisions to the Contract, including but not limited to, additions, deletions, or revisions to the Supplies or Services, or an adjustment in the Contract Price, the Contract Term, or Contract performance.

Collaborative Procurement means Procurement by, or on behalf of, more than one public entity or Utility Industry Partner and may include Procurements resulting from unsolicited offers.

Cost-Reimbursement Contract means a Contract under which a Company is reimbursed for costs that are allowable and allocable in accordance with the Contract terms and the provision of this Code, and a fee, if any.

Data means recorded information, regardless of form or characteristic.

Design-Build Contract means a single Contract with a Design-Build Firm for the design and Construction of a Construction project.

Design-Build Firm means a Company that:

(a) Is certified under Sec. 489.119 F.S. to engage in contracting through a certified or registered general contractor or a certified or registered building contractor as the qualifying agent; or

(b) Is certified under Sec. 471.023 F.S. to practice or to offer to practice engineering; or

(c) Is certified under Sec. 481.219 F.S. to practice or to offer to practice architecture; or

(d) Is certified under Sec. 481.319 F.S. to practice or to offer to practice landscape architecture.

Design Criteria Package means concise, performance-oriented drawings or Specifications of a JEA Construction project.

Design Criteria Professional means a Company that holds a current certificate of registration under Chapter 481 F.S. to practice architecture or landscape architecture or a Company that holds a current certificate as a registered engineer under Chapter 471 F.S. to practice engineering and who is employed by or under contract to JEA for the providing of professional architect services, landscape architect services, or engineering services in connection with the preparation of a Design Criteria Package.

Designee means a duly authorized representative of a person holding a position of authority.

Determination means a finding or decision made in the course of the Procurement process required by the Code.

Emergency means a reasonably unforeseen breakdown in machinery, a threatened termination of an essential service, the development of a dangerous condition, the development of a circumstance causing curtailment or diminution of an essential service or the opportunity to secure significant financial gain, to avoid delays to any governmental entity, or avoid significant financial loss, through immediate or timely action.

Employee means an individual drawing a salary from JEA, whether appointed or not.

Ex Parte Communication means any oral or written communication relative to a Solicitation, evaluation, Award or Contract controversy that occurs outside of an advertised public meeting pursuant to Section 286.011 F.S.

Floor means an agreement obligating the seller of the Floor to make payments to the buyer of the Floor, each payment under which is based on the amount, if any, that a predetermined number, sometimes called the strike/Floor rate or price, exceeds a reference price, level, performance or value of one or more underlying interests.

Forward Supply Agreement means a supplier has agreed to supply or cause to be supplied appropriate investments in appropriate amounts and for appropriate periods and to pay consideration to an entity either over time or up-front in an amount determined by bid or negotiation for the right to supply such investments to the escrow holder or other recipient identified by the entity.

Hedge means any transaction which is entered into and maintained to reduce the risk of a change in the value, yield, price, cash flow, or quantity of, or the degree of exposure with respect to, assets or liabilities which the buyer has acquired or incurred, or anticipates acquiring or incurring.

Industry Association means a voluntary association of firms having membership in a not-for-profit corporation with specified common interests.

COMMENTARY:

Examples of Industry Associations are American Public Power Association, Large Public Power Council, Florida Municipal Electric Association, Southern Electric Reliability Council, National Electric Reliability Council, Electric Power Research Institute and the Edison Electric Institute.

Informal Purchases means purchases of Supplies or Services of $300,000 or less; or electrical Services of $75,000 or less; or architectural or engineering Services of less than $35,000.

Invitation for Bids means all documents, regardless of medium, whether attached to or incorporated by reference in Solicitations for bids.

JEA means that independent agency of the City of Jacksonville as defined in Article 21 of the JEA Charter.

JEA Board means the members of the JEA appointed to serve as provided by Section 21.03 of the JEA Charter.

JEA Charter means Article 21 of Chapter 92-341, Laws of Florida, as amended from time to time.

Letter of Credit means a commitment, usually made by a commercial bank, to honor demands for payment of an obligation upon compliance with conditions and/or the occurrence of certain events specified under the terms of the commitment.

Liquidity Support means lines of credit, usually made by a commercial bank, provided to a debt issuer to pay the principal amount of debt either upon maturity or upon demand by the debt holder for payment in conjunction with the issuance of debt, often in the form of commercial paper, in the event that the remarketing agent or the dealer is unable to remarket the debt.

Office of General Counsel means the General Counsel, City of Jacksonville or Designee.

Operational Procedures means the Chief Procurement Officer's written instructions applicable to JEA Procurements and Procurement activities that have been promulgated in accordance with this Code.

Option means an agreement giving the buyer the right to buy or receive, sell or deliver, enter into, extend or terminate, or effect a cash settlement based on the actual or expected price, level, performance, or value of, one or more underlying interests.

Organizational Element means any subdivision of JEA —team, area, activity, department, group, business unit, etc.-- that utilizes any Supplies or Services procured under this Code.

Procurement means purchasing, renting, leasing, or otherwise acquiring; or selling, renting, leasing or otherwise disposing of any Supplies or Services. It also includes all functions that pertain to the acquisition or disposal of any Supplies or Services, including description of requirements, selection and solicitation of sources, preparation and Award of Contract.

Procurement Appeals Board means the body comprised of appointed personnel as designated in this Code to hear appeals regarding Procurement issues as designated in this Code.

Procurement Officer means the person designated by the Chief Executive Officer to procure Supplies, Services or Real Estate as set forth in this Code.

Professional Services means Services the value of which are substantially measured by the professional competence of the Company performing them and which are not susceptible to realistic competition by cost of Services alone. Professional Services shall include, but are not limited to, Services customarily rendered by attorneys; certified public accountants; and insurance agents, financial advisors, personnel consultants, systems consultants, and management consultants. For purposes of this Code, Professional Services shall not include Services customarily rendered by architects, landscape architects, professional engineers and registered surveyors.

Project Manager means the JEA Employee assigned responsibility for the successful management of a particular Construction project or Architect-Engineer and Land Surveying Services project. The duties of the Project Manager include Contract administration and making written Determinations with respect thereto.

Public Partner means any state or territory of the United States, or any county, city, town or other subdivision of any state or territory of the United States, or any public agency, public authority, educational, health, or other institution of such subdivision.

Purchase Description means the words used in a Solicitation to describe the Supplies or Services to be purchased, and includes Specifications attached to or made a part of the Solicitation.

Qualified Proposers List means the list of Qualified Proposers for design, engineering, architecture, surveying and other similar work as maintained by Procurement.

Real Estate means land, including buildings and improvements, its natural assets, easements or a permanent interest therein.

Repurchase Agreement means a transaction in which one party (seller) agrees to transfer to the other party (buyer) securities against the transfer of funds by the buyer with a simultaneous agreement by the buyer to transfer to the seller such securities at a date certain or upon demand against the transfer of funds by the seller.

Request for Proposals means all documents, regardless of medium, whether attached to or incorporated by reference in Solicitations for proposals.

Request for Qualifications and Statement of Interest means all documents, regardless of medium, whether attached or incorporated by reference, utilized for soliciting information to determine most qualified Design-Build Firms.

Responsible Bidder means a Company that has the business judgment, experience, facilities and capability in all respects to perform fully the Solicitation requirements, and the integrity and reliability that will assure good faith performance.

Responsible Bidder's List means the list of Responsible Bidders for Construction, reconstruction, repair, maintenance and other similar work as maintained by Procurement.

Responsive Bidder means a Company that has submitted a response that conforms in all material respects to a Solicitation.

Securities Lending means an activity in which securities are loaned to a dealer or financial institution by a lending party in exchange for a fee and collateral comprising securities with a market value greater than the loaned securities. Loaned securities are due upon demand by the lending party.

Services mean the furnishing of labor, time or effort by a Company. This term includes work performed on Construction projects and the receipt, delivery and transmission of electric power, fuel, by-products or thermal energy. This term shall not include employment agreements or collective bargaining agreements.

COMMENTARY:

This definition of Services is very general and includes both Professional Services and other services such as personal, administrative or technical services.

Sole Source means the one justifiable Company that can provide the Supplies or Services.

Solicitation means the document (which may be electronic) issued by the JEA Procurement Department for the Procurement of Supplies or Services.

Solicitation Review Team is the group of JEA staff as further defined in this Code that reviews proposed Solicitations prior to release to the public.

Specifications mean any description of the physical or functional characteristics, or of the nature of an item of Supply or Service. It may include a description of any requirement for inspecting or testing an item of Supply or Service, or preparing such item for delivery. Also commonly referred to as Technical Specifications.

Supplemental Work Allowance (SWA) means funds established prior to Award of a Contract to be used for revisions to Contract terms, existing work, anticipated unknown work or unanticipated work. The SWA shall be expended through a Contract Amendment approved by the CPO if the SWA results in the increase of the Contract Price.

Supplies mean all property, including but not limited to, equipment, materials, repair parts, consumables, tools, printing, and leases of real property, excluding Real Estate.

Swap (Interest Rate or Commodity) means an agreement to exchange, or net, payments at one or more times based on the actual or expected price, level, performance, or value of one or more underlying interests.

Tri-party Repurchase Agreement means an agreement between the buyer, seller and custodian whereby the custodian is not affiliated with either the buyer or the seller, and the custodian is the safekeeping agent for securities involved in a Repurchase Agreement transaction.

Useful Life Cycle of Supplies means that time beginning with the purchase of the item and ending when the item is no longer of significant use to the JEA.

Utility Industry Partner means a company, approved by the Chief Procurement Officer, with whom JEA may legally engage in at least one of the Collaborative Procurement practices or joint ventures set forth in this Article for a specific Procurement or project.

COMMENTARY:

(1) In order to be a Utility Industry Partner for a given project, the firm must be approved by the Chief Procurement Officer after consultation with the Office of General Counsel for that Procurement or project. The determination that the firm is a Utility Industry Partner for one project does not mean that the firm shall be a Utility Industry Partner on any other Procurement or project.

(2) Florida Power and Light Company and the Southern Company are now Utility Industry Partners for the St. Johns River Power Park and Plant Scherer projects, respectively. Examples of prospective Utility Industry Partners include, but are not limited to: publicly-owned or privately-owned utilities; utility industry trade associations; exempt wholesale generators; cogenerators or small power producers; other entities whose business purpose is the generation or transmission or distribution or the promotion of the efficient use of electricity or water.

(3) Utility Industry Partners may also include Companies that provide JEA Supplies, Services or Real Estate who have contractual relationships with other firms that JEA may use to secure Supplies or Services at prices determined by the Awards Committee to be advantageous and desirable to JEA.

ARTICLE 1- GENERAL PROVISIONS

1-101 Purposes, Rules of Construction

(1) *Interpretation.* This Code shall be construed liberally and applied to promote its underlying purposes and policies.

(2) *Purposes and Policies*. The underlying purposes and policies of this Code are:

(a) to simplify, clarify, and modernize the rules governing Procurement by JEA;

(b) to permit the continued development of this Code and Operational Procedures for flexibility and execution of JEA's value chain activities;

(c) to provide for increased public confidence and consistency in the procedures followed in JEA Procurement;

(d) to ensure the fair and equitable treatment of all persons who deal with the JEA Procurement system;

(e) to provide increased economy in JEA Procurement activities and to maximize, to the fullest extent practicable, the purchasing value of JEA funds;

(f) to foster effective, broad-based competition within the free enterprise system;

(g) to provide safeguards for the maintenance of Procurement system quality and integrity, and

(h) to ensure JEA's Procurement activities comply with Florida Statutes.

(3) *Singular-Plural and Gender Rules*. In this Code, unless the context requires otherwise:

(a) words in the singular number include the plural, and those in the plural include the singular; and

(b) words of a particular gender include any gender and the neuter, and when the sense so indicates, words of the neuter gender may refer to any gender.

(4) *Use of Capitals in Text*. This Code comprises numerous defined terms and position titles. The following convention regarding capitalization of the first letter of each word constituting these terms in the text of the Code has been adopted to aid the reader. In general:

(a) the first letter of the first word of a defined term, position title or Organizational Element is capitalized if it begins a sentence;

(b) the first letter of each word of a defined term is capitalized in its definition;

(c) the terms *Authority*, *Code*, *City Charter*, *JEA*, *JEA Board*, *Office of General Counsel* are capitalized as presented here; and

(d) names of committees, other boards, state offices, laws and solicitation documents are capitalized.

(5) *Job Titles*. This Code includes JEA job titles that may be changed in the future due to JEA organizational changes. It is intended that the appropriate successor job titles shall be substituted in the Code by the Chief Executive Officer when appropriate.

(6) *Interpretation*: Where the word "shall" is used, it connotes a mandatory requirement. Where the word "may" is used, it connotes a permissive.

1-102 Application of this Code

(1) *General Application.* This Code applies only to Contracts and Contract Amendments solicited or entered into after the effective date of this Code.

COMMENTARY:
This Code would not retroactively affect rights and remedies under existing Contracts. The Code will affect rights and remedies under existing Contracts that are amended, extended or renewed after the effective date of this Code.

(2) Application *to JEA Procurement.* This Code shall apply to expenditures of public funds under Contract by JEA, irrespective of their source. It shall also apply to the sale or other disposal of JEA property and Supplies. Nothing in this Code or in Operational Procedures promulgated hereunder shall prevent JEA from complying with the terms and conditions of any grant, gift, bequest, or collaborative agreement.

(3) Application *to St. Johns River Power Park Procurement.* Unless otherwise prohibited by the Agreement for Joint Ownership, Construction and Operation of St. Johns River Power Park Coal Units #1 and #2, as amended, and St. Johns River Power Park Procurement policies and procedures, this Code shall apply to St. Johns River Power Park Procurements to the extent adopted by the St. Johns River Power Park Executive Committee.

COMMENTARY:
The last sentence of subsection (2) enables JEA to comply with conditions contained in grants, gifts, bequests, or agreements between JEA and a public or private party (for example, a lessee) specifying requirements for the design, location, construction, or utilization of facilities, including industrial development facilities.

1-103 Effective Date

(1) *Effective Date.* This Code became effective February 1, 1996, when the Procurement organization set forth in Article 2 was established and functioning.

1-104 Determinations

Written Determinations required by this Code shall be retained in the appropriate official Contract file maintained in accordance with Operational Procedures promulgated by the Chief Procurement Officer.

1-105 Definitions of Terms Used in this Code have been listed alphabetically in the "Definitions" Section.

1-106 Policy of Continuous Improvement

(1) *Suggestions for Improvements*. The JEA Board has delegated the authority to promulgate this Code to the Chief Executive Officer. The Chief Executive Officer intends for this Code to be a dynamic document comprising the best available public sector Procurement practices. To this end, the Chief Executive Officer encourages JEA Employees and others who deal with the JEA Procurement system to submit to the Chief Procurement Officer any ideas or suggestions for improvements to the Code.

(2) *Revisions to the Code*. The Chief Executive Officer may approve revisions to the Code provided the revisions are consistent with applicable law, and in keeping with the JEA Board Governance Policy Manual.

1-107 Public Access to Procurement Information

Procurement information shall be a public record to the extent provided in the Florida Public Records Law and the rules and regulations promulgated by the Division of Library and Information Services of the Department of State.

COMMENTARY:

The purpose of this provision is to achieve maximum public access to Procurement information consistent with Florida Statutes. The Florida Public Records Law is codified in Chapter 119 F.S.

1-108 Small and Disadvantaged Businesses

JEA desires to follow the small and/or disadvantaged business ordinances approved by the City of Jacksonville. Jacksonville Ordinance 2004-602 with revised Chapter 126 was approved and enacted August 10, 2004. Any definitions and policies described in any City of Jacksonville ordinances pertaining to small and/or disadvantaged business programs shall be incorporated into this Code. JEA shall adopt and adhere to any such program developed by the City, as currently exists and as may be amended in the future, unless exempted by the proper authority.

1-109 Office of General Counsel of the City of Jacksonville

(1) *Legal Services*. The Office of General Counsel shall serve as legal counsel and provide necessary legal Services to the JEA Board, the Chief Procurement Officer, the Solicitation Review Team, the Awards Committee, the Procurement Appeals Board and Procurement Officers regarding Procurement matters.

(2) *Contracted Legal Services*. Contracts for outside legal counsel must be awarded and approved pursuant to the provisions of Section 21.07(e) of the JEA Charter and in accordance with Section 2-202 (Procurements Exempted from Competitive Solicitation) of the Code.

COMMENTARY:
The Office of General Counsel should serve as the legal counsel to advise and assist JEA on legal matters. Such legal counsel should designate such assistants as may be deemed necessary to act as advisors to personnel in JEA. In addition, the legal counsel or assistant should provide prompt legal advice to their clients as each occasion demands, so that the Procurement process, where speed is so often necessary, can move ahead promptly.

1-110 Ex Parte Communication Prohibited

(1) *Policy*. Ex Parte Communication denies any Company submitting a bid or proposal fair, open and impartial consideration. Adherence to procedures that ensure fairness is essential to the maintenance of public confidence in the value and soundness of the important process of public Procurement. Therefore, any Ex Parte Communication between a Company (or its employees, agents or representatives) and JEA (its members, Employees, agents, or representatives, other than the Chief Procurement Officer or Designee or JEA's legal counsel) is strictly prohibited.

(2) *Periods.* Ex Parte Communication is prohibited during the following periods:

(a) from the advertisement of a Solicitation through the award of a Contract; and

(b) from the initiation of a protest of an Award or Contract through resolution of such protest.

(3) *Exclusions*. This requirement shall not prohibit:

(a) public meetings called or requested by JEA and attended by bidders or proposers for the purpose of discussing a Solicitation, evaluation or selection process including, but not limited to, substantive aspects of the Solicitation document. Such meetings may include, but are not limited to, pre-bid or pre-proposal meetings, site visits to JEA's, bidders' or proposers' facilities, interviews/negotiation sessions as part of the selection process, and other presentations by bidders or proposers, all of which are requested by JEA. Such authorized meetings shall be limited to topics specified by JEA.

(b) the addressing of the Awards Committee and the Procurement Appeals Board at public meetings advertised and conducted pursuant to Section 286.011 F.S.;

(c) the filing and prosecution of a written protest to any proposed Award to be made pursuant to the Solicitation, evaluation and selection process, which filing and prosecution shall give notice to all bidders or proposers. Protest proceedings shall be limited to open public meetings, with no Ex Parte Communications outside those meetings;

(d) contact by Company currently under Contract with JEA, but only in regard to any work performed on projects unrelated to the Solicitation and which are currently in process;

(e) communications between Company and Chief Procurement Officer or Designee, or JEA Legal Counsel in accordance with the requirements of any administrative remedies process;

(f) questions to the JEA Purchasing Agent, referenced in the Solicitation, regarding matters pertaining to a Solicitation during the time period allotted for Solicitation questions.

1-111 Retention of Procurement Records

All Procurement records shall be retained, made available and disposed of in accordance with the requirements of the Florida Public Records Law and the rules and regulations promulgated by the Division of Library and Information Services of the Department of State.

1-112 Collection of Data Concerning JEA Procurement

(1) *Chief Procurement Officer*. The Chief Procurement Officer shall prepare and maintain statistical Data concerning the Procurement, usage, and disposition of all Supplies and Services, except for Procurements by Procurement Officers in accordance with the requirements of Section 2-201 (Procurement Code Exemptions) and shall employ such trained personnel as may be necessary to carry out this function. Organizational Element managers shall furnish such reports as the Chief Procurement Officer may require concerning usage and needs, and the Chief Procurement Officer shall have authority to prescribe forms to be used in requisitioning, ordering, and reporting of Supplies and Services.

(2) *Procurement Officers*. As directed by the Chief Executive Officer, Procurement Officers operating under the requirements of Section 2-201 (Procurement Code Exemptions) shall prepare and maintain statistical Data concerning the Procurement, usage, and disposition of all Supplies and Services procured and shall employ such trained personnel as may be necessary to carry out this function.

COMMENTARY:

The Chief Procurement Officer and Procurement Officers should endeavor to perform assigned duties in a manner that will ensure that the Supplies and Services procured meet the requirements of JEA. To achieve this goal, the Chief Procurement Officer, Procurement Officers and Organizational Element managers should be free to make recommendations to each other. A close and cooperative relationship should be maintained.

1-113 Record of Procurement Actions Taken Under Section 3-111 (Sole Source Procurements) and Section 3-113 (Emergency Procurements)

(1) *Contents of Records*. The Chief Procurement Officer shall maintain a record listing all Formal Purchases made under Section 3-111 (Sole Source Procurements) and Section 3-113 (Emergency Procurements). The record shall contain:

(a) each Company's name;

(b) the amount and type of each Contract;

(c) a listing of the Supplies and Services procured under each Contract; and

(d) the reason or justification for the Procurement.

(2) *Submission to JEA Board.* A copy of such records listing all Formal Purchases made under Section 3-111 (Sole Source Procurements) and Section 3-113 (Emergency Procurements) shall be submitted to the JEA Board on a quarterly basis.

1-114 Record of Procurement Appeals Board Decisions Taken Under Section 5-301 (The Procurement Appeals Board)

(1) *Submission to JEA Board.* Procurement Appeal Board decisions made under Section 5-301 (The Procurement Appeals Board) shall be submitted to the JEA Board on a quarterly basis.

ARTICLE 2 - PROCUREMENT AUTHORITY, DESIGNATIONS, AND COMMITTEES

2-101 JEA Procurement Policy

Pursuant to the authority granted to the JEA Board under Section 21.09 of the JEA Charter, the JEA Board has authorized the Chief Executive Officer to promulgate the JEA Procurement Code, as long as the Code is in keeping with all laws, and in compliance with the JEA Board Governance Manual.

COMMENTARY:

The JEA Board passed the JEA Board Governance Manual on February 16, 2010, which, in policy 2.11, authorized the Chief Executive Officer to develop procurement policies and procedures.

2-102 Procurement Authority and Duties of the JEA Board

The JEA Board has authorized the Chief Executive Officer to promulgate this JEA Procurement Code. The JEA Board shall consider and decide matters of policy regarding the overall Procurement practices for JEA, as set forth in Policy 2.11 of the Board Governance Manual, which was adopted by the Board on February 16, 2010. The JEA Board shall have the power to audit and monitor the implementation of the requirements of this Code, but shall not exercise authority over the Award or administration of any particular Contract, or over any dispute, claim, or litigation. The JEA Board shall have the same authority over litigation relating to procurement matters as it would have over any other type of litigation.

2-103 Centralization of Procurement Authority

In accordance with the provisions of the JEA Charter and the JEA Board Governance Manual, all rights, powers, duties, and authority relating to the Procurement of Supplies and Services and Real Estate, and the management, control, sale and other disposal of Supplies and Services and Real Estate, are vested in the Chief Executive Officer or the Chief Procurement Officer, as provided in this Code.

2-201 Procurement Code Exemptions

(1) *Types of Procurements*. The following Supplies and Services need not be procured through the Chief Procurement Officer, but shall nevertheless be purchased, leased, sold or otherwise disposed of by the appropriate Organizational Element manager subject to the requirements of Subsections (2) and (3) below:

(a) Generation Fuels, Emission Allowances, and Associated Transport;
(b) Byproducts;
(c) Purchase or Sale of Electric Energy, Electric Generation Capacity, Electric Transmission Capacity and Transmission Services – Short and Long Term Transactions;
(d) Sale of JEA Owned Transmission and Ancillary Services, including applicable Enabling Agreements;
(e) Environmental Allowances;
(f) Real Estate, including easements;
(g) Community Outreach Procurements.

(2) *Procurements by Managers of Organizational Elements*. Prior to Procurement of Supplies or Services or Real Estate by a manager of an Organizational Element:

(a) the Chief Executive Officer shall approve both the directives governing the Procurement, and shall designate the Procurement Officer responsible for a specific area of Procurement.

(3) *Procurement Through the Chief Procurement Officer.* In the absence of a Procurement Officer designated by the Chief Executive Officer and Procurement Directives, the Supplies and Services listed in this section shall be procured through the Chief Procurement Officer in accordance with this Code and Operational Procedures.

(4) *Actions by the Chief Executive Officer*. The Chief Executive Officer may exempt other types of Procurement or may revoke the exempted status of any type of Procurement. The Chief Procurement Officer shall maintain a current list of the types of Procurements that are exempted.

2-202 Procurements Exempted from Competitive Solicitation

The following Services and/or Supplies are exempt from the Code's bidding requirements and may be awarded without competition:

(1) Procurement of attorney and legal related services, which shall include, but not be limited to, court reporters, consultants, and Real Estate property appraisers. Procurement of attorney and legal related services shall be conducted by the Office of General Counsel pursuant to the JEA Charter.

(2) Procurement of Professional Services, as defined in Florida Statute 287.055 for a project where the basic construction cost of which is not in excess of the threshold amount provided in Florida Statute 287.017 for CATEGORY FIVE, which is currently $325,000.00, or for a planning or study activity

when the fee for Professional Services is not in excess of the threshold amount provided in Florida Statute 287.017 for CATEGORY TWO which is currently $35,000.00.

(3) Procurements of authorized investments, investment management firms, trustee, actuarial, advisory, and custody services that are approved by the St. John River Power Park Pension Committee.

(4) Procurements under $200,000 or less and fall under the JEA Cost Participation Policy.

(5) Property and casualty insurance, and Human Resource Benefits may be Awarded through the broker/consultant for those services with ultimate approval by the Awards Committee.

2-203 Designation and Qualifications of the Chief Procurement Officer

The Chief Executive Officer shall designate a Chief Procurement Officer. The Chief Procurement Officer shall be a full-time, appointed JEA Employee with demonstrated executive and organizational ability.

2-204 Authority of the Chief Procurement Officer

(1) *Central Procurement Officer of JEA.* The Chief Procurement Officer shall serve as the central point of contact for JEA Procurement Actions.

(2) *Power to Promulgate Operational Procedures*. Consistent with the provisions of this Code, the Chief Procurement Officer shall promulgate Operational Procedures governing JEA Procurement activities. Whenever practicable, the Operational Procedures shall be updated to incorporate the use of new technologies, best practices, and streamlined procedures for continuous improvement of JEA's Procurement activities. Material revisions to the Operational Procedures shall be approved by the Office of General Counsel prior to the revisions becoming effective.

(3) *Effect of Operational Procedures on Existing Contracts Rights.* Operational Procedures shall apply to Contract Amendments (including extensions and renewals) entered into after the effective date of this Code. No Operational Procedure shall change any commitment, right, or obligation of JEA or a Company under a Contract in existence on the effective date of such Operational Procedure.

(4) *Duties.* Except as otherwise specifically provided in this Code, the Chief Procurement Officer duties shall include but are not limited to:

(a) supervise and coordinate the procurement of all Supplies and Services as needed by JEA;

(b) make Determinations as to what constitutes a minor irregularity in bids and when bids or proposal should be rejected;

(c) conduct or coordinate training as needed;

(d) develop and maintain the standard contract language for procurements in consultation with the Office of General Counsel.

2-205 Delegation of Authority by the Chief Procurement Officer

The Chief Procurement Officer may delegate authority in writing to Designees.

2-301 Creation of the Solicitation Review Team

The Chief Procurement Officer shall create a Solicitation Review Team to ensure all Formal Solicitations are reviewed to ensure, at a minimum, that the following items are properly defined and included in Solicitation:

(1) Price and Payments;
(2) Performance requirements;
(3) Warranties, insurance, and indemnification;
(4) Term and Termination;
(5) Scope of Work;
(6) Audit Requirements;
(7) Minimum Qualifications; and
(8) JSEB Requirements.

2-302 Solicitation Review Team Procedures

The Chief Procurement Officer shall promulgate Operational Procedures that, to the fullest extent possible, will provide for the thorough consideration and expeditious discharge of the Solicitation Review Team's duties. The Solicitation Review Team shall not take votes or recommend policy for JEA. To ensure competitive fairness, its meetings shall not be open to the public.

2-401 Creation of the Awards Committee

(1) There is hereby created an Awards Committee composed of:

(a) any three to five Vice Presidents/General Managers, or Chief Officers who the Chief Executive Officer may appoint as voting members to perform the duties of the Awards Committee;

(b) the Chief Procurement Officer as a non-voting member shall be the chair of the Awards Committee meeting and will present the Procurement items at the meeting after obtaining approval from the Budget Organizational Element;

(c) a representative from the Budget Organizational Element, designated by the Chief Executive Officer, shall serve as a non-voting member of the Awards Committee with the primary role of providing information to and answering inquiries from the public and any Awards Committee members related to the Budget endorsement of the Award amount and other related financial matters; and

(d) a representative from the Office of General Counsel as a non-voting member who shall serve as counsel to the Awards Committee.

(2) *Quorum*. The presence of at least three (3) voting members of the Awards Committee at a meeting shall constitute a quorum. If the Chief Procurement Officer or his/her designee, the Budget Organizational Element representative or his/her designee, or a representative from the Office of General Counsel cannot be in attendance, the meeting shall be cancelled.

COMMENTARY:

The members of the Awards Committee may designate alternates upon permission of the Chief Procurement Officer. The Chief Procurement Officer may also designate an alternate to appear at the meeting in the event of the Chief Procurement Officer's unavailability.

Although the Chief Procurement Officer is a nonvoting member of the Awards Committee, the Chief Procurement Officer is responsible for approving the method of source selection for all items prior to their presentation to the Awards Committee.

2-402 Terms and Qualifications of Members of the Awards Committee

Members of the Awards Committee shall be appointed personnel of JEA and shall serve indefinite terms at the pleasure of the Chief Executive Officer.

2-403 Awards Committee Procedures

(1) The Awards Committee is subject to the Florida Sunshine Law, and all meetings of the Awards Committee shall be properly noticed, and minutes shall be taken. In addition, the voting members of the Awards Committee shall not discuss any matter which foreseeably could come before the Awards Committee with another member unless in a duly noticed meeting.

(2) Each voting member of the Awards Committee shall have one vote. It shall take a majority of the voting members of the Awards Committee for an item to be approved.

2-404 Duties of the Awards Committee

(1) *Scope of Review.* The Awards Committee shall review each Award item presented for compliance with the Code, and it shall consider whether the proposed action on the item is in the best interest of JEA.

(2) *Actions.* The Awards Committee shall, subject to Chief Executive Officer approval, make recommendations to approve, modify or reject Awards items. An Award items are required for the following:

(a) approving new Contracts;

(b) rescinding Solicitations after bids have been received;

(c) rejection of all bids;

(d) rescinding Awards previously approved by the Awards Committee;

(e) terminating Contracts previously approved by the Awards Committee;

(f) approving and authorizing Contract Amendments, Change Orders, contract renewals that exceed 10% of the previous Awarded total contract amount;

(g) approving Change Orders exceeding $1,000,000;

(h) approving Change Orders to Informal purchases that increase the contract amount above the approved Informal threshold;

(i) approving sales agreements that exceed the Informal purchase threshold;

(j) approving procurement actions when required for exempted procurement items in accordance with procurement directives (Section 2-201(2) Procurement Code Exemptions);

(k) ratifying procurement actions both Formal and Informal purchases; or

(l) approving all Sole Source (Section 3-111) and Emergency (Section 3-113) procurements

(3) *Concurrence of Chief Executive Officer*. The actions of the Awards Committee shall be implemented upon the written concurrence of the Chief Executive Officer. JEA shall not execute contracts where the intended expenditures for a specific fiscal period exceed the budget authorization for that period, nor shall JEA execute contracts that in the aggregate exceed the budget authorizations and projections for the same aggregate period.

COMMENTARY:

(1) The requirement for written concurrence includes concurrence by electronic means.

Additionally, procurement actions that combine the procuring of services and the selling of JEA surplus items, (e.g., demolition of excess power generation assets), shall also require Awards Committee approval when the Transaction Value is greater than Informal Purchases threshold. The Transaction Value is defined as the value of the demolition services and the surplus material.

(4) *Procurement Actions which are Exempted from Awards Committee Review*.

(a) Procurement actions set forth in Section 3-102 (Informal Purchases)

(5) *Exemptions by Directives*. The directives developed under the provisions of Section 2-201(2) (Procurement Code Exemptions) may exempt Procurement actions from Awards Committee review and approval.

(6) *Availability of Funding for Procurement Items.* Prior to presentation to the Awards Committee, each Award item shall be reviewed and approved by either the JEA or SJRPP Budget Organizational Element to determine whether sufficient funding is available for the Contract or Agreement. If the Budget Organizational Element is able to validate that sufficient funds are, or are expected to be available for the Award item, they will provide the JEA Budget endorsement at the Awards Committee meeting. If the Budget Organizational Element is unable to validate that sufficient funds are available, the operational Vice President/ General Manager or Chief Officer may certify by signature on the Award document that sufficient funding is or is expected to be available in the appropriate Departmental Budget for the expenses**.** In these cases, the Award Item may then be presented to the Awards Committee for consideration and the operational Vice President/ General Manager or Chief Officer's endorsement will

serve as the approval in place of the Budget Organizational Element approval pursuant to Article 2-401(1)(c).

(7) *Effect of Approval.* Once the items are reviewed and approved by the Awards Committee and the Chief Executive Officer, JEA is authorized to proceed with required actions to finalize the procurement of the Supplies or Services, including but not limited to, execution of Contracts, issuance of Purchase Orders and notices to proceed, and acceptance of delivery of Supplies and Services, subject to lawfully appropriated funds.

2-501 Creation of the Procurement Appeals Board

There is hereby established a Procurement Appeals Board composed of a chairperson and at least two other members. All members shall be designated by the Chief Executive Officer. A representative from the Office of General Counsel shall serve as counsel to the Procurement Appeals Board.

COMMENTARY:
The Procurement Appeals Board can provide expeditious and inexpensive procedures for the resolution of controversies.

2-502 Terms and Qualifications of Members of the Procurement Appeals Board

Members of the Procurement Appeals Board shall be a JEA Vice President/ General Manager or Chief Officer and shall serve indefinite terms at the pleasure of the Chief Executive Officer. At the discretion of the Chief Executive Officer, the Procurement Appeals Board may be a standing or *ad hoc* committee.

2-503 Procurement Appeals Board Procedures

(1) The Chief Procurement Officer shall promulgate Operational Procedures that, to the fullest extent possible, will provide for the expeditious resolution of controversies. The Procurement Appeals Board is subject to the Florida Sunshine Law, and all meetings of the Procurement Appeals Board shall be properly noticed, and minutes shall be taken. In addition, the voting members of the Procurement Appeals Board shall not discuss any matter which foreseeably could come before the Procurement Appeals Board with another member unless the discussion occurs in a duly noticed meeting.

(2) Each voting member of the Procurement Appeals Board shall have one vote. It shall take a majority of the voting members of the Procurement Appeals Board for an action to be approved.

2-504 Duties of the Procurement Appeals Board

The duties and operation of the Procurement Appeals Board are set forth in Article 5, Administrative Remedies and procedure provided in Appendix A.

ARTICLE 3 – SOURCE SELECTION AND CONTRACT FORMATION

3-101 Formal Purchases

(1) *Formal Purchase.* A Formal Purchase is the procurement of Supplies or Services where the estimated costs or fees exceed the following thresholds:

(a) Construction Services – $300,000 as required under Section 255.20, F.S.;

(b) Electrical Services – $75,000 as required under Section 255.20, F.S.;

(c) Architectural, Engineering, Landscape Architectural, or Surveying and Mapping Services:

i. Where the estimated cost for the basic construction of a project exceeds Section 287.017, Florida Statutes, for CATEGORY FIVE, which is currently $325,000.00; or

ii. Where the estimated fees for a planning or study activity exceeds Section 287.017, Florida Statutes, for CATEGORY TWO, which is currently $35,000.00; and

(d) All other Supplies and Services – $300,000 (to be consistent with Section 3-101(a)(i) of this Code).

(2) If a purchase is determined to be a Formal Purchase, specific procedures which are further detailed in the JEA Operational Procedures.

3-102 Informal Purchases

(1) *Conditions for Use.* Informal Purchases may be made in accordance with Operational Procedures. Procurement requirements shall not be artificially divided so as to constitute an Informal Purchase under this Section.

(2) *Competitive Pricing.* Unless the Procurement is otherwise exempted by this Code, the Operational Procedures for Informal Purchases shall require, at a minimum, the following kind and number of quotations from prospective suppliers:

a. one properly documented quotation for Procurements of $10,000 or less; or
b. three written or properly documented quotations for Procurements exceeding $10,000 but not exceeding the Formal Purchase threshold amounts stated in 3-101 (Formal Purchases).

(3) If the purchase is over $50,000 it shall be publicly advertised for 7 to 10 days.

3-103 Methods of Pre-Source Selection

If found to be in the best interest of JEA, the Chief Procurement Officer or Designee shall authorize the use of Pre-Source Selection methods which are as follows:

(1) *Request for Information (RFI).* A Request for Information (RFI) may request written information about the capabilities of bidders and prepare interested parties for participation in future Solicitations. The publication of a RFI notice does not obligate JEA to make the purchases referred to in the RFI.

(2) *Intent to Bid.* An Intent to Bid is intended to provide information to all bidders of JEA's intent to solicit a bid for Supplies or Services. The Intent to Bid may request a response from Bidders confirming their intent to submit a bid in response to a future JEA Solicitation. The publication of an Intent to Bid notice does not obligate JEA to make the purchases referred to in the Intent to Bid.

3-104 Methods of Source Selection

All JEA Contracts shall be awarded through a competitive sealed bidding process, pursuant to Section 3-105 (Invitation for Bids), unless otherwise provided in the following Section(s):

(a) Procurement Directives issued pursuant to Section 2-201(2) (Procurement Code Exemptions);
(b) Section 3-109 (Multi-Step Competitive Bidding);
(c) Section 3-106 (Request for Proposals);
(d) Section 3-107 (Procurements subject to the Consultant's Competitive Negotiation Act);
(e) Section 3-108 (Competitive Selection Procedures for Design-Build Services);
(f) Section 3-110 (Invitation to Negotiate);
(g) Section 3-102 (Informal Purchases);
(h) Section 3-111 (Sole Source Procurements);
(i) Section 3-112 (Procurement of Standard, Proprietary and Original Equipment Manufacturer Items);
(j) Section 3-113 (Emergency Procurements);
(k) Section 2-202 (Procurements Exempted from Competitive Solicitation);
(l) Article 4 (Procurement of Financial Instruments and Services);
(m) Article 3-114 (Public Private Ventures);
(n). Article 3-115 (Collaborative Procurement Agreements);
(o) Article 3-116 (Joint Projects); or
(p) Article 3-117 (Use of Publicly Procured Contracts).

3-105 Invitation For Bids (IFB)

(1) *Conditions for Use*. An IFB is the preferred method for acquiring Supplies and Services. Contracts awarded using this methodology shall be awarded based on price through a competitive sealed bidding process except as otherwise provided in Section 3-104 (Methods of Source Selection). An IFB shall be used when JEA is capable of precisely defining the Specifications for a Supply or Service. An

Award of Contract is based solely on the dollar amount of the Bid and does not include discussions or negotiations of material terms and conditions with the bidders.

COMMENTARY:
(1) IFBs are used when JEA is seeking the lowest price.

3-106 Request for Proposals (RFP)

(1) *Conditions for Use*. This bidding methodology shall be utilized if the Chief Procurement Officer or Designee determines that it is advantageous to JEA. JEA may use a RFP when (i) the evaluation criteria include quality measures in addition to price, or (ii) the Specifications cannot be precisely defined. Various combinations or versions of Supplies or Services may be proposed by a Company to meet the Specifications of the RFP document.

(2) This Section does not apply to the procurement of professional architectural, engineering, landscape architectural or surveying and mapping services. These types of services shall be obtained in accordance with Section 3-107 (Procurements subject to the Consultant's Competitive Negotiation Act) of this Code.

COMMENTARY:
(1) RFP Awards are based on quality and price, and allow greater flexibility in negotiating contract terms and conditions.

3-107 Consultant's Competitive Negotiation Act (CCNA) (Architectural, Engineering, Landscape Architectural, Or Surveying & Mapping Services)

(1) *Conditions for Use*. Professional architectural, engineering, landscape architectural, or surveying and mapping services shall be obtained in accordance with Florida Statutes 287.055, entitled "Consultant's Competitive Negotiation Act"(CCNA).

COMMENTARY:
(1) The CCNA process is required for these types of services and selection is based on quality measures only.

3-108 Competitive Selection Procedures for Design-Build Services

(1) *Conditions for Use.* JEA shall Award a Design-Build Contract in accordance with Section 287.055(9), Florida Statutes, or the Operational Procedures. The Operational Procedures allow the Award of a Design-Build Contract by the use of a competitive proposal selection process.

COMMENTARY:
(1) Design-Build is used in cases where the general design and construction requirements are known, but the detailed design and engineering is not completed, and this approach has been determined to be in the best interest of JEA.

3-109 Multi-Step Competitive Bidding

(1) *Conditions for Use*. Multi-Step Bidding involves a two phase process in which bidders first submit proposed revisions to both the commercial and technical terms of the Solicitation. During the second phase, the bidder shall submit a bid price based on a revised Solicitation. An Award is based solely on the price of the bid and does not include additional discussions or negotiations of material terms and conditions with bidders after the Award is approved.

COMMENTARY:

(1) Multi-Step Competitive Bidding provides flexibility for JEA to define commercial and technical terms after vendor feedback is obtained during the first step of the Solicitation process.

3-110 Invitation to Negotiate

(1) *Conditions for Use*. The Invitation to Negotiate is a Solicitation which in which JEA identifies one or more responsive Companies with whom JEA may request revised bids or responses, culminating in a Best and Final Offer, from which JEA will make its Award decision. The procedures for conducting an Invitation to Negotiate shall be described in the Operational Procedures.

COMMENTARY:

(1) This sourcing method provides added flexibility for JEA to directly negotiate with vendors during the IFB or RFP process to obtain the best overall pricing and service levels.

3-111 Sole Source Procurements

(1) *Conditions for Use.* A Contract may be awarded for Supplies or Services as a Sole Source when, pursuant to the Operational Procedures, the Chief Procurement Officer or Designee determines that:

(a) there is only one justifiable source for the required Supplies or Services; or

(b) a service is a follow-up of Services that may only be done efficiently and effectively by the Company that rendered the initial Services to JEA, provided the initial procurement was competitive.

3-112 Standard, Proprietary & Original Equipment Manufacturer Procurements

(1) *Conditions for Use.* A Contract may be awarded for Supplies or Services with limited or no competition when the Supplies or Services:

(a) have been selected as a JEA standard in the course of a standards program or through the action of a standards committee (standard); or

(b) must be a certain type, brand, make or manufacturer (proprietary); or

(c) must be obtained from the original equipment manufacturer, manufacturer's representative or a distributor authorized by the original equipment manufacturer because of the criticality of the item or compatibility within the JEA system (original equipment manufacturer).

3-113 Emergency Procurements

(1) *Conditions for Use.* Notwithstanding any other provision of this Code, the Chief Procurement Officer or Designee may make or authorize Emergency Procurements when there exists an Emergency as defined in this Code, provided that such Emergency Procurements shall be made with as much competition as is practicable under the circumstances. A written determination of the basis for the Emergency and for the selection of the particular Company shall be included in the Procurement file.

3-114 Public Private Ventures

(1) *Conditions for Use*. JEA hereby adopts F.S. §287.05712, as may be amended from time to time, for the receipt of unsolicited proposals for a qualifying project and the entering of contracts with a private entities for such projects, subject to the following conditions:

(a) Application Fee. The purpose of an application fee is to pay for the costs of evaluating the unsolicited proposal. The application fee shall be for the direct costs associated with JEA's engagement of non-JEA staff in the evaluation of the unsolicited proposal. The proposer will be notified of the estimated costs of evaluation and shall either pay the application fee or withdraw the unsolicited proposal.

(b) Public Notice. JEA shall publish public notice in a newspaper of general circulation at least once a week for two weeks stating that JEA has received the unsolicited proposal and JEA will accept other proposals for the same project. The timeframe for allowing other proposals shall be no fewer than 21 days but no more than 120 days after the initial date of publication of the notice.

(c) Receipt of Proposals. Sealed proposals must be received by the Procurement Office no later than the time and date specified for submission in the published notice.

(d) Proposal Evaluations. An evaluation team shall evaluate and rank the proposals based upon factors that include, but are not limited to, professional qualifications and experience, general business terms, innovative design, techniques or cost-reduction terms, and finance plans. Proposers may be invited to make oral presentations regarding their proposals. The recommendations of the Evaluation Team shall be submitted to the Awards Committee for approval, rejection or reconsideration.

(e) Award. For contracts involving long-term debt financing by JEA, the Awards Committee recommendation shall be reviewed and approved by the CEO. Award shall be made to the highest-ranked responsible proposer whose proposal is most advantageous to JEA in accordance with the criteria the Evaluation Team used in evaluating and ranking the proposals. The decision of the CEO shall be final. Written notice of the award shall be given to the successful proposer. Awards made by the CEO shall include authority for all subsequent options of renewal, if any. All contracts shall be in a form acceptable to the CEO and are subject to approval as to legal form by the Office of General Counsel. The Chief Financial Officer or his/her designee shall review all finance plans and documents related to the Private Entity's performance, payment of subcontractors and similar responsibilities. The Director of Risk Management shall review all insurance and related requirements.

3-115 Collaborative Procurement Agreements

(1) *Authorization.* JEA may participate in, sponsor, conduct, or administer a Collaborative Procurement agreement for the Procurement of any Supplies or Services or Real Estate with one or more public or Utility Industry Partners, nonprofit organizations or purchasing alliances in accordance with an agreement entered into between the participants. Such Procurements shall be in accordance with Operational Procedures.

(2) *Compliance with Code.* JEA shall not enter into a Collaborative Procurement agreement for the purpose of circumventing this Code. When the Chief Procurement Officer determines that the Procurement policies and practices utilized by the public or Utility Industry Partner administering a Collaborative Procurement effort substantially comply with the underlying purposes and policies of this Code, JEA's participation in the Collaborative Procurement agreement shall be deemed to be in compliance with this Code.

(3) *Controversies*. Contract controversies arising from a Collaborative Procurement agreement may be resolved in accordance with Article 5, Administrative Remedies, or in accordance with other procedures established or adopted by the public or Utility Industry Partner administering the Collaborative Procurement.

3-116 Joint Projects

JEA may enter into joint projects with public or Utility Industry Partners, the City of Jacksonville and its other independent agencies or other political subdivisions (e.g., the United States Navy, the Florida Department of Transportation, etc.) independent of the requirements of Article 3, Source Selection. Joint projects may include, but shall not be limited to, the following:

(a) combined water, sewer, drainage and road projects with the City of Jacksonville and Florida Department of Transportation;

(b) projects that provide significant benefit to JEA and its ratepayers.

3-117 Use of Publicly Procured Contracts

JEA may procure from, or in accordance with pricing, or other terms and conditions set forth in contracts of the City of Jacksonville and its other independent agencies or political subdivisions, other city and state or governmental agencies, school board districts, community colleges, federal agencies, the public or governmental agencies of any state, or from state university systems, and procurement authorities of JEA separate systems, independent of the requirements of Article 3, Source Selection. These Procurements shall be awarded through the Awards Committee in accordance with the Operational Procedures promulgated in accordance with Section 2-403 (Awards Committee Procedures).

COMMENTARY

St. Johns River Power Park and Unit 4 of Plant Scherer are separate systems of JEA.

3-118 Use Of Contract Types

(1) Any type of Contract subject to this Code that will promote the best interest of JEA may be used provided that, to the maximum extent practicable, all Formal Contracts, except master Contracts, must contain a not-to-exceed maximum amount. All subsequent orders or work authorizations under master Contracts must be in writing and contain a not-to-exceed maximum amount.

(2) A Cost-Reimbursement Contract may be used only when a determination is made that such Contract is likely to be less costly to JEA than any other type or that it is impracticable to obtain the Supplies or Services required except under such a Contract.

COMMENTARY:

(1) JEA has restrictions upon the use of funds in a fiscal year other than that in which the funds are appropriated. This section permits multi-year Procurement so that JEA may:

(a) procure larger quantities and obtain the benefits of volume discounts; and

(b) encourage Companies to make capital investments or investments in process changes required to reduce the cost of Supplies or Services they provide JEA.

(2) A multi-year Contract should be used only for master Contracts, unit price Contracts and Supplies or Services needed on a continuing basis with annual quantity requirements that can be reasonably estimated in advance. Multi-year Procurements should attract more competitors to submit bids or offers for the large Contract Awards and thereby provide JEA with the benefits of increased competition.

(3) In some cases, potential vendors are reluctant to enter into multi-year Contracts because of volatility or fluctuations in the vendor's cost of materials or components. To facilitate volume discounts through multi-year Contracts in these situations, Contracts may be structured with fixed and variable cost elements, where the variable cost elements escalate or de-escalate based upon materials or component prices at the time of order. For example, multi-year Contracts for cable and transformers may contain a variable price element based upon the published metals market cost of copper. In no situation, however, shall JEA enter into a Contract with variable price elements that requires JEA to order Supplies when such Supplies exceed any not-to-exceed price established in the Contract or when JEA determines that such order is not in its best interest.

3-119 Form Of Contract Documents

(1) *Formal Contracts*. The Office of General Counsel shall approve as to form all initial Contract documents requiring the signature of multiple parties for Contract documents exceeding the Informal Purchase amount. Contract Amendments do not require OGC form approval, unless specifically requested by JEA, and can be signed by the Chief Procurement Officer after review by a qualified JEA Employee.

(2) *Informal Contracts*. Purchase order formats may be used for Contracts that do not require the formality of signatures by both parties. If a Contract is executed for an Informal Purchase, it does not do not require OGC form approval, unless specifically requested by JEA, and can be signed by the Chief Procurement Officer after review by a qualified JEA Employee.

COMMENTARY:

(1) The Operational Procedures shall specify when a Contract should be established for a particular Procurement.

3-120 Execution of Contract Documents

The Chief Executive Officer shall execute all Contracts. The Chief Executive Officer may delegate to the Chief Procurement Officer the authority to execute Contracts. Contracts and purchase orders may be executed by electronic means or by facsimile signatures.

3-121 Project/Contract Manager Requirements

The role of a JEA Project and/or Contract Manager is as follows:

(a) Focus on making best business decisions for JEA when authorizing work and approving invoices;

(b) Improve Contract compliance by measuring vendor performance, applying liquidated damages, and holding the vendor accountable to Contract requirements;

(c) Unless otherwise approved by the Director of the Organizational Element, payment retainage shall be in accordance with Florida Statute 255.078, as amended;

(d) Take invoice payment discounts when appropriate; and

(e) Ensure all invoices are processed per the Contract pricing and terms.

COMMENTARY:

(1) For Subsection (c), a Director of the Organizational element may reduce the retainage below the amount specified by Florida Statutes: (a) to an amount equal to no less than 20% of the remaining cost to complete the project; (b) where there are no performance issues or quality concerns with the Company to date; and/or (c) Contract is 90% complete.

3-122 Continuing Services Contracts

Continuing services contracts are utilized for recurring work that is projected over a period of time. Individual Tasks issued under a continuing services contract shall not exceed either the amount authorized by the Contract or the amount as authorized by Florida Statutes for the specific category of work.

COMMENTARY

The maximum Individual Task amounts for Professional Services are specified in Florida Statute 287.055 (2)(g), and the maximum amount for Individual Tasks for Construction Services are specified in Florida Statute 355.32 (3)

3-123 Contract Pricing Terms

Contract pricing terms are required in all contracts and are the basis for invoice payment approvals. The appropriate type of pricing terms will depend on the type of contract and work being performed and include, but are not limited to, the following:

(a) Lump Sum/Fixed price Contracts. This type of Contract should be utilized for work that is clearly defined through the delivery of a specific deliverable or project milestone.

(b) Time and Materials and Labor Hour Contracts /Cost Reimbursement Contracts. This type of contract should be used when the scope and/or amount of work is uncertain at the beginning of the contract period.

(c) Unit Price Contracts: This type of contract is most appropriate for operations, repair and maintenance work provided through Continuing Services contracts.

ARTICLE 4 - PROCUREMENT OF FINANCIAL INSTRUMENTS AND SERVICES

4-101 [Deleted]

4-201 Types of Procured Financial Instruments and Services

This Article applies to the Procurement of the following financial instruments and Services:

(a) authorized investments pursuant to the electric system bond resolution, the electric system subordinated bond resolution, the St. Johns River Power Park bond resolution, the bulk power supply system bond resolution, water and sewer bond resolution and any future bond resolutions authorized by the JEA Board;

(b) financial instruments and arrangements, including but not limited to interest rate Swaps, Caps, Floors, Collars, Options and related hedging instruments and Forward Supply Agreements, Float Contracts, Guaranteed Investment Contracts (GICs) and related investment instruments used primarily in escrow agreements relating to debt instruments, Bond Insurance, surety policies, letters of credit, other credit enhancement facilities and Liquidity Support (e.g., continuing covenant agreements, standby bond purchase agreements, LOCs;

(c) purchases in the secondary market of JEA debt issued under the resolutions listed above;

(d) debt underwriting Services to underwrite variable or fixed rate bonds, notes, commercial paper or other debt-related financial instruments issued under the above resolutions, subject to a negotiated sale;

(e) debt underwriting Services to underwrite bonds, notes or other debt-related financial instruments issued under the above resolutions, subject to a competitive bid;

(f) bond counsel and related legal Services;

(g) financial advisory Services;

(h) trustee, registrar, paying agent, escrow agent, custody Services, and other similar fiduciary Services;

(i) credit rating agencies Services;

(j) dealers or remarketing agents that market commercial paper, variable rate demand obligations or other variable rate debt issued under the above resolutions;

(k) Securities Lending arrangements;

(l) financial printing Services, including but not limited to official statement printing;

(m) banking Services;

(n) escrow verification Services and accounting Services related to a debt issue or escrow restructuring; and

(o) letters of credit or Revolving Credit Facilities.

(p) Florida Voluntary Cleanup Tax Credits

4-301 Authorized Investments

(1) *Investments*. Investments shall be procured pursuant to the guidelines outlined in the JEA investment policy approved by the JEA Board on September 5, 1995 (most recently amended 12/20/11) and any subsequent amendments to that policy approved by the JEA Board, and shall be subject to the limitations contained in the bond resolutions under which the investments are to be held. The JEA Board authorizes the Chief Executive Officer or appointed managers designated by the Chief Executive Officer to:

(a) open and close accounts at registered broker/dealers or banks;

(b) purchase or sell securities which are authorized investments and sell securities provided to JEA as payment by customers in lieu of cash. The registered broker/dealer or bank is authorized to act upon any orders and instructions whether written or oral with respect to such account, and for the delivery of securities or money therefrom when received from the aforementioned appointed managers. Any of the aforementioned appointed managers may delegate to JEA Employees the authorization to transmit information regarding the execution and/or consummation of a trade described above. Securities transactions shall be approved in writing by any of the aforementioned appointed managers.

(2) *Execution of Certain Other Agreements.* Master Repurchase Agreements and tri-party master Repurchase Agreements and the related custody agreements shall be executed by the Chief Executive Officer or appointed managers designated by the Chief Executive Officer.

4-302 Financial Instruments and Arrangements

(1) *General.* Financial instruments and arrangements include interest rate Swaps, Caps, Floors, Collars, Options and related hedging instruments, Bond Insurance, surety policies, letters of credit, Forward Supply Agreements, float Contracts, Guaranteed Investment Contracts (GIC's), and related investment instruments used primarily in escrow agreements relating to debt instruments and other credit enhancement and Liquidity Support. Due to the dynamic nature of the marketplace for the foregoing, these types of instruments and arrangements shall be procured in a manner as authorized in this Section or as authorized by the Chief Executive Officer, or Designee on a case by case basis, based on prevailing practices in the

marketplace for such financial instruments and arrangements. Written approval by the Chief Executive Officer or Designee of the Procurement methodology shall be obtained prior to the Procurement, if the Procurement methodology is different than the methods specified below. Final approval of the winning bidder for the various instruments in this Section will be confirmed by the Chief Executive Officer or Designee.

(2) *Selection.* Suggested methods of procuring the Companies that provide these instruments and arrangements and/or executing the transactions are:

(a) competitive bid by the Organizational Element directly or through JEA's financial advisor. Such bid may be restricted to the group of Companies selected to serve as underwriter or otherwise pre-qualified Companies as recommended in writing by JEA's financial advisor (e.g., top rated banks to provide Liquidity Support for JEA's commercial paper program) for interest rate Swaps, Hedges, Caps, Floors, Collars, Options, Bond Insurance, surety policies, letters of credit, Forward Supply Agreements, float Contracts, Guaranteed Investment Contract (GIC's) and related investment instruments used primarily in escrows agreements relating to debt instruments, other credit enhancements, and Liquidity Support.

(b) Request for Information Solicitation by the Organizational Element or through JEA's financial advisor. Such Request for Information may be limited to the group of Companies selected to serve as underwriter or other groups of prequalified Companies as recommended in writing by JEA's financial advisor. If more than one Company is selected based on the RFI, a competitive bid shall be utilized among the Companies selected; and

(c) if considered by the Chief Executive Officer to be in the best interest of JEA and upon the recommendation of JEA's financial advisor, the Chief Executive Officer may negotiate these types of instruments and agreements with one or more Companies from within JEA's underwriting group or other groups of Companies as recommended in writing by JEA's financial advisor. (e.g., an interest rate Swap executed in conjunction with a bond issue without being subject to (a) and (b) above). In the case of interest rate Swaps, interest rate Caps, Collars, Options and any related hedging agreements, the execution of such instruments or agreements shall be subject to the authorizations approved by the JEA Board on September 21, 1993, April 5, 1994 and April 19, 1994 and any subsequent approvals. In the case of interest rate Swaps, Caps, Floors, Collars, Options, and related hedging instruments, such agreements (and any related agreements or arrangements, including without limitation related collateral agreements, that are determined necessary) shall be executed by the Chief Executive Officer or Designee upon confirmation by JEA's financial advisor that the terms and provisions thereof are commercially reasonable and consistent with customary practices in the relevant market for similar agreements.

(3) *Administration*. This section adopts and codifies those resolutions approved by the JEA Board on September 21, 1993, April 5, 1994 and April 19, 1994, and subsequent related resolutions. Any changes to those resolutions shall be approved by the JEA Board in the form of amendments to the Code or through additional resolutions approved by the Board. Bond Insurance, surety policies, and other credit enhancements or Liquidity Support agreements shall be approved by the JEA Board in conjunction with the related debt financing. Companies selected to serve as counterparties for Bond Insurance, surety policies, letters of credit, Forward Supply Agreements, float Contracts, Guaranteed Investment Contracts (GIC's) and related investment instruments used primarily in escrow agreements relating to debt instruments, other credit enhancements, Liquidity Support, and other similar instruments and arrangements, are subject to a written agreement executed by the Chief Executive Officer or Designee.

COMMENTARY:

(1) It is expected that sufficient expertise will be available in the underwriting group so that the interest rate Swaps can be competitively bid within the underwriting group. If the JEA staff determines that a market rate will not be obtained from the existing underwriting group, then additional prequalified bidders may, at the discretion of the Chief Executive Officer, be added to the group.

(2) It is anticipated that interest rate Swaps and other financial instruments outlined in this section will usually be competitively bid.

4-303 Purchases in the Secondary Market of Debt

(1) Purchases in the secondary market of debt issued under bond resolutions cited in Section 4-201(d) (Types of Procured Financial Instruments and Services) shall be purchased pursuant to Section 12.0 of JEA's Investment Policy approved by the JEA Board on September 5, 1995 (most recently amended 12/20/11), and any subsequent amendments to that policy approved by the JEA Board. Such purchases are subject to the applicable covenants contained in JEA's bond resolutions; or

(2) Policies, procedures, resolutions or related documents approved by the Board relating to the purchase or retirement of JEA debt.

4-304 Debt Underwriting Services to Underwrite Bonds, Notes or Other Financial Instruments Issued Under Bond Resolutions, Subject to a Negotiated Sale

(1) *Selection*. The Procurement of debt underwriting Services cited in Section 4-201(d) (Types of Procured Financial Instruments and Services) subject to a negotiated sale shall be in accordance with Section 3-106 (Request for Proposals), and does not require the approval of the Chief Procurement Officer. Several underwriters may be selected to perform underwriting and related Services for JEA. A master underwriting agreement shall be executed by the Chief Executive Officer at the end of the Solicitation process and a separate bond purchase agreement with the underwriter(s) shall be executed by an authorized officer of JEA upon the approval of the JEA Board for each sale of debt. Each such bond purchase agreement shall specify, among other customary matters, the fee to the underwriters.

(2) *Negotiations - Sales*. Board-approved resolutions authorize the sale of debt for each System. The Chief Executive Officer or Designee shall negotiate the sale of bonds, notes or other financial instruments with the designated lead debt underwriter.

4-305 Debt Underwriting Services to Underwrite Bonds, Notes or Other Financial Instruments Issued Under Bond Resolutions, Subject to a Competitive Bid

(1) *General.* Debt underwriting services to underwrite bonds, notes or other financial instruments issued under bond resolutions cited in Section 4-201(e) (Types of Procured Financial Instrument and Services) subject to a competitive bid shall be procured in accordance with (2) below.

(2) *Selection.* Bonds or revenue certificates and refunding bonds or refunding revenue certificates issued pursuant to the JEA Charter if sold by competitive bid shall be sold to the bidder whose bid produces the lowest true interest cost to JEA. The JEA Board may restrict the bidders in any sale by pre-qualification or otherwise and may reserve the right to reject any or all bids. Prior to any sale by competitive bid of bonds or revenue certificates, the JEA Board shall cause notice to be given in such manner and at such time as the JEA Board shall determine. Said notice shall specify such matters relating to the bonds or revenue certificates offered for competitive sale as the JEA Board shall determine and shall state the manner in which bids shall be given. The JEA Board may reserve the right to waive any informalities or irregularities if the JEA Board determines that such action is in JEA’s best interest. In no event shall said bonds or revenue certificates be sold at a net interest cost to JEA in excess of the legal limit as established by Section 215.84 F.S., or according to said section as it may from time to time be amended.

4-306 Bond Counsel and Related Legal Services

The Procurement of bond counsel and related legal Services shall be in a manner authorized by the Office of General Counsel. The Office of General Counsel may deem it appropriate to utilize the method contained in the City of Jacksonville Procurement Code Section 126.311 or in accordance with Section 3-106 (Request for Proposals) of the Code, and does not require the approval of the Chief Procurement Officer. Regardless of the Procurement process used, the General Counsel shall make the final selection of the top ranked Company and recommend said Company to the JEA Board for approval.

4-307 Financial Advisory Services

The Procurement of financial advisory Services shall be in accordance with Section 3-106 (Request for Proposals) and does not require the approval of the Chief Procurement Officer.

4-308 Trustee, Registrar, Paying Agent, Escrow Agent, Custody Services relating to fixed rate debt or variable rate and similar fiduciary Services

The Procurement of these Services shall be in accordance with either (1) Section 3-106 (Request for Proposals) and does not require the approval of the Chief Procurement Officer, (2) Section 3-102 (Informal Purchases), (3) competitive bid by Organizational Element or through JEA's financial advisor, such bid limited to a group of Companies as recommended by JEA's financial advisor, and shall be consistent with any applicable requirements contained in JEA's bond resolutions or (4) if considered by the Chief Executive Officer to be in the best interest of JEA and upon the recommendation of JEA's financial advisor, the Chief Executive Officer may negotiate these types of services and agreements with one or more Companies as recommended in writing by JEA's financial advisor.

4-309 Credit Rating Agencies Services

Authority to select appropriate additional credit rating agencies, in addition to the nationally recognized credit rating agencies of Fitch Ratings, Moody's Investors Service and Standard and Poor's, to secure debt ratings and related Services for JEA is delegated to the Chief Executive Officer or Designee. Terms and conditions for such Services shall be negotiated with the credit rating agency selected. Companies selected must be nationally recognized credit rating agencies that comply with bond resolution requirements and are acceptable to JEA's debt underwriter, remarketing agent or dealer in order to provide marketability for bonds, notes, or other financial instruments issued by JEA. The Chief Executive Officer or Designee has the authority to delete any of the Companies providing this Service.

4-310 Dealers or Remarketing Agents that Market Commercial Paper, Variable Rate Demand Obligations (VRDO), or other Variable Rate Debt

Selection. Procurement for dealers or remarketing agents that market commercial paper, VRDO or other variable rate debt issued under bond resolutions cited in Section 4-201(d) (Types of Procured Financial Instruments and Services) shall be by a (1) Request for Information (RFI) Solicitation by the Organizational Element or JEA's financial advisor; such RFI shall be limited to the group of Companies selected to serve as debt underwriters and that participate as dealers or remarketing agents in the commercial paper market, VRDO or other variable rate debt markets, or other pre-qualified groups, as recommended in writing by JEA's financial advisor, (2) as outlined in the then current underwriters' agreement. or (3) if considered by the Chief Executive Officer to be in the best interest of JEA and upon the recommendation of JEA's financial advisor, the Chief Executive Officer may negotiate these types of services and agreements with one or more Companies from within JEA's underwriting group or other qualified Companies as recommended in writing by JEA's financial advisor.

4-311 Securities Lending Arrangements

(1) *General.* Securities Lending arrangements are authorized pursuant to the electric system and bulk power supply system bond resolutions. On November 2, 1993, the JEA Board approved a resolution outlining methods of procuring and entering into Securities Lending arrangements. Responsible Bidders for Securities Lending arrangements shall be selected pursuant to requirements outlined in the JEA investment policy, Section 9.0, approved by the JEA Board on September 5, 1995. This section applies to future bond resolutions that authorize Securities Lending transactions.

(2) *Selection.* Suggested methods of procuring the Companies that provide Securities Lending arrangements are:

(a) competitive bid by the Organizational Element directly or through JEA's financial advisor. One or more counterparties shall be selected by the highest bid of security lending income to JEA that complies with the provisions of the bond resolution under which the securities to be loaned are held;

(b) Section 3-106 (Request for Proposals) or

(c) if considered by the Chief Executive Officer to be in the best interest of JEA and upon the recommendation of JEA's financial advisor, the Chief Executive Officer may negotiate these types of services and agreements with one or more Companies from within JEA's underwriting group as recommended in writing by JEA's financial advisor.

(3) *Administration.* Agreements with one or more counterparties and related custodial agreements shall be executed by the Chief Executive Officer or Designee. These agreements shall also be approved by JEA's financial advisor and as to form by the Office of General Counsel.

COMMENTARY:

Based on the prevailing market practice at the time of selection, JEA shall determine the method expected to produce the best results for JEA in order to select the Companies with which to enter into Securities Lending agreements.

4-312 Financial Printing Services, Including but not Limited to Official Statement Printing

Procurement for these Services shall be obtained by one of the following methods:

(a) competitive bid for official statement printers by the Organizational Element directly or through JEA's financial advisor. JEA shall utilize the printer with the lowest responsible bid; or

(b) Section 3-102 (Informal Purchases).

4-313 Banking Services

Procurement of these Services shall be in accordance with Section 3-106 (Request for Proposals) and does not require the approval of the Chief Procurement Officer. The JEA Board authorizes the Chief Executive Officer or appointed managers designated by the Chief Executive Officer to:

(a) open and continue accounts at any bank under Contract with JEA;

(b) sign and agree to the provisions of said bank's customary corporate signature card, and authorize the said bank to pay or otherwise honor any checks, drafts, or other orders issued from time to time, for debit to said accounts when signed manually or by facsimile impression by any two of certain appointed managers;

(c) authorize the electronic transfer of funds;

(d) act on behalf of JEA in all matters and transactions relating to any of its business with the bank, including the withdrawal of property at any time held by the bank for the account of JEA; and

(e) provide the bank the authority to accept for deposit for the account of JEA, for credit, or for collection, or otherwise, any and all checks, drafts, and other instruments of any kind endorsed by any persons, or by hand stamp impression, in the name of JEA, or without endorsement.

4-314 Escrow Verification Services and Accounting Services Related to a Debt Issue or Escrow Restructuring

Included in JEA's Contract with its external auditors is a provision for the auditors to perform these Services. If these Services can be obtained for a lesser total cost, including internal JEA costs, than provided for in the current Contract with the external auditors, then proposals may be obtained and evaluated pursuant to (1) the provisions of Section 3-106 (Request for Proposals) (2) Section 3-102 (Informal Purchases) or (3) competitive bid by Organizational Element or through JEA's financial advisor.

4-315 Letters of Credit or Revolving Credit Facilities

JEA on occasion has the option to secure certain contractual obligations by providing a Letter of Credit instead of cash payment or deposit. Procurement of such instruments for this purpose shall be limited to the banks selected per Section 4-313 (Banking Services). The Chief Executive Officer is authorized by a JEA Board resolution approved March 7, 1989 to execute individual letters of credit or lines of credit in an amount not to exceed $5,000,000, and in the aggregate not to exceed $25,000,000 outstanding at any time. This section does not pertain to letters of credit or lines of credit that provide credit enhancement or Liquidity Support for JEA's demand obligations or commercial paper programs and which are procured under Section 4-302 (Financial Instruments and Arrangements).

In addition, JEA may determine pursuant to the requirements of the JEA Charter to utilize revolving credit facilities for any legal corporate purposes. The Chief Executive Officer shall determine the need for utilization of such instruments up to a maximum of $25,000,000, and shall execute the applicable documents. The JEA Board shall approve any amount in excess of $25,000,000. Procurement of such instruments for this purpose shall be by one of the following methods:

(a) Request for Information or competitive bid by the Organizational Element or through JEA’s financial advisor with banks as recommended by the financial advisor,
(b) Section 3-106 (Request for Proposals) and does not require the approval of the Chief Procurement Officer, or
(c) if considered by the Chief Executive Officer to be in the best interest of JEA and upon the recommendation of JEA’s financial advisor, the Chief Executive Officer may negotiate these types of services and agreements with one or more banks as recommended in writing by JEA’s financial advisor.

COMMENTARY:
Maximum limits for letters of credit or Liquidity Support for working capital purposes are in addition to those limits required for letters of credits or Liquidity Support utilized instead of cash payments or deposits.

4-316 Sale of Voluntary Florida Cleanup Tax Credits

Procurement for these Services shall be obtained by one of the following methods:
(a) Request for Information or competitive bid by the Organizational Element,
(b) Section 3-106 (Request for Proposals) and does not require the approval of the Chief Procurement Officer, or
(c) if considered by the Chief Executive Officer to be in the best interest of JEA, the Chief Executive Officer may negotiate these types of services and agreements with one or more firms and approved as to form by the Office of General Counsel.

4-401 Ratification of Expenditures

The Chief Executive Officer shall ratify by signature a summary statement of all expenditures made in accordance with JEA’s established practices and policies and applicable statutes. Such ratification shall be made on a monthly basis. This section of the Code satisfies the requirement of Section 21.10 of the JEA Charter.

4-402 Reimbursement of Certain Expenditures from Long-term Permanent Financing

United States Treasury regulations in effect upon the effective date of this Code require JEA to make an official written declaration of its intent to incur certain expenditures using temporarily available funds in anticipation of reimbursing such expenditures from the proceeds of debt obligations of JEA. The Chief Executive Officer or Chief Financial Officer or additional Designee is authorized to declare JEA’s intention in writing to reimburse previously incurred expenditures out of proceeds of debt obligations to be issued at a later date. The Chief Executive Officer or Designee is authorized to execute documents that declare that intention and any additional documents necessary to satisfy the Treasury regulations regarding these transactions.

COMMENTARY:
United States tax regulations do change periodically. Future changes on this issue shall be automatically incorporated to this Code without further approval by the JEA Board.

ARTICLE 5 - ADMINISTRATIVE REMEDIES

5-101 Authority to Resolve Protested Solicitations and Awards

(1) *Right to Protest.* Any Company who is aggrieved in connection with a Solicitation or an Award of a Contract may submit a protest to the Chief Procurement Officer.

(2) *Protest Submittal.* All protests shall be submitted in writing and addressed to the Chief Procurement Officer. The protest shall clearly state the following:

(a) the facts and issues supporting the protest,

(b) specifically state how the Company has standing to protest,

(c) and the remedies requested to resolve the protest.

(3) *Timeliness.* Failure to submit a timely protest shall result in the protest being rejected. A protest concerning an Award of a Contract shall be submitted in writing forty-eight (48) hours after such aggrieved Company knows, or should have known, of the facts giving rise thereto. A protest concerning a Solicitation (including any Minimum Qualifications or any Specifications) must be submitted within five (5) calendar days prior to Bid Opening..

(4) *Authority to Resolve Protests.* Prior to the commencement of an action in court concerning a protest, the Chief Procurement Officer or Designee shall have the authority to settle and resolve a Company's protest concerning a Solicitation or Award of a Contract. This authority shall be exercised in accordance with the JEA Operational Procedures. Unless otherwise allowed by Florida Statutes, a Company must exhaust all administrative remedies afforded to it by this Code and Operational Procedures before it can commence an action in a court of law.

(5) *Decision.* The Chief Procurement Officer or Designee shall promptly issue a decision in writing addressed to protesting Company. The decision shall:

(a) recite all relevant facts;

(b) state the reasons for the action taken; and

(c) inform the Company of its right to administrative review as provided in this Article.

(6) Notice of Decision. A copy of the decision under Subsection (5) of this section shall be mailed or otherwise furnished immediately to protesting Company and any other party intervening.

(6) *Finality of Decision.* A decision under Subsection (5) of this Section shall be final and conclusive, unless clearly erroneous or fraudulent and any Company adversely affected by the decision may appeal administratively to the JEA Procurement Appeals Board in accordance with Section 5-303 (Appeals).

(7) *Stay of Procurements During Protests*. In the event of the receipt of a timely protest under Subsection (1) of this Section or under Section 5-303 (Appeals), JEA shall not proceed further with the Solicitation or with the Award of the Contract unless the Chief Procurement Officer, after consultation with the manager of the Organizational Element, makes a written determination that the Solicitation or Award of the Contract without delay is necessary to protect substantial interests of JEA.

COMMENTARY:

(1) It is essential that actual or prospective bidders and proposers have confidence in the procedures for soliciting and awarding Contracts. This can best be assured by allowing an aggrieved Company to protest a Solicitation, Award, or related decision. This section and Section 5-303 (Appeals) would permit actual or prospective bidders and proposers to:

(i) promptly submit a protest to the Chief Procurement Officer concerning a Solicitation or Award; and
(ii) have the protest decision reviewed by the Procurement Appeals Board.

(2) Nothing in this section is intended to affect the ability of the Office of General Counsel to settle actions pending before the Procurement Appeals Board, or the courts.

(3) The public posting of the Awards Committee agenda on the JEA website shall serve as one way in which a Company should know about an upcoming Award. The 48 hour limit for filing a protest shall begin at this public notice in this instance.

(4) Only a Company who is adversely affected by JEA's actions may file a protest under this Section. The purpose behind the standing requirement is to ensure that the protesting Company has a sufficient interest in the outcome of the protest resolution.

5-102 Authority to Debar or Suspend

(1) Authority. The Chief Procurement Officer or Designee is authorized to debar or suspend a Company from bidding on all JEA procurements for actions described in Subsection (2) of this Section. This authority shall be exercised in accordance with Operational Procedures and with the advice and counsel of the Office of the General Counsel.

(2) *Debarment.* After reasonable notice to the Company and a reasonable opportunity was provided for the Company to be heard, the Chief Procurement Officer, after consultation with the manager of the Organizational Element, shall have authority to debar a Company from consideration for the Award of Contracts. The debarment shall be for a period of no more than three (3) years.

(3) Suspension. After reasonable notice to the Company and a reasonable opportunity was provided for the Company to be heard, the Chief Procurement Officer, after consultation with the manager of the Organizational Element, shall have authority to suspend a Company from consideration for Award of Contracts. The suspension shall be for a period not exceeding six (6) months.

(4) *Causes for Debarment or Suspension*. The Chief Procurement Officer's decision to debar or suspend a Company shall depend on the seriousness of the adverse actions of the Company. The causes for debarment or suspension include, but may not be limited to, the following:

(a) conviction of a Public Entity Crime and inclusion on the State of Florida Convicted Vendor List pursuant to Section 287.133 F.S.;

(b) violation of Contract terms or requirements, as set forth below, of a character that is regarded by the Chief Procurement Officer to be so serious as to justify debarment or suspension action:

(i) deliberate failure, without good cause, to perform in accordance with the Contract, Specifications, performance levels, warranty provisions, bonding and insurance requirements, or to comply within the time limits provided in the Contract, or failure to pay subcontractors; or

(ii) a recent record of failure to perform or of unsatisfactory performance in accordance with the terms of one or more JEA Contracts, including the delivery of Supplies, provided that the failure to perform or unsatisfactory performance was not caused by acts beyond the control of the Company,; or

(c) poor performance as reported under JEA's Vendor Performance Program;

(d) debarment or suspension by another governmental entity;

(e) the Company acted fraudulently or in bad faith;

(f) violation of JEA and the City of Jacksonville Ethic Code;

(g) violation of Ex Parte requirements; and

(h) any other cause the Chief Procurement Officer determines to be so serious and compelling as to affect the Company's performance of a Contract.

(5) *Decision*. The Chief Procurement Officer shall issue a written letter to the Company informing it of the decision to debar or suspend that Company. The decision shall:

(a) recite all relevant facts,

(b) state the reasons for the action taken,

(c) state the timeframe for debarment or suspension, and,

(c) inform the debarred or suspended Company involved of its rights to administrative review as provided in this Article.

(6) *Notice of Decision*. A copy of the decision under Subsection (3) of this section shall be mailed or otherwise furnished immediately to the debarred or suspended Company and any other party intervening.

(7) *Finality of Decision*. A decision under Subsection (3) of this Section shall be final and conclusive, unless fraudulent, or the debarred or suspended Company appeals administratively to the Procurement Appeals Board in accordance with Section 5-304 (Protest of Suspension or Debarment Proceedings).

COMMENTARY:

It is strongly encouraged the Office of General Counsel is consulted prior to the commencement of debarment or suspension of a Company. Debarments involve situations that involve a greater degree seriousness, harm, or damage to JEA.

5-103 Authority to Resolve Contract and Breach of Contract Controversies

(1) *Applicability*. This Section applies to controversies between JEA and a Company (the "Parties") that arise under, or by virtue of, a Contract between the Parties and cannot be settled in the normal course of business to the mutual satisfaction of the Parties and after reasonable attempts by the JEA Project Manager to resolve the matter. This includes but is not limited to, controversies based upon breach of Contract, mistake, misrepresentation, failure to perform, payment disputes, or other causes for disputes concerning the Contract terms.

(2) *Authority.* Prior to commencement of an action in a court concerning the controversy, the Chief Procurement Officer or Designee is authorized to settle and resolve a controversy described in Subsection (1) of this Section. This authority shall be exercised in accordance with Operational Procedures and with the advice and counsel of the Office of the General Counsel.

(3) *Decision.* If such a controversy is not resolved by mutual agreement, the Chief Procurement Officer or Designee shall promptly issue a decision in writing. The decision shall:

(a) recite all relevant facts;

(b) state the reasons for the action taken; and

(c) inform the Company of its right to administrative review as provided in this section.

(4) *Notice of Decision*. A copy of the decision under Subsection (3) of this section shall be mailed or otherwise furnished immediately to the Company.

(5) *Finality of Decision*. The decision under Subsection (3) of this section shall be final and conclusive, unless fraudulent, or the Company appeals to the Procurement Appeals Board in accordance with Section 5-306 (Contract and Breach of Contract Controversies).

COMMENTARY:

(1) The word "controversy" is meant to be broad and all encompassing. It includes the full spectrum of disagreements from pricing of routine Contract changes to claims of breach of Contract.

(2) Resolving controversy is a primary duty of the JEA Project Manager assigned to the Contract. Controversies resolved by the JEA Project Manager in the normal course of business are not the subject of this section.

(3) Subsection (2) gives the Chief Procurement Officer the authority to settle all Contract claims and controversies prior to the filing of a suit. This may avoid unnecessary litigation and often is essential for fair treatment of a Company contracting with JEA. On the other hand, some safeguards are needed. Limitations upon the power to settle, including prerequisite approvals, should be established by appropriate Operational Procedure.

5-201 Remedies

The provisions of this part apply where it is determined administratively, or upon administrative review, that a solicitation or Award of a Contract is in violation of this Code.

5-202 Remedies Prior to an Award

If prior to Award it is determined that a Solicitation or a proposed Award of a Contract is in violation of this Code, then the Solicitation or the Award shall be:

(a) canceled; or

(b) revised to comply with this Code.

5-203 Remedies After an Award

If after an Award it is determined that a Solicitation or Contract is in violation of this Code, JEA shall take the following actions:

(a) if the Company awarded the Contract has not acted fraudulently or in bad faith:

(i) the Contract may be ratified and affirmed, provided it is determined that doing so is in the best interest of JEA; or

(ii) the Contract may be terminated.

(b) if the Company awarded the Contract has acted fraudulently or in bad faith:

(i) the Contract may be declared null and void;

(ii) the Company may be debarred or suspended; and/or

(ii) the Contract may be ratified and affirmed if such action is in the best interest of JEA, without prejudice to JEA's rights in regard to such damages as may be appropriate.

5-301 The Procurement Appeals Board

(1) *Applicability.* Article 2 establishes the Procurement Appeals Board and Article 5 describes the duties and operation of the Procurement Appeals Board. Appendix A of this Code contains the procedures of the Procurement Appeals Board.

(2) *Authority.* The Procurement Appeals Board is authorized to review and make a final determination of any appeal by a protesting Company from a written decision issued by the Chief Procurement Officer, or a Designee, which is authorized by:

(a) Section 5-101 (Authority to Resolve Protested Solicitations and Awards);

(b) Section 5-102 (Authority to Debar or Suspend); and

(c) Section 5-103 (Authority to Resolve Contract and Breach of Contract Controversies).

5-302 Jurisdiction of the Procurement Appeals Board

(1) *Jurisdiction.* The Procurement Appeals Board shall have jurisdiction to review and determine any appeal by a protesting Company from a determination by the Chief Procurement Officer, or a Designee except:

(i) if an action has been initiated previously in the courts for essentially the same cause of action, or

(ii) within forty eight (48) hours after the action is brought before the Procurement Appeals Board, written objection is made by either the aggrieved Company or the Chief Procurement Officer with the concurrence of the Office of General Counsel.

5-303 Appeals of Protest Decisions Regarding Solicitations or Awards

(1) *Scope*. This section applies to an appeal addressed to the Procurement Appeals Board of a decision under Section 5-101(3) (Authority to Resolve Protested Solicitations and Awards).

(2) *Appeal Submittal.* An aggrieved Company shall submit its appeal in writing to the Chief Procurement Officer who shall forward it to the Procurement Appeals Board. The appeal shall clearly state the following:

(i) the facts and issues supporting the appeal,

(ii) how the Company has standing to appeal, and

(iii) the remedies requested to resolve the appeal.

(3) *Timeliness.* An appeal shall be submitted forty-eight (48) hours of receipt of a written decision pursuant to Section 5-101(3) (Authority to Resolve Protested Solicitations and Awards-Decision). Failure to submit a timely written appeal shall result in the appeal being dismissed.

(4) *Acknowledgement.* In accordance with the Operational Procedures, a JEA representative will contact the protesting Company to acknowledge receipt of the appeal and to schedule the Procurement Appeals Board Review Meeting.

(5) *Standard of Review.* The Procurement Appeals Board shall conduct a *de novo* review of the issue(s) presented for appeal and shall determine if JEA's intended actions are:

(i) in conflict with JEA's Procurement Code and Operational Procedures;

(ii) arbitrary,

(iii) capricious*;*

(iv) dishonest;

(v) fraudulent;

(vi) clearly erroneous;

(vii) illegal; and/or

(viii) not in the best interests of JEA.

(6) *Burden of Proof.* The burden of proof shall rest with the protesting Firm.

(7) *Decision.* After the Procurement Appeals Board has reviewed the appeal issues, it shall deliberate its decision at the Procurement Appeals Board Review Meeting and announce its decision prior to adjourning the meeting. After adjournment, the Procurement Appeals Board shall issue a written decision restating the decision announced at the Procurement Appeals Board Review Meeting. Decisions rendered by the Procurement Appeals Board shall be final and conclusive, unless clearly arbitrary, capricious, fraudulent, or clearly erroneous.

5-304 Protest of Suspension or Debarment Proceedings

(1) *Scope.* This section applies to a review by Procurement Appeals Board of a decision under Section 5-102(3) (Authority to Debar or Suspend-Decision).

(2) *Appeal Submittal.* An aggrieved Company shall submit its appeal in writing to the Chief Procurement Officer who shall forward it to the Procurement Appeals Board. The appeal shall clearly state the following:

(i) the facts and issues supporting the appeal, and

(ii) the remedies requested to resolve the appeal

(3) *Acknowledgement.* In accordance with the Operational Procedures, a JEA representative will contact the protesting Company to acknowledge receipt of the appeal and to schedule the Procurement Appeals Board Review Meeting.

(4) Timeliness. The aggrieved Company shall file its appeal with the Procurement Appeals Board within thirty (30) days after receipt of a decision under Section 5-102(3) (Authority to Debar or Suspend-Decision). Said appeal shall be sent to the Chief Procurement Officer who shall forward it to the Procurement Appeals Board.

(5) Standard of Review. The Procurement Appeals Board shall conduct a *de novo* review of the issue(s) presented for appeal and shall determine if JEA's intended actions are:

(i) in conflict with JEA's Procurement Code and Operational Procedures;

(ii) arbitrary,

(iii) capricious*;*

(iv) dishonest;

(v) fraudulent;

(vi) clearly erroneous; and/or

(vii) illegal; and/or

(viii) not in the best interests of JEA.

(6) Burden of Proof. The burden of proof shall rest with the protesting Firm.

(7) Decision. After the Procurement Appeals Board has reviewed the appeal issues, it shall deliberate its decision at the Procurement Appeals Board Review Meeting and announce its decision prior to adjourning of the meeting. After adjournment, the Procurement Appeals Board shall issue a written decision restating the decision announced at the Procurement Appeals Board Meeting. Decisions rendered by the Procurement Appeals Board shall be final and conclusive arbitrary, capricious, fraudulent, or clearly erroneous.

5-305 Contract and Breach of Contract Controversies

(1) *Scope.* This section applies to a review by the Procurement Appeals Board of a decision under Section 5-103(3) (Authority to Resolve Contract and Breach of Contract Controversies).

(2) Appeal Submittal. An aggrieved Company shall submit its appeal in writing to the Chief Procurement Officer who shall forward it to the Procurement Appeals Board. The appeal shall clearly state the following:

(i) the facts and issues supporting the appeal, and

(ii) the remedies requested to resolve the appeal

(3) *Acknowledgement.* In accordance with the Operational Procedures, a JEA representative will contact the protesting Company to acknowledge receipt of the appeal and to schedule the Procurement Appeals Board Review Meeting.

(4) *Timeliness.* The aggrieved Company shall file its appeal with the Procurement Appeals Board within thirty (30) days of the receipt of the decision under Section 5-103(3) (Authority to Resolve Contract and Breach of Contract Controversies). Said appeal shall be sent to the Chief Procurement Officer who shall forward it to the Procurement Appeals Board.*(5) Standard of Review.* The Procurement Appeals Board shall conduct a *de novo* review of the issue(s) presented for appeal and shall determine if JEA's intended actions are:

(i) in conflict with JEA's Procurement Code and Operational Procedures;
(ii) arbitrary,
(iii) capricious*;*
(iv) dishonest;
(v) fraudulent;
(vi) clearly erroneous;
(vii) illegal; and/or
(viii) in the best interests of JEA.

(5) Burden of Proof. The burden of proof shall rest with the protesting Firm.

(6) Decision. After the Procurement Appeals Board has reviewed the appeal issues, it shall deliberate its decision at the Procurement Appeals Board Review Meeting and announce its decision prior to adjourning of the meeting. After adjournment, the Procurement Appeals Board shall issue a written decision restating the decision announced at the Procurement Appeals Board Review Meeting. Decisions rendered by the Procurement Appeals Board shall be final and conclusive arbitrary, capricious, fraudulent, or clearly erroneous.

APPENDIX A- PROCUREMENT APPEALS BOARD PROCEDURES

Memo for Hearings
Before the JEA Procurement Appeals Board (PAB)

This memo contains information about your hearing before the JEA Procurement Appeals Board (PAB).

Protestant: ____.
Solicitation: ____

1. Time and Place of Hearing

Date: _____________

Time: _____________

Location: JEA Tower ____ Floor Conference Room
21 W. Church St., Jacksonville, FL 32202

2. Members of the PAB

1. **______________ serving as the Chair**
2. **______________**
3. **______________**

- **Ex parte communications between the Protestant and the JEA staff with the members of the PAB are prohibited.**

3. Filing of Additional Materials

JEA shall provide the members of the PAB with the following information prior to the hearing, with a copy to the Protestant:

- The Solicitation, with all addenda, and including bid tabulation and award item, if applicable;
- The written protest at both the Chief Purchasing Officer (CPO) and PAB level;
- The written decision of the CPO;
- The acknowledgement of receipt of the appeal;
- Appointment letter of the members of the PAB;
- Other materials as may be necessary.

The CPO and the Protestant may file additional materials for PAB review. One (1) original and five (5) copies of any additional materials shall be provided AT LEAST TWO (2) BUSINESS DAYS PRIOR TO THE DAY OF THE HEARING. In addition to the copies listed above, a copy of any additional materials submitted by the CPO shall be provided to the Protestant.

Additional materials shall be addressed to:

____
____
JEA,
Jacksonville, FL 32202

4. Special Requirements

Any Persons needing special accommodations to participate in the above hearing please contact ___________________________________ no later than three (3) days before the meeting in order to make arrangements.

5. Hearing Preliminaries and Procedure

The Procurement Appeals Board (PAB) is established in the JEA Purchasing Code, Art. 2, sections 2-503 to 2-504, Art. 5, sections 5-301 to 5-305. Procedures are established in the JEA Operational Procedures, which supplements the Purchasing Code.

The PAB consists of at least three (3) members, with one of the members designated as the Chair. The appointment of the members and the designation of the chair are made by the Managing Director.

The hearing shall be a public meeting, held in compliance with the Florida "Sunshine Law".

If a person decides to appeal any decision made by JEA with respect to any matter considered at the hearing, for the purpose of such appeal, that person will need a record of the proceedings; for such purpose, that person may need to ensure that a verbatim record of the proceedings is made, which record includes the testimony and evidence upon which the appeal is to be based.

Ex parte communications between the Protestant and the JEA staff with the members of the PAB are prohibited.

At the time and place established for the hearing, the PAB shall hear testimony and receive other evidence from both the Protestant and the CPO, and will base its decision on the information provided both orally and in writing. The formal rules of evidence pursuant to the Florida Evidence Code will not apply at the hearing. Hearsay evidence may be admissible at the discretion of the PAB chair. The PAB, through the Chair, may limit presentations to a reasonable time. The PAB members may ask questions at any time.

The basis for decision for the PAB is set forth in the Purchasing Code, Article 5.

In general, the hearing procedure shall be as follows:

1. A representative of the PAB will give a brief overview of the hearing procedure;
2. The Protestant or legal representative will present its case based upon the issues and information contained in the protest;
3. Those persons or entities, other than the Protestant, who have legal standing and will be directly affected by the resolution of the protest will be given an opportunity to be heard and present information to the committee;
4. The CPO will make a presentation;
5. The PAB may seek any clarifications of either party;
6. The PAB will reach a decision either supporting or denying the appeal. A PAB member shall make a motion, which will require a second, and the vote will be taken and recorded. A majority vote of the members of the PAB shall be required to support the action;
7. The decision of the PAB may be issued verbally or in writing within three (3) business days of the date of the hearing. If the decision is issued orally at the hearing, the minutes of the meeting may serve as the written evidence of the decision.

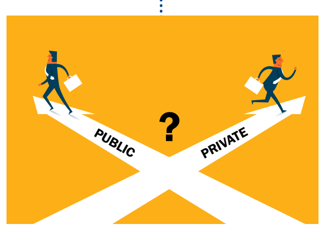
2018 ANNUAL REPORT

JEA
Building Community®

JEA'S FOCUS AND FORTITUDE BRING YOU LIFE'S MOMENTS

JEA FISCAL YEAR 2018 TIMELINE

October–November 2017
JEA sent 85 electric personnel to Puerto Rico to help rebuild the island's electric infrastructure following Hurricane Maria.

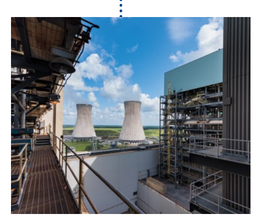


November 2017
JEA and community initiated discussion about merits of privatization.

November 2017
JEA created the "Light it Forward" Award for employees at local agencies who help low-income customers seeking utility bill assistance.

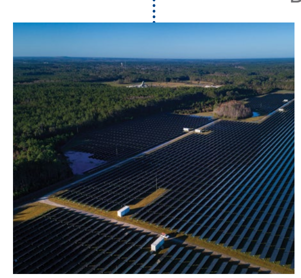
December 2017
JEA Electric Systems conducts an electric reliability study at Jacksonville International Airport after a fire in Atlanta's Hartsfield Airport caused an 11 hour outage.

December 2017
JEA refinanced $821 million in revenue bonds to generate $89 million in debt service savings.



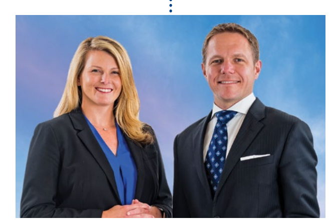
January 2018
JEA decommissioned St. Johns River Power Park, a 1,267-MW coal-fired plant.

January 2018
JEA Ambassadors partnered with Junior Achievement to teach elementary and high school students about business, economics and entrepreneurship.

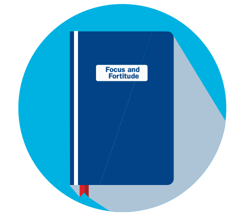


February 2018
JEA earnd the Sunriser Award for planned solar growth from the Southern Alliance for Clean Energy.

March 2018
JEA partnered with Greenscape of Jacksonville to give away thousands of trees at Jacksonville's official Arbor Day Festival.



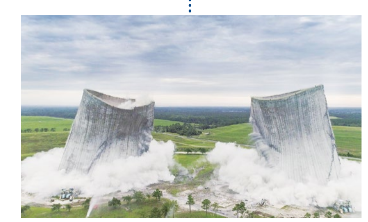
April 2018
Aaron Zahn became Interim Managing Director and CEO. Melissa Dykes became President and COO. In November 2018, Zahn became permanent Managing Director and CEO.



May 2018
Board adopts formal transition plan to create "Focus and Fortitude" within JEA.

May 2018
JEA's Board formally ended privatization discussion in favor of transition plan and focus on business strategy.

May 2018
JEA successfully completed construction on two new water treatment facilities.

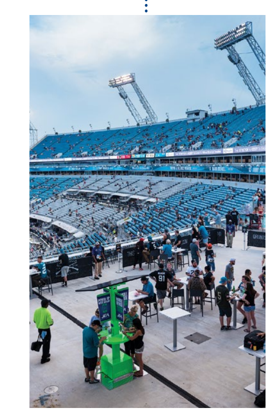


June 2018
Cooling towers at SJRPP retired.

July 2018
JEA closed on $18.5 million divestiture of former Southside Generating Station real estate.

July 2018
JEA initiated formal process to select a new site for JEA's headquarters.

August 2018
JEA's Board approved a final Strategic Framework for the company.



August 2018
JEA installed 16 phone charging stations, including four solar, at TIAA Bank Field.

August 2018
JEA's Board approved one-time $15 million contribution to City of Jacksonville for septic tank phase-out and an extension of JEA's charter to 2023.

September 2018
JEA awarded bid for 250 MW of solar at +20% discount to fuel rate.

September 2018
JEA's Board completed three-year renewal of Economic Development Program for electric customers.

JEA CUSTOMERS THRIVE AND SURVIVE THANKS TO THE RELIABLE AND AFFORDABLE UTILITY SERVICES THE COMPANY DELIVERS EVERY DAY. JEA EMPLOYEES DEMONSTRATE FOCUS AND FORTITUDE TO DELIVER ESSENTIAL SERVICES TO OUR COMMUNITY EVERY DAY—NO MATTER THE CHALLENGE. STILL, JEA KNOWS IT'S PERFORMED WELL WHEN CUSTOMERS ENJOY EACH AND EVERY MOMENT OF THEIR LIVES WHILE JEA OPERATES AS THEIR TRUSTED ADVISOR, ALMOST UNSEEN IN THE BACKGROUND.

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LETTER FROM BOARD CHAIRMAIN AND MANAGING DIRECTOR & CEO

In reflecting upon fiscal year 2018 (FY 2018), all JEA stakeholders should feel a sense of pride over the dedication of our Board, our management team and, most importantly, our frontline employees.

Aaron Zahn,
JEA Managing Director & CEO

G. Alan Howard,
JEA Board Chairman

October 17, 2018 marked the 125th anniversary of Jacksonville voter approval for the City's first electric light plant. Therefore, it is serendipitous that JEA spent the last fiscal year dedicated to discussing the changing landscape in which our organization exists. In addition, JEA and its stakeholders contemplated the organization's fundamental purpose and its role in Northeast Florida as a community asset. As part of both the landscape and purpose conversations, we acknowledged the challenges and opportunities JEA faces. On October 5, at the JAX Infrastructure Innovation Summit, JEA leadership discussed the trends in our industry and the importance of becoming the center of our customers' energy and water experience. Now, 125 years after its birth, JEA is focused and has the fortitude to successfully position itself to deliver reliable and valuable essential services to our customers.

At the start of 2018, the JEA Board of Directors established a deliberate transition plan intended to create the foundation for a next-generation utility and elevate JEA to the next level. **The transition plan had five basic steps: listen, engage, align, plan, and execute. These five steps were intended to instill JEA with the "Focus & Fortitude" necessary to drive value for our community.** In April, the Board appointed Aaron Zahn as Interim Managing Director and Chief Executive Officer to help guide a corporate transition. Melissa Dykes, the former Chief Financial Officer, was promoted to President and Chief Operating Officer to maintain JEA's steadfast commitment to operational excellence.

Listen: In June 2018, Mr. Zahn initiated a management listening tour aimed at understanding perceptions of the company through the eyes of employees and external stakeholders. Mr. Zahn and the management team collected feedback from customers, employees, union leaders, civic leaders, the mayor, the City Council and board members. The input collected is being aggregated as part of a bold plan for a "year of innovation" in fiscal year 2019. We feel confident the input of our stakeholders will be incorporated as JEA establishes its corporate strategy for the next decade.

Engage: JEA's leadership engaged in a number of difficult conversations over the entire year. We talked openly about privatization, Plant Vogtle*, corporate culture and change. It is our belief that progress will only occur if we confront difficult topics with transparency and good intentions. Fifty years ago, at the beginning of Jacksonville's consolidated government, JEA was built on a foundation of core values that continue to be the bedrock of who we are: Safety, Service, Growth[2], Accountability and Integrity. New to the list, but not to our culture, is "Ideas." This addition to our core values is intended to signal that we value the voice of every person. JEA's culture embodies that of an "Idea Meritocracy." It's the reason why JEA is now a leader in planned solar growth in the Southeast. It's the reason why JEA has partnered with the State of Florida to conduct a purified water pilot. It's the reason why JEA is forging ahead to build innovative partnerships to drive value and economic development in Northeast Florida around telecom, data, smart cities, electrification and transportation. The only constant for JEA going forward will be change. Our core values will ensure we remain true to our principles and engage in the right way to maintain pace.

Align: In August 2018, the Board adopted a Strategic Framework as a means of guiding and measuring JEA's corporate strategy. Most important, the strategic framework established four basic Corporate Measures of value. We will use these Corporate Measures to communicate JEA's current position and our progress: Customer Value, Financial Value, Environmental Value, and Community Impact Value. In short, the Corporate Measures will be a gauge of our success. JEA's focus will be derived from its commitment to maximize these Corporate Measures of value both now and in the future. We believe the Strategic Framework provides governance for JEA in alignment with the conclusions of the City Council's Special Committee on the Future of JEA.

**For the very latest on Plant Vogtle, please visit the JEA website at: jea.com/about/investor_relations/ and on the Municipal Securities Rulemaking Board's Electronic Municipal Market Access ("EMMA") website at emma.msrb.org.*

Focus (noun) \ fō-kəs \: adjustment for distinct vision.

Fortitude (noun) \ fȯr-tə-tüd \: strength of mind that enables one to overcome adversity.

125 Years Ago, Jacksonville Residents Displayed the Focus and Fortitude to Create a Municipal Electric Company

In 1885 there were three ways to illuminate streetlights in America: gas, arc lights, and with a new product invented by Thomas Edison called the incandescent bulb. These bulbs— along with the arc lights— needed generators in order to make light.

In Jacksonville, Sam Hubbard, a businessman, owned a monopoly on light in a city eager to brighten the night. He owned both the gas company and the electric company and he charged a premium for the electricity he generated. City leaders accused him of slowing progress with his high electric rates. That is, until they figured out a way around him.

The Board of Public Works came up with an idea to build its own municipal electric system for $75,000. On October 17, 1893, they asked voters to approve a $1 million bond issue for city improvements, which included an electric light plant. The voters said yes by a whopping 3-to-1 margin and Jacksonville has been a municipal utility town ever since.

Plan: In October 2018, JEA completed the Transition Plan set forth by the Board and interim CEO. In November 2018, after a nationwide search, the Board voted unanimously to make Mr. Zahn the permanent Managing Director and CEO. In December 2018, the Board launched a Strategic Planning Process to determine the strategies and tactics that will best drive value in accordance with our Strategic Framework. We look forward to working together with the City and community on designing the JEA of the future.

Execute: JEA will execute on its new strategy in FY 2019. However, just because we're planning for the future doesn't mean we've stopped being focused on our customers. Under Ms. Dykes, JEA elevated its operational excellence in FY 2018. Throughout the year, JEA employees demonstrated their commitment to safety and customer satisfaction by delivering industry-leading metrics in both segments. Operations teams, focused on harnessing data to improve system reliability, help customers proactively find water leaks, help with fraud prevention and reduce inefficient operations. JEA also embarked on a project called "The Data Lab" to conduct research and development on "best-in-class" technologies to improve our energy and water operations.

Lastly, JEA's financial metrics continue to strengthen. In FY 2018, we assumed no new debt and we proactively refinanced $821 million in revenue bonds to generate $89 million in debt service savings. We set a plan to invest $2 billion-plus into energy and water systems over the next five years. Just after the end of FY 2018, our management team proposed a plan to drive our financial metrics to areas of strength not seen since the 1980s.

The business of providing essential energy and water services is transforming. JEA intends to accelerate innovation in order to improve the lives of each and every customer in the community we serve. With a fresh perspective derived from the FY 2018 transition and new leadership, JEA has emerged a stronger utility, one with focus and fortitude like never before.

G. Alan Howard,
JEA Board Chairman

Aaron Zahn,
JEA Managing Director & CEO

BOARD OF DIRECTORS

G. Alan Howard, JEA Board Chairman, Shareholder, Milam Howard Nicandri Gillam & Renner, P.A.

Frederick Newbill, JEA Board Secretary, Pastor, First Timothy Baptist Church

Kelly Flanagan
Senior VP and CFO, Jacksonville Jaguars

Husein Cumber
Executive Vice President, Corporate Development, Florida East Coast Industries, LLC

John Campion
Co-Founder and Chair, APR Energy

April Green
CFO/COO, Bethel Baptist Institutional Church

Camille Lee-Johnson
COO, Lee Wesley & Associates

JEA SENIOR LEADERSHIP TEAM
FOCUSED ON THE FUTURE

Left to right, **Deryle Calhoun**, Vice President & General Manager, Water/Wastewater Systems; **Ted Hobson**, Vice President & Chief Compliance Officer; **Paul Cosgrave**, Vice President & Chief Information Officer; **Angelia Hiers**, Vice President & Chief Human Resources Officer; **Paul Steinbrecher**, Vice President & Chief Environmental Services Officer; **Melissa Dykes**, President & Chief Operating Officer; **Aaron Zahn**, Managing Director & Chief Executive Officer; **Michael R. Hightower**, Chief Public & Shareholder Affairs Officer; **Ryan Wannemacher**, Chief Financial Officer; **Kerri Stewart**, Vice President & Chief Customer Officer; **Mike Brost**, Vice President & General Manager, Electric Systems; **Jody Brooks**, Vice President & Chief Legal Officer; **John McCarthy**, Vice President & Chief Supply Chain Officer

INFRASTRUCTURE IMPROVEMENTS ARE HELPING TO BUILD A BETTER COMMUNITY IN WHICH TO LIVE, WORK AND PLAY

In 2018, JEA continued to build on its strengths. It addressed the challenge of aging water and wastewater infrastructure in some parts of the city, while at the same time constructing major new assets in other high-growth areas of town. It also led the way in green energy by making significant advances in solar power in Jacksonville.

The water that JEA customers use at home for drinking, bathing, cooking and even swimming, is central to their quality of life. That's why JEA invested $199 million in water and wastewater infrastructure improvements and in the expansion of our reclaimed water supply in FY 2018. It's also why JEA announced plans in September to invest $1 billion in water and wastewater construction projects over the next five years.

JEA opened a new $10 million water treatment plant near Jacksonville International Airport in FY 2018 capable of providing 6 million gallons of drinking water a day. In addition, JEA expanded a water reclamation facility in St. Johns County, now capable of treating 6 million gallons of wastewater a day and turning it into reclaimed water for irrigation. Finally, JEA purchased land near its Greenland Energy Center to construct a 12th wastewater reclamation facility that's set to open in 2022.

The utility also made significant progress on two solar initiatives. It added 27 MWac of solar through purchase power agreements (PPAs). This as the Board approved a second solar expansion consisting of five 50 MWac solar facilities to be constructed as PPAs on several JEA-owned properties.

Both solar initiatives, along with a large existing solar facility, add up to just under 300 MWac of total utility-scale solar. This, in addition to a large and growing base of customer-owned rooftop solar systems, helped JEA earn the Sunriser Award in February 2018 from the Southern Alliance for Clean Energy. The nonprofit designated JEA one of the top seven utilities in the Southeast with the highest forecast solar watts of growth per customer.

JEA opened a new $10 million water treatment plant near Jacksonville International Airport in FY 2018 capable of providing 6 million gallons of drinking water a day to customers.

As JEA expanded its use of renewables, it decommissioned the St. Johns River Power Park, a 1,276-MW coal plant co-owned with FPL, and it demolished the plant's cooling towers in June. It also sold 32 acres of land along the St. Johns River, site of the former Southside Generating Station, to developers for $18.5 million.

JEA continued to lease the excess capacity of its telecommunications infrastructure in 2018 for about $1.8 million in revenue. By leasing this capacity, as well as space on its existing communication towers, JEA helps the City and earns a better return on investment for these assets, which benefits the utility and its customers.

Two recent storms in the 2017 fiscal year, Matthew and Irma, directly impacted JEA's Water and Wastewater System and highlighted the need for a system resiliency assessment. As a result, JEA launched a five-year resiliency study in May to better understand system vulnerabilities to extreme weather events. The study's output will improve system reliability and operational continuity.

All over the world, growing cities are supplementing shrinking water supplies by treating reclaimed water to drinking water standards. In Jacksonville, JEA took the first step toward exploring this concept through a partnership with the St. Johns River Water Management District. JEA pilot-tested two leading water purification technologies at two of its wastewater treatment facilities. The aim of the pilot study was to understand the technology and its performance on JEA wastewater.


FANUC
SUBMIT YOUR PICTURES!
#DUUUVAL
3RD AND 6
1:54
STORM SEASON IS HERE.
JEA
BUD LIGHT
XBOX ONE
RAMSEY
27

INNOVATIVE ELECTRIC, WATER AND WASTEWATER SERVICES THAT A MILLION LIVES DEPEND ON

Power quality and reliability are of the utmost importance to JEA. That's why JEA is focused on making its outages as short as possible. In order to do that, the JEA Electric System began implementing a four-year, multi-million dollar program to utilize smart grid devices such as customer meters, fault current indicators, automatic switches and reclosers and trip savers (smart fuses) in an effort to reduce customer outage duration.

The Electric System is also implementing significant control system upgrades to its Energy Management System (EMS). The EMS monitors and controls generation, transmission, and distribution assets, while a new Distribution Management System and future Outage Management System will improve outage restoration activities. Finally, Restoration 1-2-3, JEA's newly developed storm restoration plan, will improve communications during massive outage events.

JEA business customers, large and small, enjoy JEA rebates to help purchase electric-powered equipment to replace diesel and propane-fueled equipment such as forklifts and refrigerated delivery vehicles. In FY 2018, JEA commercial customers used 26,000 megawatt hours of additional electricity because of electrification. Additionally, JEA is training these customers to recharge their equipment during off-peak hours, so they don't increase demand overall. In the years ahead, JEA will work to significantly grow business electrification.

Work like this demonstrates JEA's strong commitment to its customers, a commitment that landed JEA squarely in the first quartile of the J.D. Power 2018 Electric Utility Customer Satisfaction Survey for Business Electric Service in the South among Midsize Utilities.

Business customers have also begun to embrace JEA's Economic Development Incentive Program, which provides incentives to some of the largest companies in the country if they set up shop in Jacksonville (or if existing companies grow jobs and electric usage). As a result, companies like Ikea, Sysco and Dresser-Rand have brought more than 7,000 jobs to Jacksonville over the last five years. That's a wage impact close to $300 million a year. The program has proved so positive for economic growth, the Board extended it for another three years.

In FY 2018, JEA commercial customers used 26,000 megawatt hours of additional electricity because of electrification.

JEA EMPLOYEES PROUDLY DEDICATE TIME, TREASURE AND TALENT TO HELPING OTHERS IN THE COMMUNITY

JEA started the fiscal year by making headlines. On October 7, 2017, the utility began sending what would become a total of 85 linemen and their bucket trucks to Puerto Rico to help restore power after Hurricane Maria. Puerto Ricans cheered when the utility's crews arrived because JEA was one of the first utilities to respond to mutual aid requests. Puerto Ricans from as far away as New York City called JEA's call center in Jacksonville to thank JEA for helping their friends and family members back home. The focus and fortitude crews displayed working in devastating conditions went a long way toward helping Puerto Rico recover from a catastrophic storm.

Needless to say, JEA is focused on its own community, as well. At the start of each fiscal year, the utility gives each of its nearly 2,000 employees eight hours of work time to help area nonprofits by participating in volunteer activities. Many employees quickly use all eight company-offered hours and volunteer further on their own time.

Employees can also participate in Ambassador activities such as taking small groups on tours of JEA facilities and teaching electric safety to first-graders in elementary schools. By the end of the fiscal year, JEA employees had spent nearly 13,000 hours participating in Ambassador and volunteer events at more than 200 area nonprofits. And that's not all. Every year, JEA employees also raise money to give to two area nonprofits: United Way of Northeast Florida and Community Health Charities. This year, employees raised more money than ever before: a combined total of $428,500.

JEA employees know that part of what makes their utility a premier ervice provider, valued asset and vital partner in advancing our community is their stellar job performance. And it's why there were high fives across the company when a JEA Lineman team won First Place Overall at the 2018 Florida Lineman Rodeo in Kissimmee. Not to be outdone, competition teams for the Water and Wastewater System also took home top honors in state competitions in FY 2018.

Of all the awards JEA garnered this fiscal year, there's one that makes many in the utility especially proud. It's the TreeLine USA Award, given by the national Arbor Day Foundation in Lincoln, Nebraska. The award honors many things, especially JEA's dedication to quality tree trimming practices. It's the sixth straight year JEA has been honored for its commitment to trees.

In FY 2018, JEA spent nearly 13,000 hours participating in ambassador and volunteer events at more than 200 area nonprofits. JEA employees also raised more money than ever before: a combined total of $428,500.


Building Community
a Better

JEA AT A GLANCE

Electric System
- 466,000 customers
- 900 square miles of service area
- 6,920 miles of distribution
- 744 circuit miles of transmission

Electric Generation
- Northside Generating Station (NGS)
- Plant Scherer Unit 4
- Brandy Branch (BB)
- Kennedy Station (KS)
- Greenland Energy Center (GEC)
- Solar Photovoltaic Power Purchase Agreements:
  - Jax Solar
  - NW Jax Solar Partners
  - Old Plank Road Solar Farm
  - Blair Road Solar
  - Simmons Road Solar
  - Starratt Solar
  - Old Kings Solar

Generation Technologies
- 1 pulverized coal (PC) unit (Scherer 4)
- 2 circulating fluidized bed (CFB) units (NGS 1 and 2)
- 5 gas/oil-fired combustion turbines (2 at GEC, 1 at BB, 2 at KS)
- 4 oil-fired combustion turbines (NGS)
- 1 combined cycle (CC) unit (BB)
- 7 Solar Photovoltaic Projects
- 1 gas/oil-fired turbine-generator unit (NGS 3)

Electric Generation Mix
- Natural Gas–48%
- Solid Fuel–34%
- Other–18 %

Water System
- 348,000 customers
- 100% groundwater supply
- 37 active WTPs
  - 19 major, 18 minor
- 2 re-pump facilities
- 134 permitted wells
- 1 major grid (with 2 river crossing interconnections), 4 minor grids
- 4-county service area
- 298 MGD permitted capacity in major grid
- 310 MGD total system permitted capacity
- 81 MGal storage capacity (77 MGal at the water plants, 4 MGal at the two re-pump facilities, Bartram and River Oaks)
- 112 MGD AADF well production
- 116 MGD AADF water plant production
- 152 MGD Max Day Flow, MDF (12 Month)
- 4,755 mile delivery system

Wastewater System
- 271,000 customers
- 11 treatment facilities
  - 7 regional, 4 non-regional
- 1,422 pump stations
- 4-county service area
- 120 MGD AADF treatment capacity
- 241 MGD peak treatment capacity
- 80 MGD AADF wastewater treated
- 143 MGD MDF non-coincidental (12 Month)
- 4,027 mile collection system

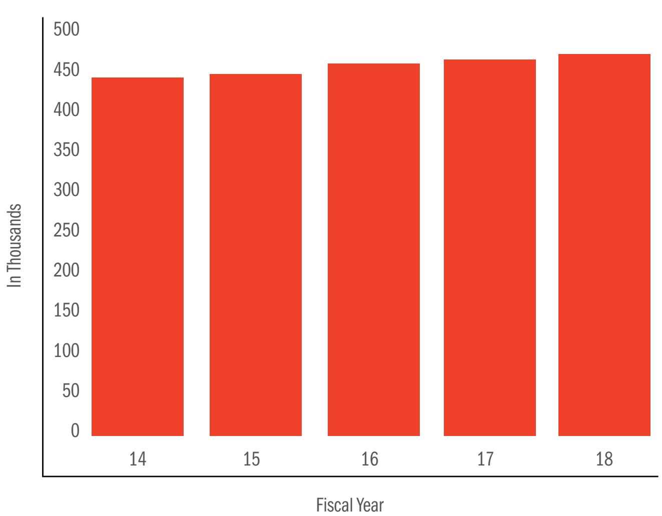
Reclaimed Water System
- 11,000 customers
- 10 reclaimed water production facilities
  - Arlington East, Mandarin, Blacks Ford, JCP, Ponte Vedra, Nassau Buckman, District 2, Southwest, Ponce de Leon
- 33 MGD AADF production capacity
- 19 MGD AADF reclaimed water production
- 2 storage and re-pump facilities (Bartram and Nocatee)
- 3 production and storage facilities (Blacks Ford, JCP and Ponte Vedra)
- 361 miles of pipe

District Energy Systems
- 4 chilled water plants
- Total capacity: 20,700 tons

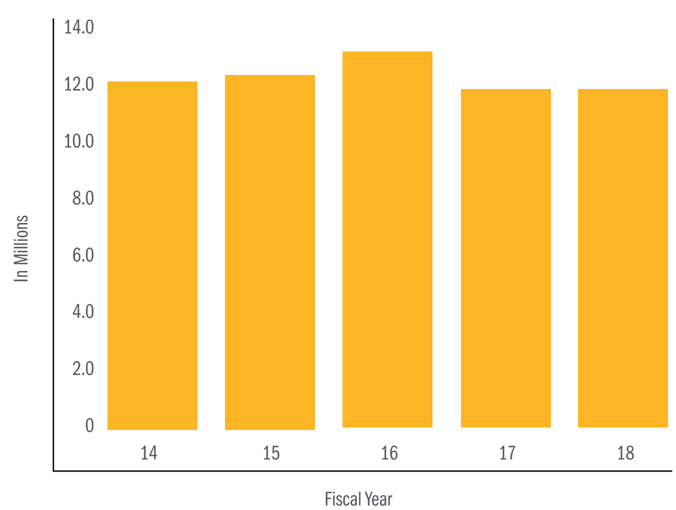
ELECTRIC FINANCIAL AND OPERATING HIGHLIGHTS

	Years Ended September 30					
	2018	**2017**	**2016**	**2015**	**2014**	% Change **2018–2017**
FINANCIAL HIGHLIGHTS						
Total operating revenues (thousands)	$1,366,111	$1,428,329	$1,364,242	$1,370,212	$1,479,483	-4.36%
Fuel and purchased power expenses (thousands)	$530,246	$536,250	$485,874	$517,239	$585,021	-1.12%
Total operating expenses (thousands)	$1,102,133	$1,088,386	$1,032,774	$1,061,853	$1,196,160	1.26%
Debt service coverage:						
Senior and subordinated - Electric	2.30 x	2.53 x	2.89 x	2.63 x	2.41 x	-9.09%
Senior - Electric	6.55 x	7.53 x	6.59 x	5.80 x	5.40 x	-13.01%
Bulk Power Supply System	3.47 x	1.75 x	1.81 x	1.24 x	2.24 x	98.29%
St. Johns River Power Park 2nd Resolution	1.60 x	1.18 x	1.17 x	1.16 x	2.21 x	35.59%
OPERATING HIGHLIGHTS						
Sales (megawatt hours)	12,732,236	13,893,852	14,586,486	14,379,697	14,312,013	-8.36%
Peak demand - megawatts 60 minute net	3,080	2,682	2,674	2,863	2,823	14.84%
Total accounts - average number	466,411	458,953	451,788	443,705	434,917	1.63%
Sales per residential account (kilowatt hours)	13,205	12,672	13,433	13,468	13,301	4.21%
Average residential revenue per kilowatt hour	$11.42	$11.44	$11.24	$11.82	$11.97	-0.17%
Power supply:						
Natural gas	48%	39%	32%	32%	27%	23.08%
Coal	22%	43%	42%	50%	57%	-48.84%
Purchases	18%	12%	11%	8%	5%	50.00%
Petroleum coke	12%	6%	15%	10%	10%	100.00%
Oil	0%	0%	0%	0%	1%	0.00%

Average Number of Electric Retail Accounts



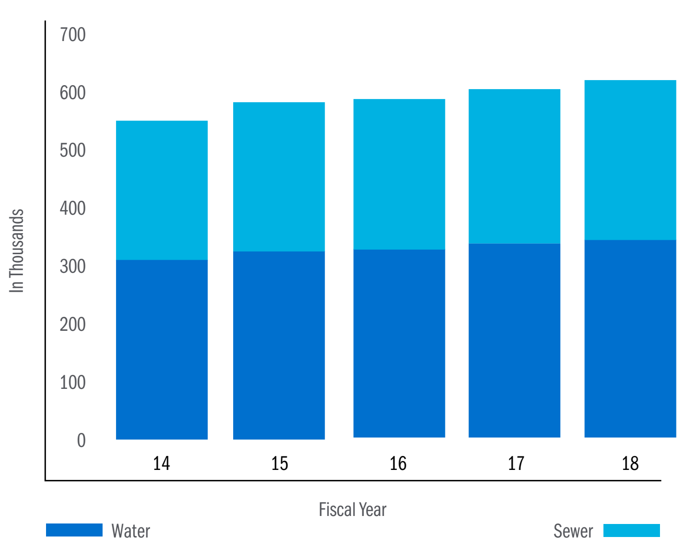
Retail Megawatt Hour Sales



WATER AND SEWER FINANCIAL AND OPERATING HIGHLIGHTS

	Years Ended September 30					
	2018	**2017**	**2016**	**2015**	**2014**	% Change **2018–2017**
FINANCIAL HIGHLIGHTS						
Total operating revenues (thousands)	$435,682	$457,908	$427,750	$389,733	$393,355	-4.85%
Operating expenses (thousands)	$310,435	$305,131	$297,325	$269,509	$263,275	1.74%
Debt service coverage:						
Senior and subordinated	2.79 x	2.99 x	3.28 x	2.75 x	2.46 x	-6.69%
Senior	3.33 x	3.54 x	3.78 x	3.13 x	2.71 x	-5.93%
OPERATING HIGHLIGHTS						
WATER						
Total sales (kgals)	36,186,559	37,245,188	36,357,919	34,558,284	32,468,336	-2.84%
Total accounts - average number	348,159	341,016	333,139	325,352	318,708	2.09%
Average sales per residential account (kgals)	59.33	63.21	62.78	61.32	59.84	-6.14%
Average residential revenue per kgal	$5.43	$5.48	$5.26	$5.30	$5.35	-0.91%
SEWER						
Total sales (kgals)	26,340,622	26,712,770	25,817,658	24,922,141	23,526,976	-1.39%
Total accounts - average number	270,871	264,336	257,719	250,974	244,836	2.47%
Average sales per residential account (kgals)	57.91	61.84	60.96	59.75	58.40	-6.36%
Average residential revenue per kgal	$9.52	$9.46	$9.26	$9.33	$9.46	0.63%
REUSE						
Total sales (kgals)	3,119,739	3,290,311	2,644,046	1,783,730	1,300,838	-5.18%
Total accounts - average number	11,498	9,391	7,498	5,891	4,501	22.44%

Average Number of Water and Sewer Accounts



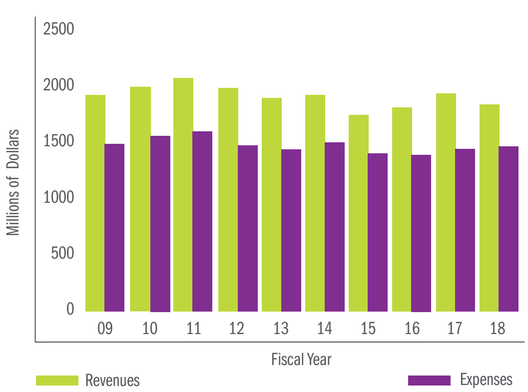
Water and Sewer Sales Volume

FINANCIAL SUMMARY

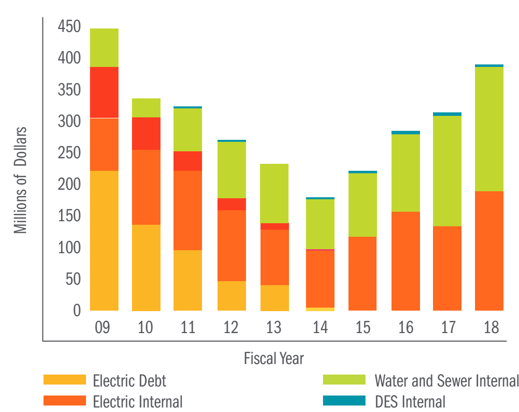
Combined Electric System, Bulk Power Supply System, St Johns River Power Park System, Water and Sewer and District Energy System (in thousands of dollars)

	2018-17	2017-16	2016-15	2015-14	2014-13
Operating revenues:					
Electric	$1,267,202	$1,382,206	$1,321,713	$1,324,883	$1,431,167
Water and sewer	423,480	448,057	417,404	379,789	383,643
District energy system	8,348	8,185	8,337	8,778	8,682
Other, net	90,952	36,729	34,298	35,930	38,389
Total operating revenues	1,789,982	1,875,177	1,781,752	1,749,380	1,861,881
Operating expenses:					
Fuel and purchased power	530,246	536,250	485,874	517,239	585,021
Maintenance and other operating expense	429,989	392,142	380,219	374,166	364,764
Depreciation	360,609	386,699	382,432	366,486	375,505
State utility and franchise taxes	71,307	69,683	71,244	72,510	72,221
Recognition of deferred costs and revenues, net	6,856	(4,075)	(1,527)	(11,168)	49,271
Total operating expenses	1,399,007	1,380,699	1,318,242	1,319,233	1,446,782
Operating income	390,975	494,478	463,510	430,147	415,099
Nonoperating revenues (expenses):					
Interest on debt	(166,508)	(182,992)	(184,457)	(198,199)	(223,736)
Investment income	11,826	10,576	14,225	12,904	20,546
Allowance for funds used during construction	11,764	11,774	9,407	5,723	3,894
Other nonoperating income, net	9,857	5,918	8,765	11,833	7,280
Earnings from The Energy Authority	4,074	6,335	6,136	1,461	3,567
Loss on sale of asset	-	-	-	(199)	-
Other interest, net	(1,825)	(451)	(403)	(68)	(38)
Total nonoperating expenses, net	(130,812)	(148,840)	(146,327)	(166,545)	(188,487)
Income before contributions and special item	260,163	345,638	317,183	263,602	226,612
Contributions (to) from:					
General fund, City of Jacksonville	(116,620)	(115,823)	(129,187)	(111,688)	(109,188)
Capital contributions:					
Developers and other	82,157	66,875	53,652	52,709	38,845
Reduction of plant cost through contributions	(54,114)	(42,069)	(31,632)	(33,105)	-
Total contributions	(88,577)	(91,017)	(107,167)	(92,084)	(70,343)
Special item	(45,099)	-	-	151,490	-
Change in net position	126,487	254,621	210,016	323,008	156,269
Net position - beginning of year, originally reported	2,628,822	2,376,925	2,166,909	1,843,901	2,039,737
Effect of change in accounting	-	(2,724)	-	-	(352,105)
Net position - beginning of year, as restated	2,628,822	2,374,201	2,166,909	1,843,901	1,687,632
Net position - end of year	$2,755,309	$2,628,822	$2,376,925	$2,166,909	$1,843,901

Total Operating Revenues and Expenses



Sources of Capital Project Funding

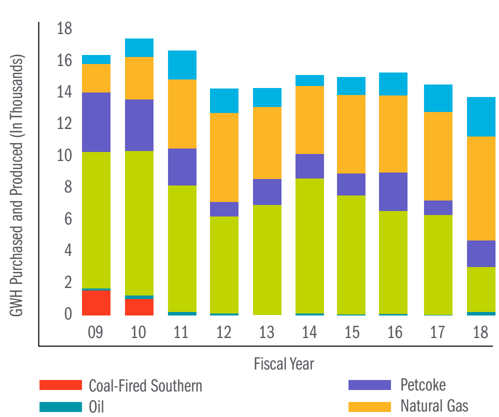


FINANCIAL SUMMARY, CONTINUED

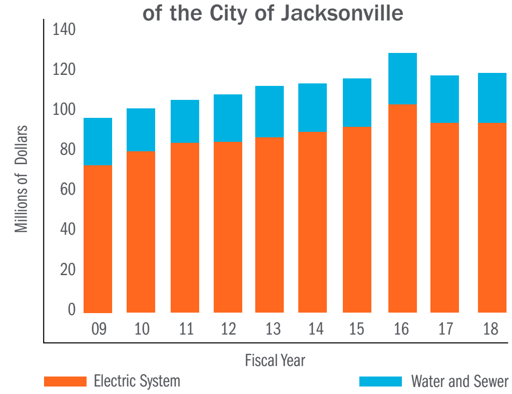
Combined Electric System, Bulk Power Supply System, St Johns River Power Park System, Water and Sewer and District Energy System (in thousands of dollars)

	2013-12	2012-11	2011-10	2010-09	2009-08
Operating revenues:					
Electric	$1,383,696	$1,473,134	$1,624,473	$1,548,248	$1,525,966
Water and sewer	381,677	385,631	358,176	303,241	249,813
District energy system	8,471	8,571	8,067	7,595	6,914
Other, net	38,975	41,046	48,842	50,692	48,687
Total operating revenues	1,812,819	1,908,382	2,039,558	1,909,776	1,831,380
Operating expenses:					
Fuel and purchased power	539,646	548,030	733,296	741,374	719,296
Maintenance and other operating expense	371,041	366,751	334,066	322,672	295,480
Depreciation	378,067	379,570	351,931	353,606	344,158
State utility and franchise taxes	70,237	72,925	78,787	73,120	72,127
Recognition of deferred costs and revenues, net	64,305	59,153	27,014	22,149	33,108
Total operating expenses	1,423,296	1,426,429	1,525,094	1,512,921	1,464,169
Operating income	389,523	481,953	514,464	396,855	367,211
Nonoperating revenues (expenses):					
Interest on debt	(235,228)	(248,681)	(289,320)	(285,669)	(264,701)
Investment income (loss)	(13,240)	8,804	11,908	(3,604)	23,463
Allowance for funds used during construction	3,986	3,365	5,387	9,713	12,708
Other nonoperating income, net	7,530	16,420	7,698	3,832	-
Earnings from The Energy Authority	4,325	6,328	12,265	6,103	4,088
Water & Sewer Expansion Authority	-	-	(485)	(719)	(864)
Loss on sale of asset	-	-	-	-	(986)
Other interest, net	(134)	(23)	(109)	(54)	(72)
Total nonoperating expenses, net	(232,761)	(213,787)	(252,656)	(270,398)	(226,364)
Income before contributions and special item	156,762	268,166	261,808	126,457	140,847
Contributions (to) from:					
General fund, City of Jacksonville	(106,687)	(104,188)	(101,688)	(99,187)	(96,687)
Capital contributions:					
Developers and other	29,292	18,774	23,539	19,883	38,071
Water & Sewer Expansion Authority	-	-	11,465	-	-
City of Jacksonville Better Jacksonville Plan	-	-	-	-	1,516
Total contributions	(77,395)	(85,414)	(66,684)	(79,304)	(57,100)
Change in net position	79,367	182,752	195,124	47,153	83,747
Net position - beginning of year, originally reported	1,991,311	1,808,559	1,613,435	1,566,282	1,482,535
Effect of change in accounting	(30,941)	-	-	-	-
Net position - beginning of year, as restated	1,960,370	1,808,559	1,613,435	1,566,282	1,482,535
Net position - end of year	$2,039,737	$1,991,311	$1,808,559	$1,613,435	$1,566,282

Fuel Sources



Contribution to the General Fund of the City of Jacksonville



OPERATING SUMMARY: ELECTRIC SYSTEM

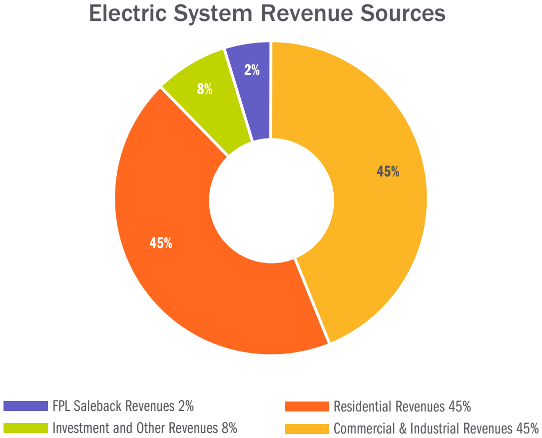
Electric System, Bulk Power System and St Johns River Power Park

	2018-17	2017-16	2016-15	2015-14	2014-13
Electric revenues (000's omitted):					
Residential	$618,171	$584,663	$599,009	$619,897	$608,983
Commercial and industrial	594,395	587,972	597,796	627,547	632,121
Public street lighting	12,873	13,069	13,488	11,982	13,943
Sales for resale	5,474	21,813	31,210	32,424	34,700
Florida Power & Light saleback	30,767	128,737	130,053	128,475	159,747
Total	1,261,680	1,336,254	1,371,556	1,420,325	1,449,494
Sales (megawatt hours):					
Residential	5,414,721	5,108,945	5,328,245	5,243,002	5,086,866
Commercial and industrial	6,851,803	6,725,201	6,847,583	6,767,836	6,636,445
Public street lighting	59,176	65,721	80,108	89,376	111,325
Sales for resale					
Territorial	38,640	150,268	305,315	333,994	337,353
Off-system	35,429	150,635	169,037	83,367	136,342
Florida Power & Light saleback	332,467	1,693,082	1,856,198	1,862,122	2,003,682
Total	12,732,236	13,893,852	14,586,486	14,379,697	14,312,013
Average number of accounts:					
Residential	410,060	403,164	396,664	389,287	382,438
Commercial and industrial	52,573	52,060	51,472	50,867	48,999
Public street lighting	3,777	3,727	3,649	3,549	3,477
Sales for resale (1)	1	2	3	2	3
Total	466,411	458,953	451,788	443,705	434,917
System installed capacity - MW (2)	3,084	3,722	3,722	3,759	3,759
Peak demand - MW (60 minute net)	3,080	2,682	2,674	2,863	2,823
System load factor - %	48%	53%	56%	51%	51%
Residential averages - annual:					
Revenue per account - $	1,507.51	1,450.19	1,510.12	1,592.39	1,592.37
kWh per account	13,205	12,672	13,433	13,468	13,301
Revenue per kWh - ¢	11.42	11.44	11.24	11.82	11.97
All other retail - annual:					
Revenue per account - $	10,776.72	10,773.85	11,089.86	11,752.59	12,311.61
kWh per account	122,644	121,729	125,682	126,015	128,588
Revenue per kWh - ¢	8.79	8.85	8.82	9.33	9.57
Heating-cooling degree days	4,256	3,737	4,117	4,159	3,998

(1) Includes Florida Power and Light, but does not include the average number of off-system non-firm sales customers.

(2) Includes JEA's 50% share of the SJRPP's two coal-fired generating units (638 net megawatts each) and JEA's 23.64% share of Scherer's 846 net megawatt coal-fired generating Unit 4. System installed capacity is reported based on winter capacity.

Electric System Revenue Sources



OPERATING SUMMARY: ELECTRIC SYSTEM, CONTINUED

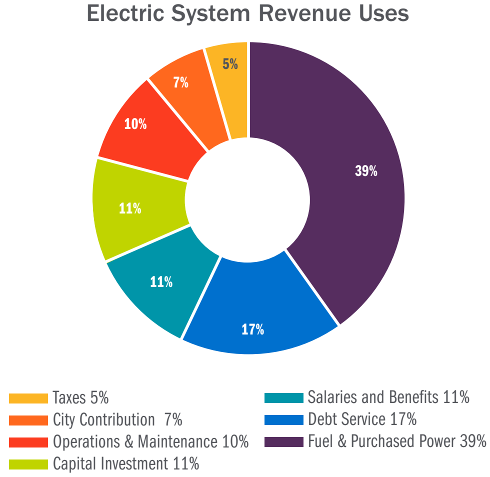
Electric System, Bulk Power System and St Johns River Power Park

	2013-12	2012-11	2011-10	2010-09	2009-08
Electric revenues (000's omitted):					
Residential	$580,893	$601,581	$686,706	$659,829	$645,725
Commercial and industrial	617,962	670,983	704,976	647,316	678,218
Public street lighting	14,661	15,311	15,347	14,203	14,440
Sales for resale	29,989	37,153	41,155	53,990	52,941
Florida Power & Light saleback	158,031	166,873	196,353	190,293	157,898
Total	1,401,536	1,491,901	1,644,537	1,565,631	1,549,222
Sales (megawatt hours):					
Residential	4,877,264	4,806,144	5,444,926	5,707,670	5,300,203
Commercial and industrial	6,599,249	6,670,200	6,908,240	6,932,123	6,849,291
Public street lighting	123,177	122,614	122,402	121,413	120,191
Sales for resale					
Territorial	329,922	374,116	394,548	418,867	406,051
Off-system	42,286	74,852	99,953	391,559	579,730
Florida Power & Light saleback	1,810,651	1,806,781	2,492,559	2,950,244	2,659,565
Total	13,782,549	13,854,707	15,462,628	16,521,876	15,915,031
Average number of accounts:					
Residential	375,600	371,658	369,566	368,682	367,864
Commercial and industrial	47,709	47,230	46,710	46,325	45,810
Public street lighting	3,460	3,424	3,424	3,495	3,550
Sales for resale (1)	3	3	3	3	3
Total	426,772	422,315	419,703	418,505	417,227
System installed capacity - MW (2)	3,759	3,759	3,759	3,376	3,376
Peak demand - MW (60 minute net)	2,596	2,665	3,062	3,224	3,064
System load factor - %	54%	53%	50%	49%	49%
Residential averages - annual:					
Revenue per account - $	1,546.57	1,618.64	1,858.14	1,789.70	1,755.34
kWh per account	12,985	12,932	14,733	15,481	14,408
Revenue per kWh - ¢	11.91	12.52	12.61	11.56	12.42
All other retail - annual:					
Revenue per account - $	12,363.40	13,548.66	14,367.95	13,278.18	14,032.78
kWh per account	131,377	134,102	140,237	141,580	141,197
Revenue per kWh - ¢	9.41	10.10	10.25	9.38	9.94
Heating-cooling degree days	3,830	3,618	4,345	4,705	4,094

(1) Includes Florida Power and Light, but does not include the average number of off-system non-firm sales customers.

(2) Includes JEA's 50% share of the SJRPP's two coal-fired generating units (638 net megawatts each) and JEA's 23.64% share of Scherer's 846 net megawatt coal-fired generating Unit 4. System installed capacity is reported based on winter capacity.

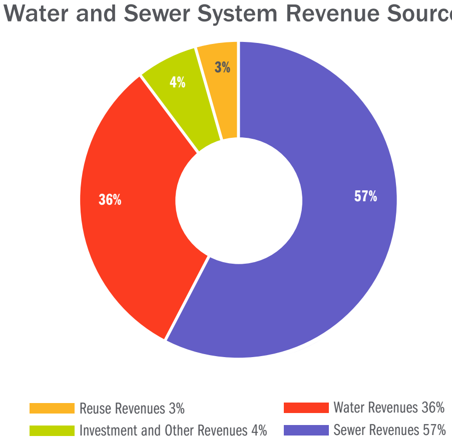
Electric System Revenue Uses



OPERATING SUMMARY: WATER AND SEWER SYSTEM

		2018-17	2017-16	2016-15	2015-14	2014-13
WATER	**Water revenues (000's omitted):**					
	Residential	$91,954	$96,615	$89,946	$86,215	$83,014
	Commercial and industrial	47,494	47,969	46,212	45,078	43,647
	Irrigation	32,004	36,836	34,846	32,681	30,088
	Total	171,452	181,420	171,004	163,974	156,749
	Water sales (kgals):					
	Residential	16,932,812	17,624,952	17,086,586	16,271,698	15,507,752
	Commercial and industrial	14,023,130	13,402,094	13,343,376	12,870,984	12,131,400
	Irrigation	5,230,617	6,218,142	5,927,957	5,415,602	4,829,184
	Total	36,186,559	37,245,188	36,357,919	34,558,284	32,468,336
	Average number of accounts:					
	Residential	285,404	278,838	272,157	265,373	259,159
	Commercial and industrial	25,702	25,423	24,698	23,951	23,722
	Irrigation	37,053	36,755	36,284	36,028	35,827
	Total	348,159	341,016	333,139	325,352	318,708
	Residential averages - annual:					
	Revenue per account - $	322.19	346.49	330.49	324.88	320.32
	kgals per account	59.33	63.21	62.78	61.32	59.84
	Revenue per kgal - $	5.43	5.48	5.26	5.30	5.35
SEWER	**Sewer revenues (000's omitted):**					
	Residential	$139,174	$143,967	$135,288	$129,976	$125,526
	Commercial and industrial	108,126	107,446	103,731	101,910	97,339
	Total	247,300	251,413	239,019	231,886	222,865
	Volume (kgals):					
	Residential	14,623,682	15,225,124	14,614,026	13,934,981	13,269,638
	Commercial and industrial	11,716,940	11,487,646	11,203,632	10,987,160	10,257,338
	Total	26,340,622	26,712,770	25,817,658	24,922,141	23,526,976
	Average number of accounts:					
	Residential	252,531	246,187	239,738	233,203	227,216
	Commercial and industrial	18,340	18,149	17,981	17,771	17,620
	Total	270,871	264,336	257,719	250,974	244,836
	Residential averages - annual:					
	Revenue per account - $	551.12	584.79	564.32	557.35	552.45
	kgals per account	57.91	61.84	60.96	59.75	58.40
	Revenue per kgal - $	9.52	9.46	9.26	9.33	9.46
REUSE	**Reuse revenues (000's omitted):**	$13,659	$13,216	$10,267	$7,378	$5,533
	Reuse sales (kgals):	3,119,739	3,290,311	2,644,046	1,783,730	1,300,838
	Average number of accounts:	11,498	9,391	7,498	5,891	4,501
RAINFALL	**Inches**	57.41	72.89	31.38	49.43	51.17
	Days	120	98	98	114	114

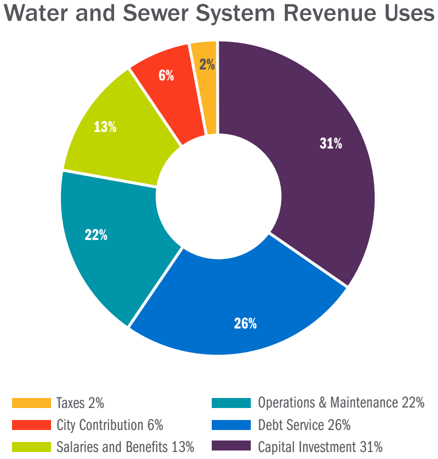
Water and Sewer System Revenue Sources



OPERATING SUMMARY: WATER AND SEWER SYSTEM, CONTINUED

		2013-12	2012-11	2011-10	2010-09	2009-08
WATER	**Water revenues (000's omitted):**					
	Residential	$81,832	$83,390	$81,859	$70,396	$59,441
	Commercial and industrial	42,809	43,629	40,299	34,872	27,591
	Irrigation	32,796	34,802	35,932	26,876	19,080
	Total	157,437	161,821	158,090	132,144	106,112
	Water sales (kgals):					
	Residential	15,741,904	16,589,517	18,485,853	17,609,301	17,572,032
	Commercial and industrial	11,777,128	12,134,488	12,271,645	12,091,091	12,184,482
	Irrigation	5,568,772	6,621,039	8,225,409	7,049,874	7,089,431
	Total	33,087,804	35,345,044	38,982,907	36,750,266	36,845,945
	Average number of accounts:					
	Residential	253,662	250,204	248,605	247,609	246,276
	Commercial and industrial	23,487	23,365	23,221	22,996	23,460
	Irrigation	35,765	35,652	35,559	35,441	35,340
	Total	312,914	309,221	307,385	306,046	305,076
	Residential averages - annual:					
	Revenue per account - $	322.60	333.29	329.27	284.30	241.36
	kgals per account	62.06	66.30	74.36	71.12	71.35
	Revenue per kgal - $	5.20	5.03	4.43	4.00	3.38
SEWER	**Sewer revenues (000's omitted):**					
	Residential	$124,642	$126,722	$116,024	$99,327	$84,961
	Commercial and industrial	96,009	94,232	81,633	70,831	59,017
	Total	220,651	220,954	197,657	170,158	143,978
	Volume (kgals):					
	Residential	13,439,781	14,091,702	15,597,512	14,847,431	14,353,777
	Commercial and industrial	10,184,193	10,398,369	10,321,967	10,279,241	10,413,889
	Total	23,623,974	24,490,071	25,919,479	25,126,672	24,767,666
	Average number of accounts:					
	Residential	221,821	218,264	216,323	214,506	212,741
	Commercial and industrial	17,462	17,351	17,269	17,229	17,617
	Total	239,283	235,615	233,592	231,735	230,358
	Residential averages - annual:					
	Revenue per account - $	561.90	580.59	536.35	463.05	399.36
	kgals per account	60.59	64.56	72.10	69.22	67.47
	Revenue per kgal - $	9.27	8.99	7.44	6.69	5.92
REUSE	**Reuse revenues (000's omitted):**	$4,551	$3,936	$3,622	$2,093	$1,156
	Reuse sales (kgals):	1,109,653	1,330,359	1,551,175	989,010	805,925
	Average number of accounts:	3,143	2,241	1,666	1,201	837
RAINFALL	**Inches**	45.54	55.24	42.18	40.53	53.67
	Days	121	N/A	N/A	N/A	N/A

Water and Sewer System Revenue Uses



FINANCIAL REPORT

Financial Statements, Supplementary Information, and Bond Compliance Information

JEA

Years Ended September 30, 2018 and 2017
With Report of Independent Auditors

Ernst & Young LLP

Building a better working world

JEA

Financial Statements, Supplementary Information, and Bond Compliance Information

Years Ended September 30, 2018 and 2017

Contents

Building a better
working world

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Report of Independent Auditors

The Board of Directors
JEA
Jacksonville, Florida

Report on the Financial Statements

We have audited the accompanying financial statements of JEA, a component unit of the City of Jacksonville, as of and for the years ended September 30, 2018 and 2017, and the related notes to the financial statements, which collectively comprise JEA's basic financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in conformity with U.S. generally accepted accounting principles; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free of material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States and the standards applicable to financial audits contained in *Government Auditing Standards,* issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the respective financial position of JEA as of September 30, 2018 and 2017, and the respective changes in its financial position and cash flows thereof for the years then ended in conformity with U.S. generally accepted accounting principles.

Adoption of GASB Statement No. 75, Accounting and Financial Reporting for Postemployment Benefits Other than Pensions and GASB Statement No. 83, Certain Asset Retirement Obligations

As discussed in Footnote 1 to the financial statements, JEA changed its method of accounting for postemployment benefits other than pensions and certain asset retirement obligations as a result of the adoption of Governmental Accounting Standards Board (GASB) Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other than Pensions,* effective October 1, 2016 and GASB Statement No. 83, *Certain Asset Retirement Obligations*, effective October 1, 2017, respectively. Our opinion is not modified with respect to these matters.

Other Matters

Required Supplementary Information

U.S. generally accepted accounting principles require that the Management's Discussion and Analysis, the Schedule of JEA's Proportionate Share of the Net Pension Liability and Schedule of JEA Contributions, SJRPP Plan – Schedule of Changes in Net Pension Liability and Related Ratios, SJRPP Pension Plan – Schedule of Contributions, OPEB Plan – Schedule of Changes in Net OPEB Liability and Related Ratios and OPEB Plan – Schedule of Contributions, as listed in the table of contents be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board which considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Supplementary Information

Our audit was conducted for the purpose of forming an opinion on the financial statements as a whole. The combining statements of net position, revenues, expenses and changes in net position and cash flows, as listed in the table of contents are presented for purposes of additional analysis and are not a required part of the basic financial statements.

Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the financial statements. The information has been subjected to the auditing procedures applied in the audit of the financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the financial statements or to the financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States. In our opinion, the combining statements of net position, revenues, expenses and changes in net position and cash flows, as listed in the table of contents are fairly stated, in all material respects, in relation to the financial statements as a whole.

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Other Reporting Required by Government Auditing Standards

In accordance with *Government Auditing Standards*, we also have issued our report dated December 3, 2018 on our consideration of JEA's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of JEA's internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering JEA's internal control over financial reporting and compliance.

Ernst & Young LLP

December 3, 2018

Management's Discussion and Analysis

Introduction

JEA is a municipal utility operating in Jacksonville, Florida (Duval County) and parts of three adjacent counties. The operation is composed of three enterprise funds – the Electric Enterprise Fund, the Water and Sewer Fund, and the District Energy System (DES). The Electric Enterprise Fund is comprised of the JEA Electric System, Bulk Power Supply System (Scherer), and St. Johns River Power Park System (SJRPP). The Electric Enterprise Fund, Water and Sewer Fund, and DES are presented on a combined basis in the accompanying statements of net position, statements of revenues, expenses and changes in net position, and statements of cash flows.

Overview of the Combined Financial Statements

This discussion and analysis serves as an introduction to JEA's basic financial statements. The information presented here should be read in conjunction with the financial statements and accompanying notes.

The basic financial statements are presented on a comparative basis for the fiscal years ended September 30, 2018 and 2017. The statements of net position present JEA's assets, deferred outflows of resources, liabilities, and deferred inflows of resources, with the residual reported as net position. Revenue and expense information is presented in the accompanying statements of revenues, expenses, and changes in net position. The accompanying statements of cash flows present JEA's sources and uses of cash and cash equivalents and are presented using the direct method. This method provides broad categories of cash receipts and cash disbursements pertaining to cash provided by or used in operations, investing, and financing activities.

The notes to the financial statements are an integral part of JEA's basic financial statements and contain information on accounting principles and additional information on certain components of these statements.

The following tables summarize the financial condition and operations of JEA for the 2018 and 2017 fiscal years:

Condensed Statements of Net Position

	2018	2017*	2016
		(In millions)	
Assets and deferred outflows of resources			
Current assets	**$ 874**	$ 902	$ 917
Other noncurrent assets	**1,677**	1,624	1,552
Net capital assets	**5,380**	5,814	5,875
Deferred outflows of resources	**435**	438	462
Total assets and deferred outflows of resources	**$ 8,366**	$ 8,778	$ 8,806
Liabilities and deferred inflows of resources			
Current liabilities	**$ 207**	$ 189	$ 168
Current liabilities payable from restricted assets	**367**	449	389
Net pension liability	**544**	554	493
Other noncurrent liabilities	**91**	90	47
Long-term debt	**4,053**	4,410	4,791
Deferred inflows of resources	**348**	457	541
Net position			
Net investment in capital assets	**1,857**	1,622	1,420
Restricted	**542**	614	612
Unrestricted	**357**	393	345
Total liabilities, deferred inflows of resources, and net position	**$ 8,366**	$ 8,778	$ 8,806

Condensed Statements of Revenues, Expenses, and Changes in Net Position

	2018	2017*	2016
		(In millions)	
Operating revenues	**$ 1,790**	$ 1,875	$ 1,782
Operating expenses	**(1,399)**	(1,380)	(1,319)
Operating income	**391**	495	463
Nonoperating expenses, net	**(131)**	(149)	(146)
Contributions	**(89)**	(91)	(107)
Special Item	**(45)**	–	–
Change in net position	**126**	255	210
Net position – beginning of the year	**2,629**	2,377	2,167
Effect of adoption of GASB Statement No. 75	**–**	(3)	–
Net position – beginning of the year, restated	**2,629**	2,374	2,167
Net position – end of the year	**$ 2,755**	$ 2,629	$ 2,377

*Restated for implementation of GASB Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions*

Financial Analysis of JEA for fiscal years 2018 and 2017

Operating Revenues

2018 Compared to 2017

Electric Enterprise

Total operating revenues decreased approximately $62 million (4.4%) compared to fiscal year 2017. Electric revenues decreased $114 million and other operating revenues increased by $52 million. The $114 million decrease in electric revenues was due to a $97 million decrease in sales to FPL as a result of the shutdown of SJRPP in January 2018, and a $40 million decrease in transfers from stabilization funds. See note 2, Regulatory Deferrals, for additional information. The decrease was partially offset by $23 million increase in territorial sales. Territorial MWh sales were up 314,205 megawatt hours (MWh) (2.6%), resulting in a 1.0% increase in average MWhs per customer, driven by a 13.9% increase in degree days. SJRPP Sales to FPL decreased by 1,360,616 MWh and off-system sales decreased by 115,206 MWh, which brought the change to a net decrease in MWh sales of 1,161,617 MWh (8.4%). The increase in other operating revenues was driven by the FPL shutdown payment. See note 3, St. Johns River Power Park Decommissioning, for further details.

Water and Sewer

Total operating revenues decreased approximately $22 million (4.9%) compared to fiscal year 2017. Water revenues decreased $10 million (5.5%) due to a 2.8% decrease in consumption, which was partially offset by a 2.1% increase in customer accounts. Water consumption decreased 1,058,629 kgals to 36,186,559 kgals. Sewer revenues decreased approximately $4 million (1.6%) primarily related to a 1.4% decrease in sales, which was partially offset by a 2.5% increase in sewer accounts. Sewer sales decreased 372,148 kgals to 26,340,622 kgals. The water and sewer revenue decreases were driven by a 22.4% increase in rain days. Reuse revenues increased approximately $1 million (3.4%), primarily related to a 22.4% increase in reuse accounts, which was partially offset by a 5.2% decrease in sales. Reuse sales decreased 170,572 kgals to 3,119,739 kgals. Water and sewer revenues were impacted by an $11 million net decrease in transfers from stabilization funds. See note 2, Regulatory Deferrals, for additional information. Other operating revenues increased by $2 million due to additional waste disposal revenues.

District Energy System

Operating revenues remained flat when compared to fiscal year 2017 at $9 million.

2017 Compared to 2016

Electric Enterprise

Total operating revenues increased approximately $64 million (4.7%) compared to fiscal year 2016. Electric revenues increased $61 million and other operating revenues increased by $3 million. The increase in electric revenues was due to an increase in transfers from stabilization funds related to fuel and debt management of $96 million, which was partially offset by a $35 million decrease in sales. See note 2, Regulatory Deferrals, for additional information. Territorial MWh sales were down 511,116 megawatt hours (MWh) (4.1%), resulting in a 5.6% decrease in average MWhs per customer. SJRPP Sales to FPL decreased by 163,116 MWh and off-system sales decreased by 18,402 MWh, which brought the total decrease in MWh sales to 692,634 MWh (4.7%).

Water and Sewer

Total operating revenues increased approximately $30 million (7.1%) compared to fiscal year 2016. Water revenues increased $10 million (6.1%) due to a 2.4% increase in consumption and a 2.4% increase in customer accounts. Water consumption increased 887,269 kgals to 37,245,188 kgals. Sewer revenues increased approximately $12 million (5.2%) primarily related to a 3.5% increase in sales and a 2.6% increase in sewer accounts. Sewer sales increased 895,112 kgals to 26,712,770 kgals. Reuse revenues increased approximately $3 million (28.7%), primarily related to a 24.4% increase in sales and a 25.2% increase in reuse accounts. Reuse sales increased 646,265 kgals to 3,290,311 kgals. Water and sewer revenues were impacted by a $5 million net increase in transfers, primarily related to a withdrawal from the debt management stabilization fund for a debt defeasance. See note 2, Regulatory Deferrals, for additional information.

District Energy System

DES operating revenues remained flat when compared to fiscal year 2016 at $9 million.

Operating Expenses

2018 Compared to 2017

Electric Enterprise

Total operating expenses increased approximately $14 million (1.3%), compared to fiscal year 2017.

Fuel and purchased power expense decreased approximately $6 million (1.1%), compared to fiscal year 2017. Costs decreased by $19 million while MWh generated and purchased increased by $13 million. As commodity prices have fluctuated over these periods, the mix between generation and purchased power has shifted as JEA has taken advantage of the most economical sources of power. In addition, the shutdown of the SJRPP power plant has decreased power production sourced by coal significantly. Total MWh power volumes increased 1.6% compared to fiscal year 2017 to 12,874,102 MWh, with an increase of 41.6% for MWh purchased and a decrease of 4.5% for MWh generated. Detailed below is JEA's power supply mix.

	FY 2018	FY 2017
Natural gas	**48%**	39%
Coal	**22%**	43%
Purchases	**18%**	12%
Petroleum coke	**12%**	6%
Total	**100%**	100%

Operating expenses, other than fuel and purchased power, increased approximately $20 million, compared to fiscal year 2017.

Maintenance and other operating expenses increased $30 million. The drivers for the increase were a $19 million increase in Scherer capital improvements and operating costs, $14 million in SJRPP renewal and replacement expenses, and $5 million increase in maintenance costs. These increases were offset by an $8 million reduction in SJRPP operating expenses due to the plant shutdown.

Depreciation expense decreased $28 million due to a decrease in the depreciable base, driven by the impairment of the SJRPP capital assets due to the shutdown of the SJRPP plant. State utility and franchise taxes increased $2 million due to higher electric revenue taxable sales. Recognition of deferred costs and revenues, net increased $16 million as a result of higher deferred cost amortization, primarily related to the reduced depreciation for SJRPP capital assets subsequent to the impairment. See note 3, St. Johns River Power Park Decommissioning, for additional details.

Water and Sewer

Operating expenses increased $5 million (1.7%), compared to fiscal year 2017. Maintenance and other expenses increased $8 million due to a $5 million increase in professional services, industrial services, and compensation and a $3 million increase in interfund charges. Depreciation expense increased $2 million due to an increase in the depreciable base. Recognition of deferred costs and revenues, net decreased $5 million due to a decrease in environmental projects paid from the rate stabilization fund.

District Energy System

Operating expenses remained flat when compared to fiscal year 2017 at $7 million.

2017 Compared to 2016

Electric Enterprise

Total operating expenses increased approximately $56 million (5.4%), compared to fiscal year 2016.

Fuel and purchased power expense increased approximately $51 million (10.4%), compared to fiscal year 2016, primarily due to higher solid fuels, natural gas and purchased power costs. The increase in commodity costs was partially offset by a decrease in total MWH generated and purchased. Generation cost increased by $62 million, purchased power cost increased by $12 million, while MWh generated and purchased decreased by $23 million. As commodity prices have fluctuated over these periods, the mix between generation and purchased power has shifted as JEA has taken advantage of the most economical sources of power. Total MWh power volumes decreased 4.4% compared to fiscal year 2016 to 12,667,351 MWh, with a decrease of 5.6% for MWh generated and an increase of 3.7% for MWh purchased. Detailed below is JEA's power supply mix.

	FY 2017	**FY 2016**
Coal	**43%**	42%
Natural gas	**39%**	32%
Petroleum coke	**6%**	15%
Purchases	**12%**	11%
Total	**100%**	100%

Operating expenses, other than fuel and purchased power, increased approximately $5 million, compared to fiscal year 2016. Maintenance and other operating expenses increased $3 million. The drivers for the increase were a $9 million increase in compensation and benefits costs and a $3 million increase related to insurance costs. These increases were offset by a decrease of $9 million in maintenance expenses due to a prior year major outage at Brandy Branch not repeated in the current year and reduced maintenance expenses at SJRPP and Scherer. Depreciation expense increased $5 million due to an increase in the depreciable base. State utility and franchise taxes decreased $2 million due to lower electric revenue sales. Recognition of deferred costs and revenues, net decreased $1 million as a result of lower deferred cost amortization.

Water and Sewer

Operating expenses increased $8 million (2.6%), compared to fiscal year 2016. Maintenance and other expenses increased $10 million due to a $5 million increase in compensation and benefits costs, $4 million increase in interfund charges, and a $1 million net increase in miscellaneous other operating expenses. Recognition of deferred costs and revenues, net decreased $2 million due to a decrease in environmental projects paid from the rate stabilization fund.

District Energy System

DES operating expenses remained flat when compared to fiscal year 2016 at $7 million.

Nonoperating Revenues and Expenses

2018 Compared to 2017

There was a decrease of approximately $18 million (12.1%) in total nonoperating expenses, net over the prior year. Detailed below are the drivers.

	FY 2018
	(in millions)
Changes in nonoperating expenses, net	
Decrease in interest on debt	$ 16
Investment gains – fair value adjustments	4
Decrease in investment income	(3)
Decrease in The Energy Authority earnings	(2)
Gain on sale of assets	2
Decrease in other nonoperating expenses - timber	2
Increase in other interest expense	(1)
Total change in nonoperating expenses, net	$ 18

2017 Compared to 2016

There was an increase of approximately $3 million (1.7%) in total nonoperating expenses, net over the prior year. Detailed below are the drivers.

	FY 2017
	(in millions)
Changes in nonoperating expenses, net	
Investment losses – fair value adjustments	$ (9)
Increase in investment income	5
Decrease in other nonoperating income – timber	(3)
Increase in allowance for funds used during construction	2
Decrease in interest on debt	2
Total change in nonoperating expenses, net	$ (3)

Capital Assets and Debt Administration for Fiscal Years 2018 and 2017

Capital Assets

As of September 30, 2018, JEA had approximately $5,380 million in capital assets, net of accumulated depreciation. This included $2,662 million in electric plant, $2,683 million in water and sewer plant, and $35 million in chilled water plant. During fiscal year 2018, capital additions were $387 million, which included $183 million in electric plant, $203 million in water and sewer plant, and $1 million in chilled water plant. Also during fiscal year 2018, a $451 million write down was recorded to the Electric Enterprise capital accounts due to the shutdown of the SJRPP power plant. More detailed information is presented in note 3, St. Johns River Power Park Decommissioning, to the financial statements. As of September 30, 2017, JEA had approximately $5,814 million in capital assets, net of accumulated depreciation. This included $3,162 million in electric plant, $2,616 million in water and sewer plant, and $36 million in chilled water plant. During fiscal year 2017, capital additions were $327 million, which included $145 million in electric plant, $180 million in water and sewer plant, and $2 million in chilled water plant. More detailed information about JEA's capital asset activity is presented in note 6, Capital Assets, to the financial statements.

With the adoption of the depreciation ratemaking policy in 2014, the depreciation of contributed assets are not included in rates charged to customers, because it has already been recovered with the contribution. In accordance with GASB 62, the contributed assets will be expensed in capital contributions as a reduction of plant cost through contributions. During fiscal year 2018, $2 million of contributed capital related to the Electric System and $52 million related to Water and Sewer System was recorded as a reduction of plant cost through contributions. During fiscal year 2017, $1 million of contributed capital related to the Electric System and $41 million related to Water and Sewer System was recorded as a reduction of plant cost through contributions.

JEA has ongoing capital improvement programs for the Electric Enterprise Fund and the Water and Sewer Fund. The capital programs consist of: (a) the Electric Enterprise Fund capital requirements for improvements to existing generating facilities that are determined to be necessary as a result of JEA's annual resource planning process; (b) the Electric Enterprise Fund's capital requirements for transmission and distribution facilities and other capital items; and (c) the Water and Sewer Fund capital requirements that are determined to be necessary as a result of the annual resource planning process. The cost of the capital improvement program is planned to be provided from revenues generated from operations and existing construction fund balances.

Scherer is subject to a joint ownership agreement. JEA's share of the estimated capital expenditures relating to this plant is $10 million and is included in the Electric Enterprise Fund amount above.

Debt Administration

Debt outstanding at September 30, 2018, was $3,999 million, a decrease of approximately $402 million from the prior fiscal year. This decrease was due to defeasance of principal of $994 million and regular principal payments of $229 million, being partially offset by new debt issued of $821 million.

Debt outstanding at September 30, 2017, was $4,401 million, a decrease of approximately $251 million from the prior fiscal year. This decrease was due to regular principal payments of $182 million and defeasance of principal of $159 million, being partially offset by new debt issued of $90 million.

JEA's debt ratings on its long-term debt per Fitch and Moody's Investors Service remained unchanged from fiscal year 2017. On September 28, 2018, Standard & Poor's downgraded its long-term ratings on the Electric System senior, SJRPP, and Scherer bonds from AA- to A+ and the Electric System subordinated bonds from A+ to A. All ratings as of September 2018 and 2017 are as follows:

	2018					2017				
	Electric System	Water and Sewer System	SJRPP	Scherer	District Energy System	Electric System	Water and Sewer System	SJRPP	Scherer	District Energy System
Senior debt:										
Moody's Investors Service	**Aa2**	**Aa2**	**Aa2**	**Aa2**	**Aa3**	Aa2	Aa2	Aa2	Aa2	Aa3
Standard & Poor's	**A+**	**AAA**	**A+**	**A+**	**AA+**	AA-	AAA	AA-	AA-	AA+
Fitch	**AA**	**AA**	**AA**	**AA**	**AA**	AA	AA	AA	AA	AA
Subordinated debt:										
Moody's Investors Service	**Aa3**	**Aa2**	*	*	*	Aa3	Aa2	*	*	*
Standard & Poor's	**A**	**AA+**	*	*	*	A+	AA+	*	*	*
Fitch	**AA**	**AA**	*	*	*	AA	AA	*	*	*

* There are no subordinated bonds related to this system.

Currently Known Facts Expected to have a Significant Effect on Financial Position and/or Changes in Operations

Setting of Rates

The setting of rates is the responsibility of the Board. Base rate changes are implemented after a public rate hearing and Board approval. Fuel rate changes are implemented solely with Board approval.

In October 2017, the Board approved a new rate rider called SolarMax for customers purchasing a minimum of 7,000,000 kWh of annual solar purchase power, effective November 1, 2017. The Board also approved a wastewater rate for Leachate waste disposed at a JEA sewage treatment plant at a charge of $5.16 per 100 gallons.

JEA has an ongoing plan to review, update and, where possible, expand its rate options to provide customers more rate choices for their utility services. As part of this initiative, the Board approved, at its August 2018 meeting, an extension of the Economic Stimulus Rider from September 30, 2018 to September 30, 2021 that provides a financial incentive for new commercial or industrial customers to locate within the JEA service area.

Bond Ratings

Moody's Investors Services lowered certain JEA bond ratings subsequent to the end of fiscal year 2018. As a result of the ratings change, commitment fees related to Electric System variable rate demand obligations and the interest rate related to the variable rate direct purchased bonds changed. For further details, see note 18, Subsequent Events.

Requests for Information

The financial report is designed to provide a general overview of JEA's finances for all those with an interest in JEA's finances. Questions concerning any of the information provided in this report or requests for additional information should be addressed to the Controller, JEA, 21 West Church Street, Jacksonville, Florida, 32202.

Audited Financial Statements

JEA

Statements of Net Position

(In Thousands)

	September	
	2018	**2017***
Assets		
Current assets:		
Cash and cash equivalents	**$ 441,206**	$ 489,559
Investments	**85,310**	25,122
Accounts and interest receivable, net of allowance ($1,830 for 2018 and $2,101 for 2017)	**251,148**	245,444
Inventories:		
Fuel	**36,871**	72,772
Materials and supplies	**59,204**	69,721
Total current assets	**873,739**	902,618
Noncurrent assets:		
Restricted assets:		
Cash and cash equivalents	**114,576**	124,475
Investments	**731,627**	936,708
Accounts and interest receivable	**62**	984
Total restricted assets	**846,265**	1,062,167
Costs to be recovered from future revenues	**808,096**	541,021
Investment in The Energy Authority	**6,811**	6,283
Other assets	**15,875**	14,511
Total noncurrent assets	**1,677,047**	1,623,982
Net capital assets	**5,380,259**	5,813,799
Total assets	**7,931,045**	8,340,399
Deferred outflows of resources		
Unrealized pension contributions and losses	**171,367**	173,578
Unamortized deferred losses on refundings	**143,722**	133,356
Accumulated decrease in fair value of hedging derivatives	**86,356**	125,269
Unrealized asset retirement obligation	**29,173**	–
Unrealized OPEB contributions and losses	**4,078**	5,240
Total deferred outflows of resources	**434,696**	437,443
Total assets and deferred outflows of resources	**$ 8,365,741**	$ 8,777,842

See accompanying notes to financial statements.

*Restated for implementation of GASB Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions*

JEA

Statements of Net Position (continued)

(In Thousands)

	September 2018	September 2017*
Liabilities		
Current liabilities:		
Accounts and accrued expenses payable	**$ 147,361**	$ 131,892
Customer deposits	**59,883**	57,278
Total current liabilities	**207,244**	189,170
Current liabilities payable from restricted assets:		
Debt due within one year	**185,790**	229,095
Renewal and replacement reserve	**54,370**	82,577
Interest payable	**73,737**	82,221
Construction contracts and accounts payable	**53,369**	54,961
Total current liabilities payable from restricted assets	**367,266**	448,854
Noncurrent liabilities:		
Net pension liability	**544,203**	554,337
Asset retirement obligation	**22,526**	–
Net OPEB liability	**18,835**	39,508
Other liabilities	**49,227**	50,022
Total other noncurrent liabilities	**634,791**	643,867
Long-term debt:		
Debt payable, less current portion	**3,813,680**	4,172,160
Unamortized premium, net	**152,891**	112,475
Fair value of debt management strategy instruments	**86,356**	125,269
Total long-term debt	**4,052,927**	4,409,904
Total liabilities	**5,262,228**	5,691,795
Deferred inflows of resources		
Revenues to be used for future costs	**286,832**	444,606
Unrealized pension gains	**50,124**	11,960
Unrealized OPEB gains	**8,712**	659
Accumulated increase in fair value of hedging derivatives	**2,536**	–
Total deferred inflows of resources	**348,204**	457,225
Net position		
Net investment in capital assets	**1,856,725**	1,622,160
Restricted for:		
Debt service	**187,374**	234,268
Other purposes	**354,663**	379,186
Unrestricted	**356,547**	393,208
Total net position	**2,755,309**	2,628,822
Total liabilities, deferred inflows of resources, and net position	**$ 8,365,741**	$ 8,777,842

See accompanying notes to financial statements.

*Restated for implementation of GASB Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions*

JEA

Statements of Revenues, Expenses, and Changes in Net Position

(In Thousands)

	September 2018	September 2017*
Operating revenues		
Electric	**$ 1,267,202**	$ 1,382,206
Water and sewer	**423,480**	448,057
District energy system	**8,348**	8,185
Other	**90,952**	36,729
Total operating revenues	**1,789,982**	1,875,177
Operating expenses		
Operations and maintenance:		
Fuel	**421,052**	458,794
Purchased power	**109,194**	77,456
Maintenance and other operating expenses	**429,989**	392,142
Depreciation	**360,609**	386,699
State utility and franchise taxes	**71,307**	69,683
Recognition of deferred costs and revenues, net	**6,856**	(4,075)
Total operating expenses	**1,399,007**	1,380,699
Operating income	**390,975**	494,478
Nonoperating revenues (expenses)		
Interest on debt	**(166,508)**	(182,992)
Investment income	**11,826**	10,576
Allowance for funds used during construction	**11,764**	11,774
Other nonoperating income, net	**9,857**	5,918
Earnings from The Energy Authority	**4,074**	6,335
Other interest, net	**(1,825)**	(451)
Total nonoperating expenses, net	**(130,812)**	(148,840)
Income before contributions	**260,163**	345,638
Contributions (to) from		
General Fund, City of Jacksonville, Florida	**(116,620)**	(115,823)
Developers and other	**82,157**	66,875
Reduction of plant cost through contributions	**(54,114)**	(42,069)
Total contributions, net	**(88,577)**	(91,017)
Special items	**(45,099)**	-
Change in net position	**126,487**	254,621
Net position, beginning of year	**2,628,822**	2,376,925
Effect of adoption of GASB Statement No. 75	**-**	(2,724)
Net position, beginning of year, as restated	**2,628,822**	2,374,201
Net position, end of year	**$ 2,755,309**	$ 2,628,822

See accompanying notes to financial statements.

*Restated for implementation of GASB Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions*

JEA

Statements of Cash Flows
(In Thousands)

	September 2018	September 2017
Operating activities		
Receipts from customers	**$ 1,740,598**	$ 1,758,515
Payments to suppliers	**(790,962)**	(738,231)
Payments to employees	**(267,569)**	(249,193)
Other operating activities	**93,902**	4,541
Net cash provided by operating activities	**775,969**	775,632
Noncapital and related financing activities		
Contribution to General Fund, City of Jacksonville, Florida	**(116,569)**	(115,694)
Net cash used in noncapital and related financing activities	**(116,569)**	(115,694)
Capital and related financing activities		
Defeasance of debt	**(993,690)**	(159,345)
Proceeds from issuance of debt	**821,000**	90,405
Acquisition and construction of capital assets	**(384,577)**	(308,133)
Repayment of debt principal	**(229,095)**	(181,525)
Interest paid on debt	**(182,849)**	(193,483)
Capital contributions	**28,043**	24,805
Other capital financing activities	**63,197**	2,528
Net cash used in capital and related financing activities	**(877,971)**	(724,748)
Investing activities		
Purchase of investments	**(1,037,966)**	(1,803,447)
Proceeds from sale and maturity of investments	**1,179,471**	1,861,596
Investment income	**15,301**	17,593
Distributions from The Energy Authority	**3,513**	6,182
Net cash provided by investing activities	**160,319**	81,924
Net change in cash and cash equivalents	**(58,252)**	17,114
Cash and cash equivalents at beginning of year	**614,034**	596,920
Cash and cash equivalents at end of year	**$ 555,782**	$ 614,034
Reconciliation of operating income to net cash provided by operating activities		
Operating income	**$ 390,975**	$ 494,478
Adjustments:		
Depreciation and amortization	**361,889**	388,040
Recognition of deferred costs and revenues, net	**6,856**	(4,075)
Other nonoperating income, net	**1,073**	(1,072)
Changes in noncash assets and noncash liabilities:		
Accounts receivable	**26,486**	(14,185)
Accounts receivable, restricted	**16**	32
Inventories	**46,419**	(24,692)
Other assets	**6,421**	(27,625)
Accounts and accrued expenses payable	**979**	23,262
Current liabilities payable from restricted assets	**(49,998)**	4,409
Other noncurrent liabilities and deferred inflows	**(15,147)**	(62,940)
Net cash provided by operating activities	**$ 775,969**	$ 775,632
Noncash activity		
Contribution of capital assets from developers	**$ 54,114**	$ 42,069
Unrealized losses on fair value of investments, net	**$ (3,386)**	$ (7,710)

See accompanying notes to financial statements.

(Dollars in Thousands)

1. Summary of Significant Accounting Policies and Practices

(a) Reporting Entity

JEA is currently organized into three enterprise funds – the Electric Enterprise Fund, the Water and Sewer Fund, and the District Energy System (DES). The Electric Enterprise Fund is comprised of the Electric System; the Bulk Power Supply System (Scherer), which consists of Scherer Unit 4, a coal-fired, 846-megawatt generating unit operated by Georgia Power Company (Georgia Power) and owned by JEA (23.64% ownership interest) and Florida Power & Light Company (FPL) (76.36% ownership interest); and St. Johns River Power Park System (SJRPP), which is jointly owned and operated by JEA (80% ownership interest) and FPL (20% ownership interest). The Water and Sewer Fund consists of water and sewer system activities. The DES consists of chilled water activities. These financial statements include JEA's ownership interests in Scherer and SJRPP. Separate accounting records are currently maintained for each system. The following information relates to JEA's ownership interests in respective plants as of September 30, 2018 and 2017:

	2018	2017
Bulk Power Supply System:		
Inventories	**$ 7,463**	$ 7,042
Costs to be recovered from future revenues	**6,155**	11,686
Capital assets, net	**135,595**	143,981
Debt due within one year	**5,710**	5,205
Long-term debt	**94,602**	100,465
Revenues to be used for future costs	**37,560**	41,438
SJRPP:		
Inventories	**1,680**	53,977
Other current assets	**68,672**	63,040
Capital assets, net	**10,144**	474,437
Restricted assets	**97,490**	272,823
Costs to be recovered from future revenues	**261,277**	4,042
Long-term debt	**281,359**	420,060
Other liabilities	**110,152**	184,464

The Electric Enterprise Fund, Water and Sewer Fund, and the DES are governed by the JEA Board of Directors (Board). The Board is responsible for setting rates based on operating and maintenance expenses and depreciation of the respective operations. The operations of the Bulk Power Supply System and SJRPP are subject to joint ownership agreements, and rates are established on a cost-of-service basis, including operating and maintenance expenses and debt service. See note 1(s), Setting of rates.

1. Summary of Significant Accounting Policies and Practices (continued)

(b) Basis of Accounting

JEA is presenting financial statements combined for the Electric Enterprise Fund, the Water and Sewer Fund, and the District Energy System. JEA uses the accrual basis of accounting for its operations and the uniform system of accounts prescribed by the Federal Energy Regulatory Commission for the Electric Enterprise Fund and the National Association of Regulatory Utility Commissioners for the Water and Sewer Fund.

The financial statements have been prepared in conformity with the Governmental Accounting Standards Board (GASB) codification, which defines JEA as a component unit of the City of Jacksonville, Florida (City). Accordingly, the financial statements of JEA are included in the Comprehensive Annual Financial Report of the City.

JEA presents its financial statements in accordance with the GASB pronouncements that establish standards for external financial reporting for all state and local governmental entities that include a statement of net position, a statement of revenues, expenses, and changes in net position, and a statement of cash flows. It requires the classification of net position into three components – net investment in capital assets, restricted, and unrestricted. These classifications are defined as follows:

- Net investment in capital assets consists of capital assets, net of accumulated depreciation, reduced by the outstanding balances of any debt that is attributable to those assets and increased/reduced by costs to be recovered from future revenues or revenues to be used for future costs.

- Restricted consists of assets that have constraints placed upon their use through external constraints imposed either by creditors (such as through debt covenants) or through laws, regulations, or constraints imposed by law through constitutional provisions or enabling legislation, reduced by any liabilities to be paid from these assets.

- Unrestricted consists of net position that does not meet the definition of restricted or net investment in capital assets.

JEA's bond resolutions specify the flow of funds from revenues and specify the requirements for the use of certain restricted and unrestricted assets.

(c) Revenues

Operating revenues are defined as revenues generated from the sale of primary products or services through normal business operations. Nonoperating revenues include investment income and earnings from investments recorded on the equity method.

(Dollars in Thousands)

1. Summary of Significant Accounting Policies and Practices (continued)

Operating revenues reported in the accompanying statements of revenues, expenses, and changes in net position are shown net of discounts, estimated allowances for bad debts, and amounts transferred to stabilization funds. Discounts and allowances totaled $32,441 in fiscal year 2018 and $31,664 in 2017. JEA withdrew the net amount of $15,813 in fiscal year 2018 and $65,791 in 2017 from stabilization funds. Electric Enterprise and Water and Sewer Fund revenues are recorded as earned. JEA earned 7.1% of its electric revenue from electricity sold to FPL in fiscal year 2018 and 9.2% in 2017. Operating revenues include amounts estimated for unbilled services provided during the reporting period of $82,576 in 2018 and $73,244 in 2017.

(d) Capital Assets

Utility plant represents four classes of capital assets – real property, tangible property, tangible personal property, and intangible property. All capital assets are recorded at historical cost and must have a useful life greater than one year. The costs of capital asset additions and replacements are capitalized. The costs of capital projects include direct labor and benefits of JEA employees working on capital projects and an allocation of overhead from certain JEA departments. Maintenance and replacements of minor items are charged to operating expenses. The cost of depreciable plant retired is removed from the capital asset accounts, and such cost plus removal expense less salvage value is charged to accumulated depreciation.

SJRPP and Scherer are required by its bond resolutions to deposit certain amounts in a renewal and replacement fund. These amounts are then required to be expended on capital expenditures to maintain and improve the system or applied to other designated uses as specifically allowed under the bond resolutions. The Electric Fund records the amounts deposited in the fund as a purchased power expense when deposited. The purchase of capital assets funded from the renewal and replacement fund is not capitalized by SJRPP or Scherer.

(e) Allowance for Funds Used During Construction

An allowance for funds used during construction (AFUDC) is included in construction work-in-progress and as a reduction of interest expense. JEA capitalizes interest on construction projects financed with revenue bonds and renewal and replacement funds. The average AFUDC rate for the debt of each system is listed in the table below.

Average AFUDC Rate (%)	**2018**	**2017**
Electric Enterprise Fund	**4.3%**	4.2%
Water and Sewer Fund	**4.3%**	4.2%
District Energy System	**3.7%**	3.6%

The amount capitalized is the interest cost of the debt less any interest earned on investment of debt proceeds from the date of the borrowing until the assets are placed in service. Total interest incurred was $166,508 for fiscal year 2018 and $182,992 for 2017, of which $11,764 was capitalized in fiscal year 2018 and $11,774 in 2017. There was no investment income on bond proceeds in either year that reduced the amount of interest expense.

(Dollars in Thousands)

1. Summary of Significant Accounting Policies and Practices (continued)

(f) Depreciation

Depreciation of capital assets is computed on a straight-line basis at rates based upon the estimated service lives of the various property classes. Depreciation begins on the date the assets are placed in service. Generally, recurring renewal and replacement capital additions are placed in service at the end of each fiscal year. The depreciation rates are based on depreciation studies performed by an outside consultant that are updated periodically, most recently in fiscal year 2011. The effective rate of depreciation based upon the average depreciable plant in service balance was 3.2% and 3.5% for fiscal years 2018 and 2017, respectively. The average depreciable life in years of the depreciable capital assets for each system is listed in the table below.

Average Depreciable Life *(Years)*	**2018**	**2017**
Electric Enterprise Fund	**23.9**	24.1
Water and Sewer Fund	**27.6**	27.7
District Energy System	**23.7**	24.0

(g) Amortization

Amortization of bond discounts and premiums is computed on a straight-line basis, which approximates the effective-interest method over the remaining term of the outstanding bonds.

(h) Losses on Refundings

Losses on refundings of JEA revenue bonds are deferred and amortized as a component of interest on debt using the straight-line method over the remaining life of the old debt or the new debt, whichever is shorter. Unamortized deferred losses on refundings are reported as deferred outflows of resources on the accompanying statements of net position. Whereas JEA has incurred accounting losses on refundings, calculated as the difference between the net carrying value of the refunded and the refunding bonds, JEA has over time realized economic gains calculated as the present value difference in the future debt service on the refunded and refunding bonds.

(i) Investments

Investments are presented at fair value or cost, which is further explained in note 14, *Fair Value Measurements*. Realized and unrealized gains and losses for all investments are included in investment income on the statements of revenues, expenses, and changes in net position. The investment in The Energy Authority (TEA) is recorded on the equity method (see note 7, Investment in The Energy Authority, for additional information).

1. Summary of Significant Accounting Policies and Practices (continued)

(j) Cash and Cash Equivalents

For purposes of reporting cash flows, cash and cash equivalents include cash on hand, bank demand accounts, money market mutual funds, and short-term liquid investments purchased with an original maturity of 90 days or less.

(k) Interest Rate Swap Agreements

JEA's risk management policies allow for the use of interest rate swaps to manage financial exposures, but prohibit the use of these instruments for speculative or trading purposes. JEA utilizes interest rate swaps to manage the interest rate risk associated with various assets and liabilities. Interest rate swaps are used in the area of debt management to take advantage of favorable market interest rates. Interest rate swaps are authorized under the policy to be used in the area of investment management to increase the yield on revolving short-term investments.

JEA applies GASB Statement No. 53, *Accounting and Financial Reporting for Derivative Instruments*, where applicable for effective hedging instruments. For effective hedging instruments, the changes in fair value are recorded on the statements of net position as deferred outflows and inflows of resources. For ineffective hedging instruments or investment derivatives, the changes in fair value are recorded on the statements of revenues, expenses, and changes in net position as an adjustment to investment income.

Under JEA's interest rate swap programs, JEA either pays a variable rate of interest, which is based on various indices, and receives a fixed rate of interest for a specified period of time (unless earlier terminated) or JEA pays a fixed rate of interest and receives a variable rate of interest, which is based on various indices for a specified period of time (unless earlier terminated). These indices are affected by changes in the market. The net amounts received or paid under the swap agreements are recorded as either an adjustment to investment income (asset management) or interest on debt (debt management) in the statements of revenues, expenses, and changes in net position. No money is initially exchanged when JEA enters into a new interest rate swap transaction.

During fiscal years 2018 and 2017, JEA did not have any interest rate swaps outstanding under JEA's asset management interest rate swap program. See the Debt Management Strategy section in note 8, Long-Term Debt, for more information on JEA's debt management interest rate swap program.

(l) Inventory

Inventories are maintained for fuel and materials and supplies. Fuel inventories are maintained at levels sufficient to meet generation requirements. Inventories are valued at average cost, with obsolete items being expensed when identified.

1. Summary of Significant Accounting Policies and Practices (continued)

(m) Energy Market Risk Management Program

The energy market risk management program is intended to help manage the risk of changes in the market prices of fuel consumed by JEA for electric generation. JEA executes over-the-counter forward purchase and sale contracts and swaps. For effective derivative transactions, hedge accounting is applied in accordance with GASB Statement No. 53 and the fair market value changes are recorded on the accompanying statements of net position as either a deferred outflow of resources or a deferred inflow of resources until such time that the transactions end. The related settled gains and losses from these transactions are recognized as fuel expenses on the accompanying statements of revenues, expenses, and changes in net position.

(n) Capital Contributions

Capital contributions represent contributions of cash and capital assets from the City, developers, customers, and other third parties. Capital contributions are recorded in the accompanying statement of revenues, expenses, and changes in net position at the time of receipt. Assets received are recorded as contributions from developers and others at acquisition cost. Corresponding expenses of $54,114 and $42,069 were recorded in fiscal years 2018 and 2017 to recognize the costs of the assets since it will not be included in revenue requirements charged to customers in the future.

(o) Pension

For purposes of measuring the net liability, deferred outflows of resources and deferred inflows of resources related to pensions, pension expense and fiduciary net position; JEA's portion of the City of Jacksonville General Employees' Retirement Plan (GERP) and St. Johns River Power Park System Employees' Retirement Plan (SJRPP Plan) have been determined on the same basis as reported in the GERP and SJRPP Plan financial statements. Employer contributions made subsequent to the measurement date and before the fiscal year end are recorded as a deferred outflow of resources.

Basis of Accounting – The pension trust financial statements are prepared using the accrual basis of accounting. Plan member contributions are recognized in the period in which the contributions are due. Employer contribution, benefit payments and refunds are recognized when due and payable in accordance with the terms of the plans. Florida law and the Florida Division of Retirement require plan contributions be made annually in amounts determined by an actuarial valuation stated as a percent of covered payroll or in dollars. The Florida Division of Retirement reviews and approves the GERP actuarial report to ensure compliance with actuarial standards. The SJRPP Plan is governed by a five-member Pension Committee to ensure compliance with actuarial standards.

1. Summary of Significant Accounting Policies and Practices (continued)

Method Used to Value Investments – Investments are reported at fair value. Securities traded on a national or international exchange are valued at the last reported sales price at current exchange rates. The fair value of real estate investments in GERP is based on independent appraisals or estimates of fair value as provided by third-party fund managers. Investments that do not have an established market are reported at estimated fair value as provided by third-party fund managers. Investments are managed by third-party money managers while cash and securities are generally held by the independent custodians.

(p) Compensated Absences

JEA employees accumulate earned personal leave benefits (compensated absences) at various rates within limits specified in collective bargaining agreements and other employment plans. Accrued leave may be taken at any time when authorized. In addition, employees may elect to sell back any leave accrued during the fiscal year. Leave accrued over the maximum allowed leave balances is paid to the employee after the end of the fiscal year.

Upon termination from employment, employees are paid for their unused leave balances. In accordance with GASB Statement No. 16, *Accounting for Compensated Absences* (GASB No. 16), the amount reflected as the current portion is estimated based upon historical trends of retirements and attrition.

This liability reflects amounts attributable to employee services already rendered, cumulative, probable for payment, and reasonably estimated in conformity with GASB No. 16.

Compensated absences liabilities are accrued when incurred in the financial statements in conformity with generally accepted accounting principles (GAAP). The compensated absences liability is determined based on current rates of pay.

The compensated absence liability as of September 30, 2018, was $30,854. Of this amount, $1,423 was included in accounts and accrued expenses payable on the accompanying statements of net position. The remaining balance of $29,431 was included in other liabilities on the accompanying statements of net position. During fiscal year 2018, annual leave earned totaled $21,983 and annual leave taken totaled $22,788. The compensated absence liability as of September 30, 2017, was $31,798. Of this amount, $3,527 was included in accounts and accrued expenses payable on the accompanying statements of net position. The remaining balance of $28,271 was included in other liabilities on the accompanying statements of net position. During fiscal year 2017, annual leave earned totaled $21,856 and annual leave taken totaled $19,757.

(q) Pollution Remediation Obligations

JEA applies GASB Statement No. 49, *Accounting and Financial Reporting for Pollution Remediation Obligations*. See note 15, Commitments and Contingent Liabilities, for further discussion.

1. Summary of Significant Accounting Policies and Practices (continued)

(r) Asset Retirement Obligations

JEA applies GASB Statement No. 83, *Certain Asset Retirement Obligations*. See note 3, St. Johns River Power Park Decommissioning, for further discussion.

(s) Costs to Be Recovered from Future Revenues/Revenues to Be Used for Future Costs

JEA records certain assets and liabilities (or deferred inflows) that result from the effects of the ratemaking process that would not be recorded under GAAP for nonregulated entities. Currently, the electric utility industry is predominantly regulated on a basis designed to recover the cost of providing electric power to its customers. If cost-based regulation were to be discontinued in the electric industry for any reason, market prices for electricity could be reduced or increased and utilities might be required to reduce their statements of net position amounts to reflect market conditions.

Discontinuance of cost-based regulation could also require affected utilities to write off their associated regulatory assets and liabilities. Management cannot predict the potential impact, if any, of the change in the regulatory environment on JEA's future financial position and results of operations.

(t) Setting of Rates

The setting of rates is the responsibility of the Board. Base rate changes are implemented after a public rate hearing and Board approval. Fuel rate changes are implemented solely with Board approval.

In October 2017, the Board approved a new rate rider called SolarMax for customers purchasing a minimum of 7,000,000 kWh of annual solar purchase power, effective November 1, 2017. The Board also approved a wastewater rate for Leachate waste disposed at a JEA sewage treatment plant at a charge of $5.16 per 100 gallons.

JEA has an ongoing plan to review, update and, where possible, expand its rate options to provide customers more rate choices for their utility services. As part of this initiative, the Board approved, at its August 2018 meeting, an extension of the Economic Stimulus Rider from September 30, 2018 to September 30, 2021 that provides a financial incentive for new commercial or industrial customers to locate within the JEA service area.

(u) Reclassifications

Certain 2017 amounts have been reclassified to conform to the 2018 presentation.

(Dollars in Thousands)

1. Summary of Significant Accounting Policies and Practices (continued)

(v) Pervasiveness of Estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and deferred outflows of resources, liabilities and deferred inflows of resources, and disclosure of contingent assets at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

(w) Newly Adopted Standards for Fiscal Year 2018

In June 2015, GASB issued Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other than Pension (OPEB)*. This statement replaces the requirements of Statements No. 45, *Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions, as amended* and No. 57, *OPEB Measurements by Agent Employers and Agent Multiple-Employer Plans*, for OPEB. This statement establishes standards for measuring and recognizing liabilities, deferred outflows and deferred inflows of resources and expenses for governments that provide OPEB benefits. Note disclosure and required supplementary information requirements are also addressed. For comparative purposes, the statement of net position and statement of revenues, expenses, and changes in net position for the year ended September 30, 2017 were restated for this change. See the chart below for details of the restatement.

	Originally Reported October 1, 2016	**GASB 75**	**As Restated October 1, 2016**
Statement of Net Position			
Assets			
Costs to be recovered from future revenues	$ 463,610	$ 39,337	$ 502,947
Other assets	17,931	(2,724)	15,207
Deferred outflows of resources			
Unrealized OPEB contributions	–	5,061	5,061
Noncurrent liabilities			
Net OPEB liability	–	44,398	44,398
Net position	2,376,925	(2,724)	2,374,201
Statement of Revenues, Expenses, and Change in Net Position			
Adjustment to beginning net position			
Effect of adoption of GASB Statement No. 75	–	(2,724)	(2,724)

1. Summary of Significant Accounting Policies and Practices (continued)

In March 2016, GASB issued Statement 81, *Irrevocable Split-Interest Agreements*. This statement requires that a government that receives resources related to an irrevocable split-interest agreement recognize assets, liabilities, and deferred inflows of resources at the inception of the agreement. In addition, this statement requires a government recognize assets representing its beneficial interest in irrevocable split-interest agreements that are administered by a third party, if the government controls the beneficial interests. The implementation of this statement did not have an impact on JEA's financial statements.

In November 2016, GASB issued Statement No. 83, *Certain Asset Retirement Obligations*. This statement addresses accounting and financial reporting for certain asset retirement obligations (AROs). An ARO is a legally enforceable liability associated with the retirement of a tangible capital asset. This statement is effective for JEA in fiscal year 2019. However, JEA early adopted this statement in fiscal year 2018 in association with its accounting for the shutdown and dismantlement of St. Johns River Power Park. See note 3, SJRPP for details.

In March 2017, GASB issued Statement No. 85, *Omnibus 2017*. The objective of this statement is to address practice issues that have been identified during implementation and application of certain GASB statements. It addresses a variety of topics including issues related to blending component units, goodwill, fair value measurement and application, and pensions and other postemployment benefits. The implementation of this statement did not have an impact on JEA's financial statements.

In May 2017, GASB issued Statement No. 86, *Certain Debt Extinguishment Issues*. The primary objective of this statement is to improve consistency in accounting and financial reporting for in-substance defeasance of debt by providing guidance for transactions in which cash and other monetary assets acquired with only existing resources—resources other than the proceeds of refunding debt—are placed in an irrevocable trust for the sole purpose of extinguishing debt. This statement also improves accounting and financial reporting for prepaid insurance on debt that is extinguished and notes to financial statements for debt that is defeased in substance. The implementation of this statement did not have an impact on JEA's financial statements.

(x) Recently Issued Accounting Pronouncements Not Yet Effective

In January 2017, GASB issued Statement No. 84, *Fiduciary Activities*. This statement establishes criteria for identifying fiduciary activities of all state and local governments. The focus of the criteria generally is on (1) whether a government is controlling the assets of the fiduciary activity and (2) the beneficiaries with whom a fiduciary relationship exists. Separate criteria are included to identify fiduciary component units and postemployment benefit arrangements that are fiduciary activities. This statement is effective for JEA in fiscal year 2020. The impact on JEA's financial reporting will be the reporting of its pension and other postemployment benefit plans in fiduciary fund financial statements.

1. Summary of Significant Accounting Policies and Practices (continued)

In June 2017, GASB issued Statement No. 87, *Leases*. The objective of this statement is to better meet the information needs of financial statement users by improving accounting and financial reporting for leases by governments. This statement increases the usefulness of governments' financial statements by requiring recognition of certain lease assets and liabilities for leases that previously were classified as operating leases and recognized as inflows of resources or outflows of resources based on the payment provisions of the contract. It establishes a single model for lease accounting based on the foundational principle that leases are financings of the right to use an underlying asset. Under this statement, a lessee is required to recognize a lease liability and an intangible right-to-use lease asset, and a lessor is required to recognize a lease receivable and a deferred inflow of resources, thereby enhancing the relevance and consistency of information about governments' leasing activities. This statement is effective for JEA in fiscal year 2021. The impact on JEA's financial reporting has not been determined.

In April 2018, GASB issued Statement No. 88, *Certain Disclosures Related to Debt, including Direct Borrowings and Direct Placements*. The objective of this Statement is to improve the information that is disclosed in notes to government financial statements related to debt, including direct borrowings and direct placements. It also clarifies which liabilities governments should include when disclosing information related to debt. This Statement requires that additional essential information related to debt be disclosed in notes to financial statements, including unused lines of credit; assets pledged as collateral for the debt; and terms specified in debt agreements related to significant events of default with finance-related consequences, significant termination events with finance-related consequences, and significant subjective acceleration clauses. For notes to financial statements related to debt, this Statement also requires that existing and additional information be provided for direct borrowings and direct placements of debt separately from other debt. This statement is effective for JEA in fiscal year 2019. The impact on JEA's financial statements will be additional disclosures within the financial statement footnotes.

In June 2018, GASB issued Statement No. 89, *Accounting for Interest Cost Incurred before the End of a Construction Period*. The objectives of this Statement are (1) to enhance the relevance and comparability of information about capital assets and the cost of borrowing for a reporting period and (2) to simplify accounting for interest cost incurred before the end of a construction period. This Statement requires that interest cost incurred before the end of a construction period be recognized as an expense in the period in which the cost is incurred for financial statements prepared using the economic resources measurement focus. However, GASB allows those entities meeting the criteria for regulated operations, and electing to apply the related provisions of Statement 62, to continue to capitalize qualifying interest cost as a regulatory asset. This statement is effective for JEA in fiscal year 2021. The impact on JEA's financial reporting has not been determined.

In August 2018, GASB issues Statement No. 90, *Majority Equity Interests—an amendment of GASB Statements No. 14 and No. 61*. The objectives of this Statement are to improve the consistency and comparability of reporting a government's majority equity interest in a legally separate organization and to improve the relevance of financial statement information for certain component units. This statement is effective for JEA in fiscal year 2020. The implementation of this statement is not expected to have an impact on JEA's financial statements.

(Dollars in Thousands)

2. Regulatory Deferrals

Based on regulatory action taken by the Board and in accordance with the Regulated Operations section within GASB Statement 62, JEA has recorded the following regulatory assets and liabilities that will be included in the ratemaking process and recognized as expenses and revenues, respectively, in future periods. These amounts are shown under other noncurrent assets or deferred inflows of resources on the accompanying statements of net position.

Regulatory Assets

The following is a summary of JEA's regulatory assets at September 30:

Regulatory Asset		2018		2017 Restated
Unfunded pension costs	**$**	**433,583**	$	392,719
SJRPP and Bulk Power cost to be recovered		**267,432**		14,940
Water environmental projects		**59,859**		68,409
Unfunded OPEB costs		**23,469**		34,927
Storm costs to be recovered		**18,966**		27,999
Debt issue cost		**4,787**		2,027
Total regulatory assets	**$**	**808,096**	$	541,021

Unfunded Pension Costs – Accrued pension represents a regulatory asset related to unrecognized actuarial gains and losses, unrecognized prior service cost, and unrecognized transition obligation. In fiscal year 2018, the asset consisted of amounts attributable to JEA's portion of the GERP. For the SJRPP pension plan, JEA made excess contributions during fiscal year 2018 that resulted in a regulatory liability. See excess pension contributions in the Regulatory Liabilities section of this footnote. In fiscal year 2017, the balance includes amounts attributable to JEA's portion of the GERP and amounts related to the SJRPP Plan. The regulatory asset is amortized with the recognition of actuarial gains and losses, prior service cost, and transition obligations to net periodic benefit costs for pension.

2. Regulatory Deferrals (continued)

SJRPP and Bulk Power costs to be recovered – SJRPP deferred debt-related costs of $261,277 at September 30, 2018 and $3,254 at September 30, 2017 are the result of differences between expenses in determining rates and those used in financial reporting. During fiscal year 2018, operations of SJRPP, as generating facility, ceased and the majority of the assets are being dismantled. A write down of $451,037 of undepreciated book value of the assets was recognized during fiscal year 2018 and $128,280 of bonds were defeased as a result of the shutdown of SJRPP. After shutdown, SJRPP has remaining plant in service assets of $3,484 and outstanding debt of $280,605. The details relating to the shutdown of SJRPP are further discussed in note 3, St. Johns River Power Park Decommissioning. The JEA board approved the deferral of this regulatory asset. SJRPP has a contract with the JEA Electric System to recover these costs from future revenues that will coincide with retirement of long-term debt. The amount recovered each year will be the difference between debt principal maturities (adjusted for the effects of premiums, discounts, and amortization of gains and losses) and straight-line depreciation and results in recognition of deferred costs on the accompanying statements of revenues, expenses, and changes in net position. The Bulk Power Supply System deferred debt-related costs were $6,155 at September 30, 2018 and $11,686 at September 30, 2017. The amount recovered each year will be the difference between debt principal maturities (adjusted for the effects of premiums, discounts, and amortization of gains and losses) and straight-line depreciation. The Bulk Power Supply System will recover these costs from future revenues that will coincide with the retirement of long-term debt.

Water Environmental Projects – In August 2015, the Board approved the recovery of previously approved environmental capital projects that had not been collected through the environmental surcharge over a ten-year period beginning October 1, 2015. The amount approved for recovery and transferred out of capital assets was $101,277 of which $59,859 remained unrecovered as of September 30, 2018 and $68,409 remained unrecovered as of September 30, 2017. This deferral is being amortized over ten years.

Unfunded OPEB Costs – Accrued OPEB represents a regulatory asset related to unrecognized actuarial gains and losses, unrecognized prior service cost, and unrecognized transition obligation attributable to JEA's other postemployment benefit plan. The regulatory asset is amortized with the recognition of actuarial gains and losses, prior service cost, and transition obligations to net periodic benefit costs for OPEB. The Board approved the recovery of the unfunded amounts in future revenue requirements with the adoption of GASB 75 in fiscal year 2018. In addition, the Board approved the deferral of the difference between the annual contributions (funding) and OPEB expense.

Storm costs to be recovered – This amount represents storm costs that are expected to be recovered from insurance and the Federal Emergency Management Agency (FEMA). See note 16, Storm Costs, for further details.

Debt issue costs – With the application of regulatory accounting in fiscal year 2015, the Board approved deferral of the issue costs on all new debt issues with the amounts being amortized over the life of the bonds, as they are included in revenue requirements. These costs are incurred in connection with the issuance of debt obligations and are mainly underwriter fees and legal costs. Unrecovered costs remaining at the end of the fiscal year were $4,787 in fiscal year 2018 and $2,027 in 2017.

(Dollars in Thousands)

2. Regulatory Deferrals (continued)

Regulatory Liabilities

The following is a summary of JEA's regulatory liabilities at September 30:

Regulatory Liabilities	2018	2017
Fuel stabilization	**$ 74,376**	$ 131,715
Environmental	**55,077**	41,630
Nonfuel purchase power	**53,493**	25,189
Debt management stabilization	**44,093**	44,093
SJRPP and Bulk Power revenues to be used for future costs	**37,560**	189,070
Excess pension contributions	**10,624**	–
Self-insurance medical reserve	**8,139**	9,214
Customer benefit stabilization	**3,470**	3,695
Total regulatory liabilities	**$ 286,832**	$ 444,606

Fuel stabilization – This account represents the difference between the fuel costs incurred and fuel charge revenues collected from customers, inclusive of accrued utility revenue and fuel costs. During fiscal year 2018, a net of $57,339 of costs were incurred in excess of the revenues collected and was recognized as a reduction of the regulatory liability. During fiscal year 2017, a net of $48,400 of costs were incurred in excess of the revenues collected and was recognized as a reduction of the regulatory liability.

Environmental – The Board has authorized an environmental surcharge that is applied to all electric customer kilowatt-hour and water customer kilogallon sales. Electric costs included in the surcharge include all costs of environmental remediation and compliance with new and existing environmental regulations, excluding the amount already collected in the Environmental Liability Reserve. Water costs included in the surcharge include operating and capital costs of environmentally driven or regulatory required projects approved by the Board to be included in the surcharge. Any amounts under or over-collected are recorded as a regulatory asset or liability. During fiscal year 2018, $31,401 was collected through the surcharge with $8,551 of recovery of previously approved environmental capital projects, $6,169 of capital projects, and $3,234 of operations and maintenance costs being incurred with the remaining $13,447 recognized as a regulatory liability. During fiscal year 2017, $31,659 was collected through the surcharge with $11,286 of capital projects, $8,551 of recovery of previously approved environmental capital projects, and $1,866 of operations and maintenance costs being incurred with the remaining $9,956 recognized as a regulatory liability.

Nonfuel purchased power – JEA entered into a power purchase agreement related to the Alvin W. Vogtle Nuclear Plant in Burke County, Georgia (Plant Vogtle). This agreement is discussed in further detail in note 10, Fuel Purchase and Purchased Power Commitments. Related to that agreement, the JEA Board approved a nonfuel purchased power stabilization fund to balance the timing of the payments for Plant Vogtle's debt service with the anticipated in service date. It may be used for other purposes with the Board's approval. The amounts included in the fund are to be used for Plant Vogtle or refunded to customers if not needed. During fiscal year 2018, $40,000 was deposited into the stabilization fund to fund the additional debt service payments as a result of the new anticipated in service dates.

2. Regulatory Deferrals (continued)

Debt management stabilization – The Board has authorized the use of a debt management stabilization fund. Amounts are included in the fund based on differences between budgeted and actual debt cost up to an established maximum reserve fund. The reserve is available to support JEA during times of financial market crisis. Withdrawals from the debt management stabilization fund for debt management strategy can be made for expenses related to market disruption in the capital markets, disruption in availability of credit, or unanticipated credit expenses. The reserve can also be used to reduce short-term variable interest expense in excess of the amounts included in the budget. The Board evaluates during the budget approval process and periodically throughout the year the amounts in the reserve that will be included in JEA's annual revenue requirements. As a result, $44,093 collected in the past for the debt management stabilization fund was recorded as a regulatory liability at September 30, 2018 and 2017, respectively. During fiscal year 2018, no additional amounts were deposited or withdrawn from the stabilization fund. During fiscal year 2017, $18,323 was withdrawn and used to defease bonds.

SJRPP and Bulk Power revenues to be used for future costs – As a result of the shutdown of SJRPP, the deferred debt-related revenues of $144,933 at the shutdown date in January 2018 was adjusted. Through the regulatory approval by the board, a regulatory asset was recorded. See SJRPP and Bulk Power costs to be recovered in this note for further details. SJRPP had deferred debt-related revenues of $147,632 at September 30, 2017 as the result of differences between revenues in determining rates and those used in financial reporting. Bulk Power Supply System early debt principal in excess of straight-line depreciation of $37,560 at September 30, 2018 and $41,438 at September 30, 2017 is included in deferred inflows of resources on the accompanying statements of net position.

Excess pension contributions – Excess pensions contributions represents a regulatory liability related to unrecognized actuarial gains and losses, unrecognized prior service cost, and unrecognized transition obligation attributable to the SJRPP Plan. The regulatory liability is amortized with the recognition of actuarial gains and losses, prior service cost, and transition obligations to net periodic benefit costs for pension.

Self-insurance medical reserve – The Board has established, from operating revenues, an internally designated "Health Self-Insurance Fund" to cover reserve requirements for its self-insurance health program over medical and prescription benefits. The Board, as part of the budget process, will approve amounts to be collected in rates that include both the current anticipated cost less amounts approved to be contributed by employees as well as amounts to maintain an adequate reserve for future costs.

Under the self-insurance program, JEA is liable for all claims. JEA retains an additional stop-loss policy for claims in excess of $250 per employee, with an aggregate limit of 125.0% of claims. There have been no significant reductions in coverage from the prior year. The health insurance benefits program is administered through a third-party insurance company and, as such, the administrator is responsible for processing the claims in accordance with the benefit specifications with JEA reimbursing the insurance company for its payouts. Liabilities associated with the health care program are determined based on an actuarial study and include claims that have been incurred but not reported.

(Dollars in Thousands)

2. Regulatory Deferrals (continued)

The changes in the self-insurance medical reserve for the years ended September 30, 2018 and 2017 are as follows:

	2018	2017
Beginning balance	**$ 9,214**	$ 11,178
Contributions	**29,561**	29,615
Incurred claims	**(30,636)**	(31,579)
Ending balance	**$ 8,139**	$ 9,214

Customer benefit stabilization – The pricing policy adopted by the Board includes a demand side management surcharge. The costs approved for recovery through the surcharge included programs for the electrification, direct load control, demand side management, residential low-income efficiency programs, and customer utility optimization education programs.

3. St. Johns River Power Park Decommissioning

JEA and FPL entered into an Agreement for Joint Ownership, Construction and Operation of SJRPP Coal Units #1 and #2 (JOA) dated as of April 2, 1982. JEA owns 80% and FPL owns 20% of SJRPP. A Purchased Power Agreement (PPA) in the JOA assigned 37.5% of JEA's 80% generation to FPL, which effectively provided 50% of the generation to both owners of SJRPP. The JOA ends on April 2, 2022. JEA and FPL reached an agreement to close SJRPP, including early termination of the PPA. On May 16, 2017, JEA's board of directors approved the Asset Transfer and Contract Termination Agreement, which outlined the terms of the retirement, decommissioning, and dismantling of the plant. The week following, FPL approved the contract and filed a petition with the Florida Public Service Commission (FPSC) for approval to shut down SJRPP. The final order was approved by FPSC in October 2017.

Shutdown occurred on January 5, 2018. On that date, FPL paid JEA $90,400, made up of FPL's cash reserves at SJRPP and a shutdown cash payment of $51,869 as a result of the early termination of the PPA. The payment was recorded as other operating revenue and the expenses related to the shutdown were charged to maintenance and other operating expenses on the statement of revenues, expenses, and changes in net position.

In addition, on that date, FPL paid JEA the FPL Debt Service Reserves, which JEA then paid to an escrow account to consummate the bond defeasance of $128,280 of Issue Two debt. On January 5, 2018, JEA defeased all of the SJRPP System Revenue Issue Two debt and, on March 21, 2018, JEA satisfied and discharged the First Power Park Resolution.

As part of the agreement, JEA assumed all payment obligations and other liabilities related to separation benefits for the qualifying SJRPP employees and any amounts required to be deposited into the SJRPP Pension Fund. JEA paid a total of $8,974 in separation benefits for SJRPP employees.

3. St. Johns River Power Park Decommissioning (continued)

FPL conveyed their 20% interest in SJRPP's fuel inventory to JEA. The fuel inventory received, totaling $4,595, was recorded at fair value. The remaining coal at SJRPP was transferred and consumed at JEA Northside Units 1 and 2. These transactions were recorded at the book value of the coal as the coal was transferred. Based on a physical inventory, the book balance of coal inventory at September 30, 2018 was written down by $11,484 to reflect the remaining coal at SJRPP of $1,015.

FPL received a credit for their estimated share of the material and supplies inventory balance at shutdown, pending sale of the inventory. After the sales period passed, FPL paid a shutdown payment adjustment for their share of 20% of the loss on the remaining materials and supplies inventory. JEA is in the process of liquidating the material and supplies inventory. However, the remaining materials and supplies was written down to fair value. As a result, an adjustment of $22,444 was recorded to adjust the remaining balance down to $665.

As part of the agreement, the parties agreed that all operation of SJRPP as a generating facility would cease at shutdown. As such, the majority of the plant assets will be dismantled. As a result of the shutdown of SJRPP and in accordance with GASB 42, *Accounting and Financial Reporting for Impairment of Capital Assets*, an impairment loss of $451,037 was recorded, as a special item, on the un-depreciated book value of the assets that are being dismantled. In conjunction with the recording of the impairment loss related to SJRPP decommissioning, it was determined that there were certain items included in the regulatory asset balance that were longer going to be recovered through the ratemaking process, primarily those costs deferred related to debt issues that were defeased. As a result, an additional adjustment of $45,099 to regulatory balances was included in the statement of revenues, expenses and changes in net position in the current period, as a special item. The remaining regulatory balance will be amortized over the life of the remaining debt outstanding related to Issue Three debt. See note 2, Regulatory Deferrals, for additional information related to SJRPP's regulatory deferrals.

FPL conveyed their 20% undivided ownership of plant in service assets to JEA. The retained plant in service assets were recorded at fair value. At the end of fiscal year 2018, JEA had remaining plant in service assets of $3,484. In addition, FPL will convey their 20% undivided ownership interest in the SJRPP site to JEA upon completion of dismantlement and environmental remediation.

(Dollars in Thousands)

3. St. Johns River Power Park Decommissioning (continued)

Under a service management agreement, FPL will pay 20% of the dismantlement and remediation costs incurred. Dismantlement and remediation is expected to be complete by April 2020. Monitoring of the site will continue for ten years subsequent to the completion date. JEA's share of the estimated cost for dismantlement and remediation is approximately $43,204. As discussed in note 1, Summary of Significant Accounting Policies and Practices, JEA early adopted Statement No. 83, *Certain Retirement Obligations* in association with its accounting for the asset retirement obligations (ARO) related to dismantlement and remediation at SJRPP. The current portion of the remaining liability, $6,647, is recorded in accounts and accrued expenses payable and the long-term portion, $22,526, is a separate line item, asset retirement obligation, on the statement of net position. These amounts are offset by the separate line item, unrealized asset retirement obligation, in deferred outflows of resources, totaling $29,173. Currently, JEA does not possess sufficient information to reasonably estimate the amounts of additional liabilities, if any, on the site until completion of future environmental studies. In addition, conditions that are currently unknown could result in additional exposure, the amount and materiality of which cannot presently be reasonably estimated. Based upon information currently available, however, JEA believes its ARO accurately reflects the estimated cost of remedial actions currently required.

4. Restricted Assets

Restricted assets were held in the following funds at September 30, 2018 and 2017:

	September 30, 2018				
	Electric	SJRPP	Water and Sewer	DES	Total
Renewal and Replacement Fund	**$ 189,929**	**$ 52,610**	**$ 141,423**	**$ 1,078**	**$ 385,040**
Sinking Fund	**167,483**	**7,446**	**81,242**	**2,340**	**258,511**
Debt Service Reserve Fund	**65,433**	**11,354**	**102,850**	**–**	**179,637**
Revenue Fund	**–**	**26,014**	**–**	**–**	**26,014**
Adjustment to fair value of investments	**(3,302)**	**66**	**(1,347)**	**–**	**(4,583)**
Environmental Fund	**–**	**–**	**1,159**	**–**	**1,159**
Construction Fund	**203**	**–**	**284**	**–**	**487**
Total	**$ 419,746**	**$ 97,490**	**$ 325,611**	**$ 3,418**	**$ 846,265**

	September 30, 2017				
	Electric	SJRPP	Water and Sewer	DES	Total
Renewal and Replacement Fund	$ 201,388	$ 82,577	$ 150,331	$ 899	$ 435,195
Sinking Fund	174,529	51,280	82,208	2,331	310,348
Debt Service Reserve Fund	65,433	141,145	107,488	–	314,066
Revenue Fund	–	1,903	–	–	1,903
Adjustment to fair value of investments	750	(4,082)	2,133	–	(1,199)
Environmental Fund	–	–	1,839	–	1,839
Construction Fund	–	–	15	–	15
Total	$ 442,100	$ 272,823	$ 344,014	$ 3,230	$ 1,062,167

The Electric System, SJRPP System, Bulk Power Supply, Water and Sewer System, and the DES are permitted to invest restricted funds in specified types of investments in accordance with their bond resolutions and the investment policy.

(Dollars in Thousands)

4. Restricted Assets (continued)

The requirements of the respective bond resolutions for contributions to the respective systems' renewal and replacement funds are as follows:

Electric System:	An amount equal to the greater of 10% of the prior year defined net revenues or 5% of the prior year defined gross revenues.
SJRPP System:	An amount equal to 12.5% of aggregate debt service, as defined, on bonds issued under the First SJRPP Bond Resolution. An amount equal to 12.5% of aggregate debt service, as defined, on bonds issued under the Second SJRPP Bond Resolution. However, no such deposit is required under the Second SJRPP Bond Resolution as long as the First SJRPP Bond Resolution has not been discharged. On January 5, 2018, JEA defeased all the SJRPP System Revenue Issue Two bonds in their entirety and on March 21, 2018, JEA satisfied and discharged the First Power Park Resolution; therefore, the deposits required under the Second SJRPP Bond Resolution began in fiscal year 2018.
Bulk Power Supply System:	An amount equal to 12.5% of aggregate debt service, as defined.
Water and Sewer System:	An amount equal to the greater of 10% of the prior year defined annual net revenues or 5% of the prior year defined gross revenues.
DES:	An amount equal to the greater of 10% of the prior year defined annual net revenues or 5% of the prior year defined revenues.

5. Cash and Investments

JEA maintains cash and investment pools that are utilized by all funds except for the bond funds. Included in the JEA cash balances are amounts on deposit with JEA's commercial bank, as well as amounts held in various money market funds as authorized in the JEA Investment Policy. The commercial bank balances are covered by federal depository insurance or collateralized subject to the Florida Security for Public Deposits Act of Chapter 280, Florida Statutes. Amounts subject to Chapter 280, Florida Statutes, are collateralized by securities deposited by JEA's commercial bank under certain pledging formulas with the State Treasurer or other qualified custodians.

JEA follows GASB Statement No. 31, *Accounting and Financial Reporting for Certain Investments and for External Investment Pools*, which requires the adjustments of the carrying value of investments to fair value to be presented as a component of investment income. Investments are presented at fair value or cost, which is further explained in note 14, Fair Value Measurements.

(Dollars in Thousands)

5. Cash and Investments (continued)

At September 30, 2018 and 2017, the fair value of all securities, regardless of statement of net position classification as cash equivalent or investment, was as follows:

	2018	2017
Securities:		
U.S. Treasury and government agency securities	**$ 462,897**	$ 538,887
State and local government securities	**223,845**	323,507
Commercial paper	**133,074**	170,829
Local government investment pool	**194,786**	138,207
Money market mutual funds	**23,208**	51,460
Total securities, at fair value	**$ 1,037,810**	$ 1,222,890

These securities are held in the following accounts:

	2018	2017
Current assets:		
Cash and cash equivalents	**$ 441,206**	$ 489,559
Investments	**85,310**	25,122
Restricted assets:		
Cash and cash equivalents	**114,576**	124,475
Investments	**731,627**	936,708
Total cash and investments	**1,372,719**	1,575,864
Plus: interest due on securities	**2,878**	2,967
Less: cash on deposit	**(337,787)**	(355,941)
Total securities, at fair value	**$ 1,037,810**	$ 1,222,890

JEA is authorized to invest in securities as described in its investment policy and in each bond resolution. As of September 30, 2018, JEA's investments in securities and their maturities are categorized below in accordance with GASB Statement No. 40, *Deposit and Investment Risk Disclosures – an amendment of GASB Statement No. 3*. It is assumed that callable investments will not be called. Puttable securities are presented as investments with a maturity of less than one year.

(Dollars in Thousands)

5. Cash and Investments (continued)

The maturity distribution of the investments held at September 30, 2018 is listed below.

Type of Investments	Less than One Year	One to Five Years	Five to Ten Years	Ten to Twenty Years	Total
U.S. Treasury and government agency securities	$ 245,490	$ 193,550	$ 12,956	$ 10,901	$ 462,897
State and local government securities	48,852	86,537	8,821	79,635	223,845
Commercial paper	133,074	–	–	–	133,074
Local government investment pools	194,786	–	–	–	194,786
Money market mutual funds	23,208	–	–	–	23,208
Total securities, at fair value	$ 645,410	$ 280,087	$ 21,777	$ 90,536	$ 1,037,810

Interest Rate Risk – As a means of limiting its exposure to fair value losses arising from rising interest rates, JEA's investment policy requires the investment portfolio to be structured in such a manner as to provide sufficient liquidity to pay obligations as they come due. To the extent possible, investment maturities are matched with known cash needs and anticipated cash flow requirements. Additionally, maturity limitations for investments related to the issuance of debt are outlined in the bond resolution relating to those bond issues. JEA's investment policy also limits investments in commercial paper to maturities of less than nine months.

Credit Risk – JEA's investment policy is consistent with the requirements for investments of state and local governments contained in the Florida Statutes and its objectives are to seek reasonable income, preserve capital, and avoid speculative investments. Consistent with JEA's investment policy and bond resolutions: (1) the U.S. government agency securities held in the portfolio are issued or guaranteed by agencies created pursuant to an Act of Congress as an agency or instrumentality of the United States of America; (2) the state and local government securities are rated by two nationally recognized rating agencies and are rated at least AA- by Standard & Poor's, Aa3 by Moody's Investors Services, or AA- by Fitch Ratings; and (3) the money market mutual funds are rated AAA by Standard & Poor's or Aaa by Moody's Investors Services. JEA's investment policy limits investments in commercial paper to the highest whole rating category issued by at least two nationally recognized rating agencies, and the issuer must be a Fortune 500 company, a Fortune Global 500 company with significant operations in the U.S., or the governments of Canada or Canadian provinces and the ratings outlook must be positive or stable at the time of the investment. As of September 30, 2018, JEA's investments in commercial paper are rated at least A-1 by Standard & Poor's and P-1 by Moody's Investors Services. In addition, JEA's investment policy limits the commercial paper investment in any one issuer to $12,500. Additionally, JEA's investment policy limits investments in commercial paper to 25% of the total cash and investment portfolio regardless of statement of net position classification as cash equivalent or investment. As of September 30, 2018, JEA had 12.8% of its investments in commercial paper.

5. Cash and Investments (continued)

Custodial Credit Risk – For an investment, custodial credit risk is the risk that, in the event of the failure of the counterparty, JEA will not be able to recover the value of its investments or collateral securities that are in the possession of an outside party. All of JEA's investments are held by JEA or by an agent in JEA's name.

Concentration of Credit Risk – As of September 30, 2018, investments in any one issuer representing 5% or more of JEA's investments included $235,878 (22.7%) invested in issues of the Federal Home Loan Bank, $170,424 (16.4%) held in U.S. Treasury securities, and $56,595 (5.5%) invested in issues of the Federal Farm Credit Bank. JEA's investment policy limits the maximum holding of any one U.S. government agency issuer to 35% of total cash and investments regardless of statement of net position classification as cash equivalent or investment. Other than investments in U.S. Treasury securities or U.S. Treasury money market funds, JEA's investment policy limits the percentage of the total cash and investment portfolio (regardless of statement of net position classification as cash equivalent or investment) that may be held in various security types. As of September 30, 2018, investments in all security types were within the allowable policy limits.

(Dollars in Thousands)

6. Capital Assets

Capital asset activity for the year ended September 30, 2018 is as follows:

	Balance September 30, 2017	Additions	Retirements	Transfers/ Adjustments	Balance September 30, 2018
Electric Enterprise Fund:					
Generation assets	$ 3,685,363	$ –	$ (5,686)	$ 20,237	$ 3,699,914
Transmission assets	571,810	–	(175)	22,223	593,858
Distribution assets	1,927,058	–	(5,881)	78,899	2,000,076
Other assets	459,240	–	(1,754)	(8,609)	448,877
Total capital assets	6,643,471	–	(13,496)	112,750	6,742,725
Less: accumulated depreciation and amortization	(3,718,060)	(680,606)	13,496	–	(4,385,170)
Land	130,246	–	(197)	237	130,286
Construction work-in-process	106,012	183,278	–	(114,763)	174,527
Net capital assets	3,161,669	(497,328)	(197)	(1,776)	2,662,368
Water and Sewer Fund:					
Pumping assets	509,490	–	(9,533)	25,691	525,648
Treatment assets	627,165	–	(7,037)	26,141	646,269
Transmission and distribution assets	1,182,420	–	(312)	24,772	1,206,880
Collection assets	1,485,168	–	(427)	23,857	1,508,598
Reclaimed water assets	138,535	–	(730)	(271)	137,534
General and other assets	397,765	–	(1,512)	10,812	407,065
Total capital assets	4,340,543	–	(19,551)	111,002	4,431,994
Less: accumulated depreciation	(1,991,742)	(140,025)	19,551	4,189	(2,108,027)
Land	61,259	–	(11)	(33)	61,215
Construction work-in-process	205,890	202,761	–	(110,969)	297,682
Net capital assets	2,615,950	62,736	(11)	4,189	2,682,864
District Energy System:					
Chilled water plant assets	55,240	–	(940)	2,076	56,376
Total capital assets	55,240	–	(940)	2,076	56,376
Less: accumulated depreciation	(24,091)	(2,403)	940	–	(25,554)
Land	3,051	–	–	–	3,051
Construction work-in process	1,980	1,250	–	(2,076)	1,154
Net capital assets	36,180	(1,153)	–	–	35,027
Total	$ 5,813,799	$ (435,745)	$ (208)	$ 2,413	$ 5,380,259

(Dollars in Thousands)

6. Capital Assets (continued)

Capital asset activity for the year ended September 30, 2017 is as follows:

	Balance September 30, 2016	Additions	Retirements	Transfers/ Adjustments	Balance September 30, 2017
Electric Enterprise Fund:					
Generation assets	$ 3,679,557	$ –	$ (41,299)	$ 47,105	$ 3,685,363
Transmission assets	547,705	–	(1,563)	25,668	571,810
Distribution assets	1,822,944	–	(5,011)	109,125	1,927,058
Other assets	436,508	–	(3,238)	25,970	459,240
Total capital assets	6,486,714	–	(51,111)	207,868	6,643,471
Less: accumulated depreciation and amortization	(3,525,733)	(243,438)	51,111	–	(3,718,060)
Land	127,895	–	(30)	2,381	130,246
Construction work-in-process	181,247	144,855	–	(220,090)	106,012
Net capital assets	3,270,123	(98,583)	(30)	(9,841)	3,161,669
Water and Sewer Fund:					
Pumping assets	501,502	–	(9,152)	17,140	509,490
Treatment assets	606,217	–	(6,434)	27,382	627,165
Transmission and distribution assets	1,161,588	–	(314)	21,146	1,182,420
Collection assets	1,468,752	–	(530)	16,946	1,485,168
Reclaimed water assets	131,557	–	(91)	7,069	138,535
General and other assets	382,964	–	(3,408)	18,209	397,765
Total capital assets	4,252,580	–	(19,929)	107,892	4,340,543
Less: accumulated depreciation	(1,879,932)	(135,928)	19,929	4,189	(1,991,742)
Land	59,714	–	(830)	2,375	61,259
Construction work-in-process	135,881	180,276	–	(110,267)	205,890
Net capital assets	2,568,243	44,348	(830)	4,189	2,615,950
District Energy System:					
Chilled water plant assets	53,648	–	(88)	1,680	55,240
Total capital assets	53,648	–	(88)	1,680	55,240
Less: accumulated depreciation	(21,815)	(2,364)	88	–	(24,091)
Land	3,051	–	–	–	3,051
Construction work-in process	1,675	1,985	–	(1,680)	1,980
Net capital assets	36,559	(379)	–	–	36,180
Total	$ 5,874,925	$ (54,614)	$ (860)	$ (5,652)	$ 5,813,799

(Dollars in Thousands)

7. Investment in The Energy Authority

JEA is a member of TEA, a municipal power marketing and risk management joint venture, headquartered in Jacksonville, Florida. TEA currently has eight members, and JEA's ownership interest in TEA is 16.7%. TEA provides wholesale power marketing and resource management services to members (including JEA) and nonmembers and allocates transaction savings and operating expenses pursuant to a settlement agreement. TEA also assists members (including JEA) and nonmembers with natural gas procurement and related gas hedging activities. JEA's earnings from TEA were $4,074 in fiscal year 2018 and $6,335 in 2017 for all power marketing activities. JEA's distributions from TEA were $3,513 in fiscal year 2018 and $6,182 in 2017. The investment in TEA was $6,811 at September 30, 2018 and $6,283 at September 30, 2017 and is included in noncurrent assets on the accompanying statement of net position.

The following is a summary of the unaudited financial information of TEA for the nine months ended September 30, 2018 and 2017. TEA issues separate audited financial statements on a calendar-year basis.

	Unaudited	
	2018	**2017**
Condensed statement of net position:		
Current assets	**$ 165,904**	$ 177,777
Noncurrent assets	**21,510**	15,622
Total assets	**$ 187,414**	$ 193,399
Current liabilities	**$ 146,768**	$ 155,313
Noncurrent liabilities	**15**	394
Members' capital	**40,631**	37,692
Total liabilities and members' capital	**$ 187,414**	$ 193,399
Condensed statement of operations:		
Operating revenues	**$ 1,334,738**	$ 1,153,933
Operating expenses	**1,252,868**	1,092,748
Operating income	**$ 81,870**	$ 61,185
Net income	**$ 81,975**	$ 61,223

As of September 30, 2018, JEA is obligated to guaranty, directly or indirectly, TEA's electric trading activities in an amount up to $28,929 and TEA's natural gas procurement and trading activities up to $31,000, in either case, plus attorney's fees that any party claiming and prevailing under the guaranty might incur and be entitled to recover under its contract with TEA. JEA has approved up to $60,000 (plus attorney fees) for TEA's natural gas procurement and trading activities.

7. Investment in The Energy Authority (continued)

Generally, JEA's guaranty obligations for electric trading would arise if TEA did not make the contractually required payment for energy, capacity, or transmission that was delivered or made available, or if TEA failed to deliver or provide energy, capacity, or transmission as required under a contract. Generally, JEA's guaranty obligations for natural gas procurement and trading would arise if TEA did not make the contractually required payment for natural gas or transportation that was delivered or purchased or if TEA failed to deliver natural gas or transportation as required under a contract.

Upon JEA's making any payments under its electric guaranty, it has certain contribution rights with the other members of TEA in order that payments made under the TEA member guaranties would be equalized ratably, based upon each member's equity ownership interest in TEA. Upon JEA's making any payments under its natural gas guaranty, it has certain contribution rights with the other members of TEA in order that payments under the TEA member guaranties would be equalized ratably in proportion to their respective amounts of guaranties, as adjusted by the actual natural gas member volumes and prices for the calendar year. After such contributions have been effected, JEA would only have recourse against TEA to recover amounts paid under the guaranty.

The term of these guaranties is generally indefinite, but JEA has the ability to terminate its guaranty obligations by causing to be provided advance notice to the beneficiaries thereof. Such termination of its guaranty obligations only applies to TEA transactions not yet entered into at the time the termination takes effect. Such termination would be because of JEA's withdrawal from membership in TEA, or such termination could cause JEA's membership in TEA to be terminated.

Under a separate agreement, TEA contracted with Southern Power Company ("Southern"), on JEA's behalf, for the purchase and sale of capacity and energy from Southern's Wansley plant located in Heard County, GA, covering the term from January 1, 2018 to December 31, 2019. In turn, JEA has guaranteed the payment obligations in the agreement up to $9,000 as well as all reasonable fees and expenses of Southern's counsel in any way relating to the enforcement of Southern's rights under the agreement.

8. Long-Term Debt

The Electric System, Bulk Power Supply System, SJRPP System, Water and Sewer System, and DES revenue bonds (JEA Revenue Bonds) are each governed by one or more bond resolutions. The Electric System bonds are governed by both a senior and a subordinated bond resolution; the Bulk Power Supply System bonds are governed by a single bond resolution; the Water and Sewer System bonds are governed by both a senior and a subordinated bond resolution; the SJRPP System bonds are governed by the First and Second Power Park Resolutions; and the DES bonds are governed by a single bond resolution. In accordance with the bond resolutions of each system, principal and interest on the bonds are payable from and secured by a pledge of the net revenues of the respective system. In general, the bond resolutions require JEA to make monthly deposits into the separate debt service sinking funds for each System in an amount equal to approximately one-twelfth of the aggregate amount of principal and interest due and payable on the bonds within the bond year. Interest on the fixed rate bonds is payable semiannually on April 1 and October 1, and principal is payable on October 1.

In accordance with the requirements of the SJRPP First Power Park Resolution and the Agreement for Joint Ownership and Construction and Operation of SJRPP Coal Units #1 and #2 between JEA and FPL, FPL is responsible for paying its share of the debt service on bonds issued under the First Power Park Resolution. The various bond resolutions provide for certain other covenants, the most significant of which (1) requires JEA to establish rates for each system such that net revenues with respect to that system are sufficient to exceed (by a certain percentage) the debt service for that system during the fiscal year and any additional amount required to make all reserve or other payments required to be made in such fiscal year by the resolution of that system and (2) restricts JEA from issuing additional parity bonds unless certain conditions are met.

On January 5, 2018, JEA defeased all the SJRPP System Revenue Issue Two bonds in their entirety and on March 21, 2018, JEA satisfied and discharged the First Power Park Resolution.

(Dollars in Thousands)

8. Long-Term Debt (continued)

Below is the schedule of outstanding indebtedness for the fiscal years 2018 and 2017.

Long-Term Debt	Interest Rates[1]	Payment Dates	September 30 2018	September 30 2017
Electric System Senior Revenue Bonds:				
Series Three 2004A	5.000%	2039	**$ 5**	$ 5
Series Three 2005B	4.750%	2033	**100**	100
Series Three 2008A[2]	Variable	2027–2036	**51,680**	51,680
Series Three 2008B-1[3]	Variable	2018–2040	**60,020**	60,395
Series Three 2008B-2[2]	Variable	2025–2040	**41,900**	41,900
Series Three 2008B-3[2]	Variable	2024–2036	**37,000**	37,000
Series Three 2008B-4[3]	Variable	2018–2036	**49,410**	49,810
Series Three 2008C-1[2]	Variable	2024–2034	**44,145**	44,145
Series Three 2008C-2[2]	Variable	2024–2034	**43,900**	43,900
Series Three 2008C-3[2]	Variable	2030–2038	**25,000**	25,000
Series Three 2008D-1[3]	Variable	2018–2036	**108,900**	111,420
Series Three 2009C	N/A	N/A	**–**	3,355
Series Three 2009D[6]	6.056%	2033–2044	**45,955**	45,955
Series Three 2010A	4.000%	2018–2019	**10,065**	14,980
Series Three 2010C	4.125–4.500%	2026–2031	**1,950**	8,975
Series Three 2010D	4.250–5.000%	2018–2038	**7,210**	79,470
Series Three 2010E[6]	5.350–5.482%	2028–2040	**34,255**	34,255
Series Three 2012A	4.000–4.500%	2023–2033	**16,995**	60,750
Series Three 2012B	2.000–5.000%	2019–2039	**85,615**	128,250
Series Three 2013A	3.000–5.000%	2018–2026	**74,865**	93,815
Series Three 2013B	3.000–5.000%	2026–2038	**7,500**	7,500
Series Three 2013C	4.000–5.000%	2018–2030	**19,335**	28,685
Series Three 2014A	3.400–5.000%	2018–2034	**12,870**	32,305
Series Three 2015A	2.750–5.000%	2018–2041	**69,975**	79,495
Series Three 2015B	3.375–5.000%	2018–2031	**23,900**	36,005
Series Three 2017A	5.000%	2019	**18,670**	18,670
Series Three 2017B	3.375–5.000%	2026–2039	**198,095**	–
Total Electric System Senior Revenue Bonds			**1,089,315**	1,137,820

(Dollars in Thousands)

8. Long-Term Debt (continued)

Long-Term Debt	Interest Rates[1]	Payment Dates	September 30 2018	2017
Electric System Subordinated Revenue Bonds:				
2000 Series A[2]	Variable	2021-2035	**$ 30,965**	$ 30,965
2000 Series F-1[2]	Variable	2026-2030	**37,200**	37,200
2000 Series F-2[2]	Variable	2026-2030	**24,800**	24,800
2008 Series D[2]	Variable	2024-2038	**39,455**	39,455
2009 Series A	N/A	N/A	**–**	21,140
2009 Series D	5.000%	2018	**11,660**	23,925
2009 Series E	4.000%	2018	**295**	2,215
2009 Series F[6]	4.800-6.406%	2018-2034	**63,670**	64,670
2009 Series G	4.000-5.000%	2018-2019	**16,090**	16,090
2010 Series A	N/A	N/A	**–**	710
2010 Series B	4.000-5.000%	2018-2024	**4,605**	7,535
2010 Series C	N/A	N/A	**–**	4,385
2010 Series D[6]	4.000-5.582%	2018-2027	**44,125**	45,575
2012 Series A	3.250-5.000%	2018-2033	**62,440**	88,500
2012 Series B	3.250-5.000%	2018-2037	**52,995**	93,750
2013 Series A	3.000-5.000%	2018-2030	**44,585**	54,110
2013 Series B	3.000-5.000%	2018-2026	**21,275**	25,385
2013 Series C	1.375-5.000%	2018-2038	**78,330**	80,390
2013 Series D	4.000-5.250%	2018-2035	**88,660**	124,025
2014 Series A	4.000-5.000%	2018-2039	**121,320**	206,105
2017 Series A	3.000-5.000%	2018-2019	**31,790**	71,735
2017 Series B	3.375-5.000%	2018-2034	**185,745**	–
Total Electric System Subordinated Revenue Bonds			**960,005**	1,062,665

(Dollars in Thousands)

8. Long-Term Debt (continued)

Long-Term Debt	Interest Rates[1]	Payment Dates	September 30 2018	2017
Bulk Power Supply System Revenue Bonds:				
Series 2010A[6]	4.600–5.920%	2018–2030	**$ 37,400**	$ 39,875
Series 2014A	2.000–5.000%	2018–2038	**63,320**	66,050
Total Bulk Power System Revenue Bonds			**100,720**	105,925
SJRPP System Revenue Bonds:				
Issue Two, Series Seventeen	N/A	N/A	**–**	100
Issue Two, Series Eighteen	N/A	N/A	**–**	50
Issue Two, Series Nineteen	N/A	N/A	**–**	100
Issue Two, Series Twenty	N/A	N/A	**–**	100
Issue Two, Series Twenty-One	N/A	N/A	**–**	5
Issue Two, Series Twenty-Two	N/A	N/A	**–**	5
Issue Two, Series Twenty-Three	N/A	N/A	**–**	64,910
Issue Two, Series Twenty-Four	N/A	N/A	**–**	29,625
Issue Two, Series Twenty-Five	N/A	N/A	**–**	45
Issue Two, Series Twenty-Six	N/A	N/A	**–**	65,970
Issue Two, Series Twenty-Seven	N/A	N/A	**–**	7,025
Issue Three, Series One[5]	4.500%	2037	**100**	100
Issue Three, Series Two[5]	5.000%	2034–2037	**29,370**	29,370
Issue Three, Series Four[5][6]	4.500–5.450%	2018–2028	**22,410**	24,085
Issue Three, Series Six[5]	2.375–5.000%	2019–2037	**91,330**	91,330
Issue Three, Series Seven[5]	2.000–5.000%	2019–2033	**79,500**	79,500
Issue Three, Series Eight[5]	2.000–5.000%	2019–2039	**57,895**	57,895
Total SJRPP System Revenue Bonds			**280,605**	450,215

(Dollars in Thousands)

8. Long-Term Debt (continued)

Long-Term Debt	Interest Rates[1]	Payment Dates	September 30 2018	September 30 2017
Water and Sewer System Senior Revenue Bonds:				
2006 Series B[4]	Variable	2018-2022	**$ 30,370**	$ 34,625
2008 Series A-2[2]	Variable	2028-2042	**51,820**	51,820
2008 Series B[2]	Variable	2023-2041	**85,290**	85,290
2009 Series B	3.750-5.000%	2018-2019	**18,295**	25,565
2010 Series A[6]	6.210-6.310%	2026-2044	**83,115**	83,115
2010 Series B	4.700-5.700%	2018-2025	**13,840**	15,570
2010 Series C	5.000%	2020	**3,000**	9,545
2010 Series D	4.000-5.000%	2018-2039	**42,525**	101,850
2010 Series E	4.000-5.000%	2021-2039	**11,865**	60,990
2010 Series F[6]	3.750-5.887%	2018-2040	**44,275**	45,520
2012 Series A	3.000-5.000%	2019-2041	**162,430**	317,935
2012 Series B	2.000-5.000%	2018-2037	**76,380**	130,085
2013 Series A	4.500-5.000%	2018-2027	**63,660**	89,740
2013 Series B	N/A	N/A	**–**	3,830
2014 Series A	2.000-5.000%	2018-2040	**217,790**	284,595
2017 Series A	3.125-5.000%	2020-2041	**378,220**	–
Total Water and Sewer System Senior Revenue Bonds			**1,282,875**	1,340,075
Water and Sewer System Subordinated Revenue Bonds:				
Subordinated 2008 Series A-1[2]	Variable	2018–2038	**50,950**	52,950
Subordinated 2008 Series A-2[2]	Variable	2030–2038	**25,600**	25,600
Subordinated 2008 Series B-1[2]	Variable	2030–2036	**30,885**	30,885
Subordinated 2010 Series A	5.000%	2018–2022	**8,275**	13,150
Subordinated 2010 Series B	3.000–5.000%	2020–2025	**3,255**	12,770
Subordinated 2012 Series A	3.000%	2021	**1,440**	20,320
Subordinated 2012 Series B	3.250–5.000%	2030–2043	**29,685**	35,505
Subordinated 2013 Series A	2.125–5.000%	2018–2029	**37,435**	72,250
Subordinated 2017 Series A	2.750–5.000%	2021–2034	**58,940**	–
Total Water and Sewer System Subordinated Revenue Bonds			**246,465**	263,430

(Dollars in Thousands)

8. Long-Term Debt (continued)

Long-Term Debt	Interest Rates[1]	Payment Dates	September 30 2018	2017
Water and Sewer System Other Subordinated Debt:				
Revolving Credit Agreement[7]	Variable	2021	**$ 3,000**	$ 3,000
Total Water and Sewer System Other Subordinated Debt			**3,000**	3,000
District Energy System:				
2013 Series A	1.725–4.538%	2018–2034	**36,485**	38,125
Total District Energy System			**36,485**	38,125
Total Debt Principal Outstanding			**3,999,470**	4,401,255
Less: Debt Due Within One Year			**(185,790)**	(229,095)
Total Long-Term Debt			**$ 3,813,680**	$ 4,172,160

(1) Interest rates apply only to bonds outstanding at September 30, 2018. Interest on the outstanding variable rate debt is based on either the daily mode, weekly mode, or the flexible mode, which resets in time increments ranging from 1 to 270 days. In addition, JEA has executed fixed-payer weekly mode interest rate swaps to effectively fix a portion of its net payments relative to certain variable rate bonds. The terms of the interest rate swaps are approximately equal to that of the fixed-payer bonds. See the Debt Management Strategy section of this note for more information related to the interest rate swap agreements outstanding at September 30, 2018 and 2017.

(2) Variable rate demand obligations – interest rates ranged from 1.53% to 1.68% at September 30, 2018.

(3) Variable rate direct purchased bonds indexed to SIFMA – interest rates were 1.96% at September 30, 2018.

(4) Variable rate bonds indexed to the Consumer Price Index (CPI bonds) – interest rates ranged from 3.02% to 3.07% at September 30, 2018.

(5) SJRPP System Issue Three Bonds were issued under the Second Power Park Resolution, whereby JEA is responsible for 100% of the related debt service payments. Whereas the SJRPP System Issue Two Bonds issued under the First Power Park Resolution, JEA is responsible for approximately 62.5% of the related debt service payments and FPL the remainder. On January 5, 2018, JEA defeased all the SJRPP System Issue Two Bonds in their entirety and on March 21, 2018, JEA satisfied and discharged the First Power Park Resolution.

(6) Federally Taxable – Issuer Subsidy – Build America Bonds where JEA expects to receive a cash subsidy payment from the United States Department of the Treasury for an amount up to 35% of the related interest.

(7) Revolving Credit Agreement – interest rates were 3.39% at September 30, 2018.

(Dollars in Thousands)

8. Long-Term Debt (continued)

Long-term debt activity (excluding short-term bank borrowings) for the year ended September 30, 2018 was as follows:

System	Debt Payable September 30, 2017	Par Amount of Debt Issued	Par Amount of Debt Refunded or Defeased	Scheduled Debt Principal Payments	Debt Payable September 30, 2018	Current Portion of Debt Payable September 30, 2018
Electric	**$ 2,200,485**	**$ 383,840**	**$ (405,105)**	**$ (129,900)**	**$ 2,049,320**	**$ 124,980**
Bulk Power Supply	**105,925**	**–**	**–**	**(5,205)**	**100,720**	**5,710**
SJRPP	**450,215**	**–**	**(128,280)**	**(41,330)**	**280,605**	**1,720**
Water and Sewer	**1,603,505**	**437,160**	**(460,305)**	**(51,020)**	**1,529,340**	**51,720**
DES	**38,125**	**–**	**–**	**(1,640)**	**36,485**	**1,660**
Total	**$ 4,398,255**	**$ 821,000**	**$ (993,690)**	**$ (229,095)**	**$ 3,996,470**	**$ 185,790**

Long-term debt activity (excluding short-term bank borrowings) for the year ended September 30, 2017 was as follows:

System	Debt Payable September 30, 2016	Par Amount of Debt Issued	Par Amount of Debt Refunded or Defeased	Scheduled Debt Principal Payments	Debt Payable September 30, 2017	Current Portion of Debt Payable September 30, 2017
Electric	$ 2,359,485	$ 90,405	$ (153,210)	$ (96,195)	$ 2,200,485	$ 129,900
Bulk Power Supply	111,970	–	–	(6,045)	105,925	5,205
SJRPP	494,000	–	–	(43,785)	450,215	41,330
Water and Sewer	1,643,515	–	(6,135)	(33,875)	1,603,505	51,020
DES	39,750	–	–	(1,625)	38,125	1,640
Total	$ 4,648,720	$ 90,405	$ (159,345)	$ (181,525)	$ 4,398,255	$ 229,095

(Dollars in Thousands)

8. Long-Term Debt (continued)

The debt service to maturity on the outstanding debt (excluding short-term bank borrowings) as of September 30, 2018 is summarized as follows:

Fiscal Year Ending	Electric System		Bulk Power Supply System		SJRPP	
September 30	Principal	Interest	Principal	Interest	Principal	Interest
2018	$ 124,980	$ 34,676	$ 5,710	$ 2,116	$ 1,720	$ 5,603
2019	116,230	72,122	6,150	3,959	13,780	11,128
2020	60,790	66,757	6,975	3,716	13,340	10,444
2021	59,140	63,939	7,080	3,498	14,175	9,894
2022	58,135	61,381	7,270	3,274	15,285	9,310
2023–2027	412,705	267,922	24,955	12,689	85,040	37,109
2028–2032	527,685	180,414	22,750	6,749	77,645	21,324
2033–2037	535,695	86,762	15,305	2,895	52,060	8,990
2038–2042	144,750	14,698	4,525	187	7,560	456
2043–2047	9,210	842	–	–	–	–
Total	$ 2,049,320	$ 849,513	$ 100,720	$ 39,083	$ 280,605	$ 114,258

Fiscal Year Ending	Water and Sewer System		District Energy System		Total Debt
September 30	Principal	Interest	Principal	Interest	Service(1)(2)(3)
2018	$ 51,720	$ 29,521	$ 1,660	$ 680	$ 258,386
2019	54,705	59,741	1,690	1,330	340,835
2020	56,340	57,535	1,725	1,296	278,918
2021	58,950	55,404	1,770	1,254	275,104
2022	59,550	52,973	1,815	1,206	270,199
2023–2027	294,405	225,940	10,005	5,102	1,375,872
2028–2032	295,730	159,214	12,165	2,943	1,306,619
2033–2037	356,835	96,163	5,655	388	1,160,748
2038–2042	285,850	30,530	–	–	488,556
2043–2047	15,255	1,274	–	–	26,581
Total	$ 1,529,340	$ 768,295	$ 36,485	$ 14,199	$ 5,781,818

(1) Includes debt service accrued from October 1 through September 30 of the corresponding fiscal year, except for fiscal year 2018, which excludes payments made during the fiscal year.

(2) Interest requirement for the variable rate debt was determined by using the interest rates that were in effect at the financial statement date of September 30, 2018.

(3) Interest in the above table reflects total interest on the Federally Taxable – Issuer Subsidy – Build America Bonds and does not reflect the impact of the 35% cash subsidy payments that JEA expects to receive in the future from the United States Department of the Treasury.

(Dollars in Thousands)

8. Long-Term Debt (continued)

JEA, at its option, may redeem specific outstanding fixed rate JEA Revenue Bonds prior to maturity, as discussed in the official statements covering their issuance. A summary of the redemption provisions is as follows:

	Electric System	Bulk Power Supply System	SJRPP	Water and Sewer System	District Energy System
Earliest fiscal year for redemption	2019	2019	2019	2019	2023
Redemption price	100%	100%	100%	100%	100%

JEA debt issued during fiscal year 2018 is summarized as follows:

System	Debt Issued	Purpose	Priority of Lien	Month of Issue	Par Amount Issued	Par Amount Refunded	Accounting Gain/(Loss)
Electric	Series Three 2017B	Refunding[1]	Senior	Dec 2017	$ 198,095	$ 210,030	$ (6,413)
Electric	2017 Series B	Refunding[2]	Subordinated	Dec 2017	185,745	195,075	(8,407)
Water and Sewer	2017 Series A	Refunding[3]	Senior	Dec 2017	378,220	394,335	(11,076)
Water and Sewer	2017 Series A	Refunding[4]	Subordinated	Dec 2017	58,940	65,970	(1,915)
					$ 821,000	$ 865,410	$ (27,811)

(1) Fixed rate bonds issued to refund fixed rate bonds with new debt service of $324,904 compared to prior debt service of $346,747 and $17,425 of net present value economic savings.

(2) Fixed rate bonds issued to refund fixed rate bonds with new debt service of $291,178 compared to prior debt service of $304,128 and $12,314 of net present value economic savings.

(3) Fixed rate bonds issued to refund fixed rate bonds with new debt service of $588,806 compared to prior debt service of $635,880 and $33,648 of net present value economic savings.

(4) Fixed rate bonds issued to refund fixed rate bonds with new debt service of $86,518 compared to prior debt service of $93,337 and $5,283 of net present value economic savings.

The JEA Board has authorized the issuance of additional refunding bonds within certain parameters for the Electric System, SJRPP, and Water and Sewer System. The following table summarizes the maximum amounts that could be issued:

System	Authorization Senior	Authorization Subordinated	Expiration
Electric	$ 672,905	$ 447,255	December 31, 2018
SJRPP Issue Three	80,000	–	December 31, 2018
Water and Sewer	424,780	206,060	December 31, 2018

8. Long-Term Debt (continued)

Variable Rate Demand Obligations (VRDOs) – Liquidity Support

For the Electric System and the Water and Sewer System VRDOs appearing in the schedule of outstanding indebtedness, and except for the obligations noted in the following paragraphs, liquidity support is provided in connection with tenders for purchase with various liquidity providers pursuant to standby bond purchase agreements (SBPA) relating to that series of obligation. The purchase price of the obligations tendered or deemed tendered for purchase is payable from the proceeds of the remarketing thereof and moneys drawn under the applicable SBPA. At September 30, 2018, there were no outstanding draws under the SBPA. In the event of the expiration or termination of the SBPA that results in a mandatory tender of the VRDOs and the purchase of the obligations by the bank, then beginning on April 1 or October 1, whichever date is at least six months subsequent to the purchase of the obligations, JEA shall begin to make equal semiannual installments over an approximate five-year period. Commitment fees range from 0.38% to 0.42% with stated termination dates ranging from May 8, 2020 to August 22, 2022, unless otherwise extended. See note 18, Subsequent Events, for further details.

JEA entered into irrevocable direct-pay letter of credit and reimbursement agreement to support the payment of principal and interest on the Water and Sewer System 2008 Series A-2 VRDOs. The letter of credit agreement constitutes both a credit facility and a liquidity facility. As of September 30, 2018, there were no draws outstanding under the letter of credit agreement. Repayment of any draws outstanding at the expiration date are payable in equal semiannual installments over an approximate five-year period. The commitment fee is 0.48% with a stated expiration date of December 2, 2018, unless otherwise extended. Subsequent to the end of the fiscal year, the letter of credit and reimbursement agreement was renewed. See note 18, Subsequent Events, for further details.

JEA has entered into continuing covenant agreements for the Variable Rate Electric System Revenue Bonds, Series Three 2008B-1, Series Three 2008B-4 and Series Three 2008D-1 (collectively, the Direct Purchased Bonds). Except as described below, the bank does not have the option to tender the respective Direct Purchased Bonds for purchase for a period specified in the respective continuing covenant agreements, which period would be subject to renewal under certain conditions. Any Direct Purchased Bond that was not purchased from such bank on the scheduled mandatory tender date that occurred upon the expiration of such period would be required to be repaid as to principal in equal semiannual installments over a period of approximately five years from such scheduled mandatory tender date. Upon any such tender for payment, the Direct Purchased Bond so tendered would be due and payable immediately. The current expiration date of the continuing covenant agreements is December 12, 2018, unless otherwise extended. The interest rate is variable and set weekly based upon SIFMA plus 40 basis points. Subsequent to the end of the fiscal year, the continuing covenant agreements were renewed. See note 18, Subsequent Events, for further details.

8. Long-Term Debt (continued)

Short-Term Bank Borrowings

As of September 30, 2018, JEA has a revolving credit agreement with a commercial bank for an unsecured amount of $300,000. This agreement became effective on December 17, 2015, when JEA terminated the prior two revolving credit agreements with a total available amount of $300,000 with two commercial banks. The revolving credit agreement may be used with respect to the Electric System, the Bulk Power Supply System, the SJRPP System, the Water and Sewer System, or the DES, and for operating expenditures or for capital expenditures.

During fiscal year 2016, the revolving credit agreement was drawn upon by the Water and Sewer System for $3,000 and remains outstanding as of September 30, 2018, with $297,000 available to be drawn.

The revolving credit agreement is scheduled to expire on May 24, 2021. Subsequent to the end of the fiscal year, the revolving credit agreement was amended. See note 18, Subsequent Events, for further details.

Debt Management Strategy

JEA has entered into various interest rate swap agreements executed in conjunction with debt financings for initial terms up to 35 years (unless earlier terminated). JEA utilizes floating to fixed interest rate swaps as part of its debt management strategy. For purposes of this note, the term floating to fixed interest rate swaps refers to swaps in which JEA receives a floating rate and pays a fixed rate.

The fair value of the interest rate swap agreements and related hedging instruments is reported in the long-term debt section in the accompanying statements of net position; however, the notional amounts of the interest rate swaps are not reflected in the accompanying financial statements. JEA follows GASB Statement No. 53, *Accounting and Financial Reporting for Derivative Instruments*; therefore, hedge accounting is applied where fair market value changes are recorded in the accompanying statements of net position as either deferred outflow or deferred inflow resources.

The earnings from the debt management strategy interest rate swaps are recorded to interest on debt in the accompanying statements of revenues, expenses, and changes in net position.

(Dollars in Thousands)

8. Long-Term Debt (continued)

JEA entered into all outstanding floating to fixed interest rate swap agreements during prior fiscal years. The terms of the floating to fixed interest rate swap agreements outstanding at September 30, 2018, are as follows:

System	Hedged Bonds	Initial Notional Amount	Notional Amount Outstanding	Fixed Rate of Interest	Effective Date	Termination Date	Variable Rate Index
Electric	Series Three 2008C	**$ 174,000**	**$ 84,800**	3.7%	Sep 2003	Sep 2033	68% of one month LIBOR
Electric	Series Three 2008B	**117,825**	**82,575**	4.4%	Aug 2008	Oct 2039	SIFMA
Electric	Series Three 2008B	**116,425**	**85,600**	3.7%	Sep 2008	Oct 2035	68% of one month LIBOR
Electric	2008 Series D	**40,875**	**39,175**	3.7%	Mar 2009	Oct 2037	68% of one month LIBOR
Electric	Series Three 2008D-1	**98,375**	**62,980**	3.9%	May 2008	Oct 2031	SIFMA
Electric	Series Three 2008A	**100,000**	**51,680**	3.8%	Jan 2008	Oct 2036	SIFMA
Water and Sewer	2006 Series B	**38,730**	**30,370**	4.0-4.1%	Oct 2006	Oct 2018-2022	CPI
Water and Sewer	2008 Series B	**85,290**	**85,290**	3.9%	Mar 2007	Oct 2041	SIFMA
		$ 771,520	**$ 522,470**				

The terms of the floating to fixed interest rate swap agreements outstanding at September 30, 2017, are as follows:

System	Hedged Bonds	Initial Notional Amount	Notional Amount Outstanding	Fixed Rate of Interest	Effective Date	Termination Date	Variable Rate Index
Electric	Series Three 2008C	$ 174,000	$ 84,800	3.7%	Sep 2003	Sep 2033	68% of one month LIBOR
Electric	Series Three 2008B	117,825	82,575	4.4%	Aug 2008	Oct 2039	SIFMA
Electric	Series Three 2008B	116,425	86,000	3.7%	Sep 2008	Oct 2035	68% of one month LIBOR
Electric	2008 Series D	40,875	39,175	3.7%	Mar 2009	Oct 2037	68% of one month LIBOR
Electric	Series Three 2008D-1	98,375	62,980	3.9%	May 2008	Oct 2031	SIFMA
Electric	Series Three 2008A	100,000	51,680	3.8%	Jan 2008	Oct 2036	SIFMA
Water and Sewer	2006 Series B	38,730	34,625	3.9-4.1%	Oct 2006	Oct 2017-2022	CPI
Water and Sewer	2008 Series B	85,290	85,290	3.9%	Mar 2007	Oct 2041	SIFMA
		$ 771,520	$ 527,125				

(Dollars in Thousands)

8. Long-Term Debt (continued)

The following table includes fiscal year 2018 and 2017 summary information for JEA's effective cash flow hedges related to the outstanding floating to fixed interest rate swap agreements.

	Changes in Fair Value		Fair Value at September 30, 2018		
System	**Classification**	**Amount**	**Classification**	**Amount(1)**	**Notional**
Electric	Deferred outflows	**$ (31,247)**	Fair value of debt management strategy instruments	**$ (70,103)**	**$ 406,810**
Water and Sewer	Deferred outflows	**(7,666)**	Fair value of debt management strategy instruments	**(16,253)**	**115,660**
Total		**$ (38,913)**		**$ (86,356)**	**$ 522,470**

	Changes in Fair Value		Fair Value at September 30, 2017		
System	**Classification**	**Amount**	**Classification**	**Amount(1)**	**Notional**
Electric	Deferred outflows	$ (44,458)	Fair value of debt management strategy instruments	$ (101,350)	$ 407,210
Water and Sewer	Deferred outflows	(12,067)	Fair value of debt management strategy instruments	(23,919)	119,915
Total		$ (56,525)		$ (125,269)	$ 527,125

(1) Fair value amounts were calculated using market rates and standard cash flow present valuing techniques.

(Dollars in Thousands)

8. Long-Term Debt (continued)

For fiscal years ended September 30, 2018 and 2017, the weighted-average rates of interest for each index type of floating to fixed interest rate swap agreement and the total net swap earnings were as follows:

	2018	2017
68% of LIBOR Index:		
Notional amount outstanding	**$ 209,575**	$ 209,975
Variable rate received (weighted average)	**1.17%**	0.60%
Fixed rate paid (weighted average)	**3.69%**	3.70%
SIFMA Index (formerly BMA Index):		
Notional amount outstanding	**$ 282,525**	$ 282,525
Variable rate received (weighted average)	**1.27%**	0.80%
Fixed rate paid (weighted average)	**4.02%**	4.00%
CPI Index:		
Notional amount outstanding	**$ 30,370**	$ 34,625
Variable rate received (weighted average)	**2.87%**	2.60%
Fixed rate paid (weighted average)	**4.02%**	4.00%
Net debt management swap loss	**$ (13,395)**	$ (16,181)

(Dollars in Thousands)

8. Long-Term Debt (continued)

The following two tables summarize the anticipated net cash flows of JEA's outstanding hedged variable rate debt and related floating to fixed interest rate swap agreements at September 30, 2018:

Electric System[1]

Bond Year Ending October 1	Principal	Interest	Net Swap Interest	Total
2018	$ 400	$ 501	$ 820	$ 1,721
2019	425	6,031	9,794	16,250
2020	3,200	6,024	9,784	19,008
2021	3,275	5,970	9,713	18,958
2022	3,375	5,914	9,640	18,929
2023–2027	91,100	27,219	44,951	163,270
2028–2032	172,605	16,714	28,162	217,481
2033–2037	114,180	6,745	11,464	132,389
2038–2042	18,250	466	780	19,496
Total	$ 406,810	$ 75,584	$ 125,108	$ 607,502

Water and Sewer System[1]

Bond Year Ending October 1	Principal	Interest	Net Swap Interest	Total
2018	$ 5,520	$ 558	$ 320	$ 6,398
2019	5,740	2,036	2,278	10,054
2020	9,195	1,861	2,222	13,278
2021	4,860	1,581	2,132	8,573
2022	5,055	1,433	2,084	8,572
2023–2027	17,595	5,751	9,147	32,493
2028–2032	4,540	5,010	7,971	17,521
2033–2037	21,430	4,239	6,741	32,410
2038–2042	41,725	1,597	2,540	45,862
Total	$ 115,660	$ 24,066	$ 35,435	$ 175,161

(1) Interest requirement for the variable rate debt and the variable portion of the interest rate swaps was determined by using the interest rates that were in effect at the financial statement date of September 30, 2018. The fixed portion of the interest rate swaps was determined based on the actual fixed rates of the outstanding interest rate swaps at September 30, 2018.

(Dollars in Thousands)

8. Long-Term Debt (continued)

Credit Risk – JEA is exposed to credit risk on hedging derivative instruments that are in asset positions. To minimize its exposure to loss related to credit risk, the Board has established limits on the notional amount of JEA's interest rate swap transactions and standards for the qualification of financial institutions with which JEA may enter into interest rate swap transactions. The counterparties with which JEA may deal must be rated (i) "AAA" by one or more nationally recognized rating agencies at the time of execution, (ii) "AA/Aa3" or better by at least two of such credit rating agencies at the time of execution, or (iii) if such counterparty is not rated "AA/Aa3" or better at the time of execution, provide for a guarantee by an affiliate of such counterparty rated at least "A/A2" or better at the time of execution where such affiliate agrees to unconditionally guarantee the payment obligations of such counterparty under the swap agreement. In addition, each swap agreement will require the counterparty to enter into a collateral agreement to provide collateral when the ratings of such counterparty (or its guarantor) fall below "AA/Aa3" and a payment is owed to JEA. All outstanding interest rate swaps at September 30, 2018, were in a liability position. Therefore, if counterparties failed to perform as contracted, JEA would not be subject to any credit risk exposure at September 30, 2018.

JEA's floating to fixed interest rate swap counterparty credit ratings at September 30, 2018, are as follows:

Counterparty	Counterparty Credit Ratings S&P/Moody's/Fitch	Outstanding Notional Amount
Morgan Stanley Capital Service Inc.	BBB+/A3/A	$ 175,925
Goldman Sachs Mitsui Marine Derivative Products L.P.	AA-/Aa2/not rated	136,480
JPMorgan Chase Bank, N.A.	A+/Aa3/AA	124,775
Merrill Lynch Derivative Products AG	A-/A3/A+	85,290
Total		$ 522,470

Interest Rate Risk – JEA is exposed to interest rate risk where changes in interest rates could affect the related net cash flows and fair values of outstanding interest rate swaps. On a pay-fixed, receive-variable interest rate swap, as the floating swap index decreases, JEA's net payment on the swap increases, and as the fixed rate swap market declines as compared to the fixed rate on the swap, the fair value declines.

Basis Risk – JEA is exposed to basis risk on certain pay-fixed interest rate swap hedging derivative instruments because the variable-rate payments received on certain hedging derivative instruments are based on a rate or index other than interest rates that JEA pays on its hedged variable-rate debt, which is reset every one or seven days. As of September 30, 2018, the weighted-average interest rate on JEA's hedged variable-rate debt (excluding variable rate CPI bonds) is 1.71%, while the SIFMA swap index rate is 1.56% and 68% of LIBOR is 1.43%.

Termination Risk – JEA or its counterparties may terminate a derivative instrument if the other party fails to perform under the terms of the contract. If at the time of termination, a hedging derivative instrument were in a liability position, JEA would be liable to the counterparty for a payment equal to the liability.

(Dollars in Thousands)

8. Long-Term Debt (continued)

Market Access Risk – JEA is exposed to market access risk due to potential market disruptions in the municipal credit markets that could inhibit the issuing or remarketing of bonds and related hedging instruments. JEA maintains strong credit ratings (see Debt Administration section of the Management Discussion and Analysis) and, to date, has not encountered any barriers to the credit markets.

9. Transactions with City of Jacksonville

Utility and Administrative Services

JEA is a separately governed authority and considered a discretely presented component unit of the City. JEA provides electric, water, and sewer service to the City and its agencies and bills for such service using established rate schedules. JEA utilizes various services provided by departments of the City including insurance, legal, and motor pool. JEA is billed on a proportionate cost basis with other user departments and agencies. The revenues for services provided and expenses for services received by JEA for these related-party transactions with the City were as follows:

	2018	**2017**
Revenues	**$ 35,708**	$ 36,842
Expenses	**$ 6,031**	$ 5,433

City Contribution

On March 22, 2016, the City and JEA entered into a five-year agreement, which established the contribution formula for the fiscal years 2017 through 2021.

Although the calculation for the annual transfer of available revenue from JEA to the City is based upon formulas that are applied specifically to each utility system operated by JEA, JEA, at its sole discretion, may utilize any of its available revenues, regardless of source, to satisfy its total annual obligation to the City.

The contributions from the JEA Electric Enterprise Fund and JEA Water and Sewer Fund for fiscal years 2018 and 2017 were as follows:

	2018	**2017**
Electric	**$ 91,472**	$ 92,271
Water and Sewer	**$ 25,148**	$ 23,552

(Dollars in Thousands)

9. Transactions with City of Jacksonville (continued)

The JEA Electric Enterprise Fund is required to contribute annually to the General Fund of the City an amount equal to 7.468 mills per kilowatt hour delivered by JEA to retail users in JEA's service area and to wholesale customers under firm contracts having an original term of more than one year, other than sales of energy to FPL from JEA's SJRPP System. The JEA Water and Sewer Fund is required to contribute annually to the General Fund of the City an amount equal to 389.2 mills per thousand gallons of potable water and sewer service provided, excluding reclaimed water service. These calculations are subject to a minimum increase of 1% per year through 2021, using 2016 as the base year for the combined assessment for the Electric Enterprise Fund and Water and Sewer Fund. There is no maximum annual assessment.

Franchise Fees

In 2008, the City enacted a 3.0% franchise fee from designated revenues of the Electric and Water and Sewer systems. The ordinance authorizes JEA to pass through these fees to its electric and water and sewer funds. These amounts are included in operating revenues and expenses and were as follows:

	2018	2017
Electric	**$ 28,496**	$ 27,704
Water and Sewer	**$ 10,476**	$ 10,562

Insurance Risk Pool

JEA is exposed to various risks of loss related to torts, theft and destruction of assets, errors and omissions, and natural disasters. In addition, JEA is exposed to risks of loss due to injuries and illness of its employees. These risks are managed through the Risk Management Division of the City, which administers the public liability (general liability and automobile liability) and workers' compensation self-insurance program covering the activities of the City general government, JEA, Jacksonville Housing Authority, Jacksonville Port Authority, and the Jacksonville Aviation Authority. The general objectives are to formulate, develop, and administer, on behalf of the members, a program of insurance to obtain lower costs for that coverage and to develop a comprehensive loss control program.

(Dollars in Thousands)

9. Transactions with City of Jacksonville (continued)

JEA has excess coverage for individual workers' compensation claims above $1,200. Liability for claims incurred is the responsibility of, and is recorded in, the City's self-insurance plan. The premiums are calculated on a retrospective or prospective basis, depending on the claims experience of JEA and other participants in the City's self-insurance program. The liabilities are based on the estimated ultimate cost of settling the claim including the effects of inflation and other societal and economic factors. The JEA workers' compensation expense is the premium charged by the City's self-insurance plan. JEA is also a participant in the City's general liability insurance program. As part of JEA's risk management program, certain commercial insurance policies are purchased to cover designated exposures and potential loss programs. These amounts are included in operating expenses and were as follows:

	2018	2017
General liability	**$ 2,240**	$ 1,511
Workers' compensation	**$ 1,613**	$ 1,435

The following table shows the estimated workers' compensation and general liability loss accruals for the City and JEA's portion for the fiscal years ended September 30, 2018 and 2017. The amounts are recorded by the City at present value using a 4% discount rate for the fiscal years ended September 30, 2018 and September 30, 2017.

	Workers' Compensation		General Liability	
	City of Jacksonville	JEA Portion	City of Jacksonville	JEA Portion
Beginning balance	$ 94,300	$ 3,156	$ 15,531	$ 2,308
Change in provision	32,394	468	5,939	1,245
Payments	(23,052)	(1,032)	(6,170)	(997)
Ending balance	$ 103,642	$ 2,592	$ 15,300	$ 2,556

10. Fuel Purchase and Purchased Power Commitments

JEA has made purchase commitments for Scherer Unit 4 through calendar year 2022. Northside coal and petroleum coke commitments concluded at the end of September 2018. Contract terms specify minimum annual purchase commitments at fixed prices or at prices that are subject to market adjustments. JEA has remarketing rights under the coal contracts. The majority of JEA's coal and petroleum coke supply is purchased with transportation included.

In addition, JEA participates in Georgia Power agreements with rail carriers for the delivery of coal to Scherer Unit 4. Georgia Power Company, acting for itself and as agent for JEA and the other Scherer co-owners, has entered into an agreement with Burlington Northern Santa Fe Railway Company (BNSF) that extends the rail contract through calendar year 2028. Georgia Power has also entered into an agreement with the Norfolk Southern Railway Company (NS) that extends through December 31, 2019.

(Dollars in Thousands)

10. Fuel Purchase and Purchased Power Commitments (continued)

JEA has commitments to purchase natural gas delivered to Jacksonville under a long-term contract with Shell Energy North America L.P. (Shell Energy) that expire in 2021. Contract terms for the natural gas supply specify minimum annual purchase commitments at market prices. JEA has the option to remarket any excess natural gas purchases. In addition to the gas delivered by Shell Energy, JEA has long-term contracts with Peoples Gas system, Florida Gas Transmission, Southern Natural Gas and SeaCoast Gas Transmission for firm gas transportation to allow the delivery of natural gas through those pipeline systems. There is no purchase commitment of natural gas associated with those transportation contracts.

In the unlikely event that JEA would not be in a position to fulfill its obligations to receive fuel and purchased power under the terms of its existing fuel and purchased power contracts, JEA would nonetheless be obligated to make certain future payments. If the conditions necessitating the future payments occurred, JEA would mitigate the financial impact of those conditions by remarketing the fuel and purchased power at then-current market prices. The aggregate amount of future payments that JEA does not expect to be able to mitigate appears in the table below:

Fiscal Year Ending	Coal and Pet Coke Fuel	Natural Gas Transportation	Transmission	Total
2019	2,049	7,236	6,091	15,376
2020	1,165	7,256	7,212	15,633
2021	553	4,817	7,493	12,863
2022	247	–	7,776	8,023
2023	49	–	8,009	8,058
2024-2042	–	–	175,653	175,653

Vogtle Units Purchased Power Agreement

Overview

As a result of an earlier 2008 Board policy establishing a 10% of total energy from nuclear energy goal, JEA entered into a power purchase agreement (as amended, the Additional Vogtle Units PPA) with the Municipal Electric Authority of Georgia (MEAG) for 206 megawatts (MW) of capacity and related energy from MEAG's interest in two additional nuclear generating units (the Additional Vogtle Units or Plant Vogtle Units 3 and 4) under construction at the Alvin W. Vogtle Nuclear Plant in Burke County, Georgia. The owners of the Additional Vogtle Units include Georgia Power Company (Georgia Power), Oglethorpe Power Corporation (Oglethorpe), MEAG and the City of Dalton, Georgia (collectively, the Owners or Vogtle Co-Owners). The energy received under the Additional Vogtle Units PPA is projected to represent approximately 13% of JEA's total energy requirements in the year 2023.

10. Fuel Purchase and Purchased Power Commitments (continued)

The Additional Vogtle Units PPA requires JEA to pay MEAG for the capacity and energy at the full cost of production (including debt service on the bonds issued and to be issued by MEAG and on the loans made and to be made by the Project J Entity referred to below, in each case, to finance the portion of the capacity to be sold to JEA from the Additional Vogtle Units) plus a margin over the term of the Additional Vogtle Units PPA. Under the Additional Vogtle Units PPA, JEA is entitled to 103 MW of capacity and related energy from each of the Additional Vogtle Units for a 20-year term commencing on each Additional Vogtle Unit's commercial operation date and is required to pay for such capacity and energy on a "take-or-pay" basis (that is, whether or not either Additional Vogtle Unit is completed or is operating or operable, and whether or not its output is suspended, reduced or the like or terminated in whole or in part), except that JEA is not obligated to pay the "margin" referred to above during such periods in which the output of either Additional Vogtle Unit is suspended or terminated.

On September 11, 2018, MEAG filed a complaint in the United States District Court for the Northern District of Georgia seeking a declaratory judgement that the Additional Vogtle Units PPA is lawful and enforceable and ordering specific performance from JEA with the terms of the Additional Vogtle Units PPA. On the same day, JEA and the City, as co-plaintiffs, filed a complaint in the Fourth Judicial Circuit Court of Florida seeking a declaratory judgment that the Additional Vogtle Units PPA violates the Florida Constitution and laws and public policy of the state of Florida and is therefore ultra vires, void ab initio, and unenforceable. For additional information about such litigation, see the Litigation and Regulatory Proceedings section in this note.

Financing and In-Service Costs

MEAG created three separate "projects" (Vogtle Units 3 and 4 Project Entities) for the purpose of owning and financing its 22.7% undivided ownership interest in the Additional Vogtle Units (representing approximately 500.308 MW of capacity and related energy based upon the nominal rating of the Units). The project corresponding to the portion of MEAG's ownership interest, which will provide the capacity and energy to be purchased by JEA under the Additional Vogtle Units PPA, is referred to herein as "Project J." MEAG currently estimates that the total in-service cost for its entire undivided ownership interest in the Additional Vogtle Units will be approximately $6,485,000, including construction costs, financing costs through the estimated in-service dates, contingencies, initial fuel load costs, and switchyard and transmission costs. MEAG has additionally provided that its total financing needs for its share of the Additional Vogtle Units, including reserve funds and other fund deposits required under the financing documents, are approximately $6,975,000. Based on information provided by MEAG, (i) the portion of the total in-service cost for Plant Vogtle Units 3 and 4 allocable to Project J is approximately $2,715,000 and (ii) the portion of additional in-service costs relating to reserve funds and other fund deposits is approximately $203,000 resulting in total financing needs of approximately $2,918,000.

10. Fuel Purchase and Purchased Power Commitments (continued)

Financing for Project J – In order to finance a portion of its acquisition and construction of Project J and to refund bond anticipation notes previously issued by MEAG, MEAG issued approximately $1,248,435 of its Plant Vogtle Units 3 and 4 Project J Bonds (the 2010 PPA Bonds) on March 11, 2010. Of the total 2010 PPA Bonds, approximately $1,224,265 were issued as Federally Taxable – Issuer Subsidy – Build America Bonds where MEAG expects to receive a cash subsidy payment from the United States Treasury for 35% of the related interest, subject to reduction due to sequestration. At this time, a portion of the interest subsidy payments with respect to the Build America Bonds is not being paid as a result of the federal government sequestration process and the Bipartisan Budget Act of 2018 for the current fiscal year through fiscal year 2027. The exact amount of such reduction is determined on or about the beginning of the federal government's fiscal year, or October 1, and is subject to adjustment thereafter. The current reduction amount of 6.2% became effective on October 1, 2018. MEAG issued approximately $185,180 of additional Project J tax-exempt bonds on September 9, 2015.

On June 24, 2015, in order to obtain certain loan guarantees from the United States Department of Energy (DOE) for further funding of Plant Vogtle Units 3 and 4, MEAG divided its undivided ownership interest in Plant Vogtle Units 3 and 4 into three separate undivided interests and transferred such interests to the Vogtle Units 3 and 4 Project Entities. MEAG transferred approximately 41.175% of its ownership interest, representing 206 MW of nominally rated generating capacity (which is the portion of MEAG's ownership interest attributable to Project J), to MEAG Power SPVJ, LLC (the Project J Entity).

The Project J Entity entered into a loan guarantee agreement with the DOE in 2015, subsequently amended in 2016 and 2017, under which the Project J Entity is permitted to borrow from the Federal Financing Bank (FFB) an aggregate amount of approximately $577,743. To date, the Project J Entity has received proceeds from borrowings under the loan guarantee agreement in an aggregate principal amount of approximately $341,446. There is additional borrowing capacity of approximately $236,297 under the Project J Entity's existing DOE-guaranteed loan. On September 28, 2017, DOE, MEAG, and the Vogtle Units 3 and 4 Project Entities entered into a conditional commitment for additional DOE loan guarantees in the aggregate amount of $414,700. On September 17, 2018, the DOE extended the expiration date of such conditional commitment to March 31, 2019. Subject to satisfaction of the conditions contained in such conditional commitment, it is expected that the Project J Entity will obtain from FFB such additional lending commitment in the amount of $111,541. While MEAG expects that the total financing needs for Project J will exceed the aggregate of the Project J Entity's FFB lending commitments and the balance will be financed in the capital markets, in the event that the JEA litigation challenging its obligations under the Additional Vogtle Units PPA materially impedes access to capital markets for MEAG, Georgia Power has agreed to provide certain funding as described below under "Description of Construction Contracts and Status of Construction".

(Dollars in Thousands)

10. Fuel Purchase and Purchased Power Commitments (continued)

Summary of financing associated with Project J:

	Borrowings to Date	Additional Capacity	Total Projected Borrowings
2010A Build America Bonds	$ 1,224,265	$ –	$ 1,224,265
2010B tax-exempt bonds	24,170	–	24,170
2015A tax-exempt bonds	185,180	–	185,180
DOE loan guarantee	341,446	236,297	577,743
Additional conditional DOE loan guarantee	–	111,541	111,541
Additional public markets bonds	–	666,290	666,290
Other sources of funds	–	129,198	129,198
Total	$ 1,775,061	$ 1,143,326	$ 2,918,387

(Dollars in Thousands)

10. Fuel Purchase and Purchased Power Commitments (continued)

Based on information provided by MEAG, JEA's portion of the debt service on the outstanding Project J debt as of September 30, 2018 is summarized as follows:

Fiscal Year Ending September 30	Principal	Interest	Annual Debt Service	Build America Bonds Subsidy	Capitalized Interest	Net Debt Service
2019	$ 12,750	$ 98,800	$ 111,550	$ (27,612)	$ (71,188)	$ 12,750
2020	16,183	97,995	114,178	(27,392)	(70,603)	16,183
2021	19,952	97,058	117,010	(27,100)	(69,958)	19,952
2022	20,706	95,983	116,689	(26,790)	(33,262)	56,637
2023	22,100	94,842	116,942	(26,466)	(4,207)	86,269
2024	22,967	93,642	116,609	(26,129)	–	90,480
2025	23,819	92,385	116,204	(25,776)	–	90,428
2026	24,685	91,079	115,764	(25,409)	–	90,355
2027	25,570	89,721	115,291	(25,026)	–	90,265
2028	26,538	88,311	114,849	(24,626)	–	90,223
2029	27,511	86,844	114,355	(24,209)	–	90,146
2030	28,528	85,318	113,846	(23,774)	–	90,072
2031	29,586	83,733	113,319	(23,320)	–	89,999
2032	30,661	82,084	112,745	(22,847)	–	89,898
2033	31,842	80,370	112,212	(22,353)	–	89,859
2034	33,035	78,587	111,622	(21,838)	–	89,784
2035	34,272	76,733	111,005	(21,301)	–	89,704
2036	28,275	74,805	103,080	(20,740)	–	82,340
2037	16,223	72,799	89,022	(20,155)	–	68,867
2038	10,905	70,713	81,618	(19,545)	–	62,073
2039	6,973	68,543	75,516	(18,909)	–	56,607
2040	1,424	66,250	67,674	(18,246)	–	49,428
2041	–	63,866	63,866	(17,553)	–	46,313
2042	–	31,076	31,076	(9,217)	–	21,859
2043	–	4,058	4,058	(1,249)	–	2,809
Total	$ 494,505	$ 1,965,595	$ 2,460,100	$ (547,582)	$ (249,218)	$ 1,663,300

10. Fuel Purchase and Purchased Power Commitments (continued)

Description of Construction Contracts and Status of Construction

In 2008, Georgia Power, acting for itself and as agent for the other Vogtle Co-Owners, entered into a contract (EPC Contract) pursuant to which the Contractor agreed to design, engineer, procure, construct, and test the Additional Vogtle Units. The entities that constituted the Contractor prior to June 9, 2017 were Westinghouse Electric Company LLC (Westinghouse) and WECTEC Global Project Services Inc. (WECTEC, and together with Westinghouse, the Contractor).

On March 29, 2017, Westinghouse and WECTEC each filed for bankruptcy protection under Chapter 11 of the United States Bankruptcy Code.

On June 9, 2017, Georgia Power (for itself and as agent for the other Vogtle Co-Owners) and the Contractor entered into a services agreement (Services Agreement) for the Contractor to transition construction management of Plant Vogtle Units 3 and 4 to Southern Nuclear Operating Company, an affiliate of Georgia Power (SNC or Southern Nuclear), and to provide ongoing design, engineering, and procurement services to SNC. The Services Agreement has taken effect and provides that the Contractor will generally be compensated on a time and materials basis for services rendered. The Services Agreement will continue until the start-up and testing of Plant Vogtle Units 3 and 4 is complete and electricity is generated and sold from both units. Facility design and engineering remains the responsibility of Westinghouse under the Services Agreement. The Services Agreement is terminable by the Vogtle Co-Owners upon 30 days' written notice.

As a result of the Westinghouse and WECTEC bankruptcy, Georgia Power, along with SNC acting as the project manager, will manage the remaining bulk construction phase of the Additional Vogtle Units on behalf of the Owners pursuant to a revised Ownership Participation Agreement. Effective October 23, 2017, Bechtel Power Corporation (Bechtel) will serve as the prime construction contractor for the remaining construction activities for Plant Vogtle Units 3 and 4 under a Construction Agreement entered into between Bechtel and Georgia Power, acting for itself and as agent for the other Vogtle Co-Owners (Construction Agreement).

Unlike the EPC Contract, which required the Contractor to absorb most of the construction cost overruns for the Additional Vogtle Units, the Construction Agreement is a cost reimbursable plus fee arrangement, whereby Bechtel will be reimbursed by the Vogtle Co-Owners for actual costs plus a base fee and an at-risk fee, which is subject to adjustment based on Bechtel's performance against cost and schedule targets. Each Vogtle Co-Owner is severally (not jointly) liable for its proportionate share, based on its ownership interest, of all amounts owed to Bechtel under the Construction Agreement.

The Vogtle Co-Owners may terminate the Construction Agreement at any time for their convenience, provided that the Vogtle Co-Owners will be required to pay amounts related to work performed prior to the termination (including the applicable portion of the base fee), certain termination-related costs, and, at certain stages of the work, the at-risk fee. Bechtel may terminate the Construction Agreement under certain circumstances, including certain Vogtle Co-Owner suspensions of work, certain breaches of the Construction Agreement by the Vogtle Co-Owners, Vogtle Co-Owner insolvency, and certain other events.

10. Fuel Purchase and Purchased Power Commitments (continued)

Georgia Power recommended in the 17th Vogtle Construction Monitoring report (the VCM 17 Report, filed with the Georgia Public Service Commission ("GPSC") on August 31, 2017), that the construction of the Additional Vogtle Units be continued. The Vogtle Co-Owners recommended that the Additional Vogtle Units be completed on the condition that any of the Owners have the right to abandon the construction of the Plant Vogtle Units 3 and 4 if the revised cost estimate or the revised construction schedule is not approved by the GPSC or if there is a determination by the GPSC that any of Georgia Power's share of the total investment in Plant Vogtle Units 3 and 4 or Georgia Power's associated financing costs will not be recovered in Georgia Power's retail rates, because they are deemed by the GPSC to be unreasonable or imprudent.

The Vogtle Co-Owners entered into an amendment, dated as of November 2, 2017, to their joint ownership agreements for Plant Vogtle Units 3 and 4 (as amended, the "Joint Ownership Agreements") to provide for, among other conditions, additional Vogtle Co-Owner approval requirements. Pursuant to the Joint Ownership Agreements, the holders of at least 90% of the ownership interests in Plant Vogtle Units 3 and 4 must vote to continue construction if certain adverse events occur including: (1) termination or rejection in bankruptcy of certain agreements, including the Services Agreement or the Construction Agreement; (2) the GPSC or Georgia Power determines that any of Georgia Power's costs relating to the construction of Plant Vogtle Units 3 and 4 will not be recovered in retail rates because such costs are deemed unreasonable or imprudent; or (3) an increase in the construction budget contained in the Vogtle Construction Monitoring 17 Report of more than $1,000,000 or extension of the project schedule contained in the VCM 17 Report of more than one year. In addition, pursuant to the Joint Ownership Agreements, the required approval of holders of ownership interests in Plant Vogtle Units 3 and 4 is at least (1) 90% for a change of the primary construction contractor and (2) 67% for material amendments to the Services Agreement or agreements with Southern Nuclear or the primary construction contractor, including the Construction Agreement.

The Joint Ownership Agreements also provide that the Vogtle Co-Owners' sole recourse against Georgia Power or Southern Nuclear for any action or inaction in connection with their performance as agent for the Vogtle Co-Owners is limited to removal of Georgia Power and/or Southern Nuclear as agent, except in cases of willful misconduct.

On December 21, 2017, the GPSC took a series of actions related to the construction of Plant Vogtle Units 3 and 4 and issued its related order on January 11, 2018. Among other actions, the GPSC (i) accepted Georgia Power's recommendation to continue construction of Plant Vogtle Units 3 and 4, with Southern Nuclear serving as construction manager and Bechtel as primary contractor and (ii) approved the revised schedule placing Vogtle Unit 3 in service in November 2021 and Vogtle Unit 4 in service in November 2022. In its January 11, 2018 order, the GPSC stated if certain conditions change and assumptions upon which Georgia Power's VCM 17 Report are based do not materialize, the GPSC reserved the right to reconsider the decision to continue construction.

10. Fuel Purchase and Purchased Power Commitments (continued)

During the latter part of the second quarter through the early part of the third quarter of 2018, Georgia Power advised the other Vogtle co-owners that it had become aware that certain estimated future Vogtle project costs were projected to exceed the corresponding budgeted amounts. The base capital costs estimated to complete construction were expected to increase by approximately $1,400,000 (the aggregate 22.7% shares of the Vogtle Units 3 and 4 Project Entities were estimated at $317,800). Georgia Power stated that although it believed these increased costs to be reasonable and necessary to complete the project, Georgia Power did not intend to seek rate recovery for these cost increases included in the current base capital cost forecast (or any related financing costs). As a result of the increase in the total project capital cost forecast and Georgia Power's decision not to seek rate recovery of its allocation of the increase in the costs as described above, the holders of at least 90% of the ownership interests in Plant Vogtle Units 3 and 4 were required to vote to continue construction. MEAG, and the other Vogtle Co-Owners, are evaluating these increased capital costs along with a project-level contingency estimated by Georgia Power in a preliminary amount of $800,000 (the aggregate 22.7% shares of the Vogtle Units 3 & 4 Project Entities estimated at $182,000). In connection with future Vogtle Construction Monitoring filings, Georgia Power may request the GPSC to evaluate costs currently included in the construction contingency estimate for rate recovery as and when they are appropriately included in the base capital cost forecast.

On September 26, 2018, the co-owners received the required vote to continue construction of Plant Vogtle Units 3 and 4. In connection with the vote to continue construction, Georgia Power entered into (i) a binding term sheet (the Vogtle Owner Term Sheet) with the other co-owners to take certain actions which partially mitigate potential financial exposure for the other co-owners, including amendments to the Vogtle Joint Ownership Agreements and the purchase of production tax credits (PTCs) from the other co-owners, and (ii) a binding term sheet (the MEAG Term Sheet and, together with the Vogtle Owner Term Sheet, the "Term Sheets") with MEAG and the Project J Entity to provide funding with respect to the Project J Entity's ownership interest in Plant Vogtle Units 3 and 4 under certain circumstances.

Under the Vogtle Owner Term Sheet, among other amendments to the Vogtle Joint Ownership Agreements, provisions of the Vogtle Joint Ownership Agreements requiring that co-owners holding 90% of the ownership interests in Plant Vogtle Units 3 and 4 vote to continue construction following certain adverse events would be amended. In particular, an increase in the construction cost estimate for Plant Vogtle Units 3 and 4 would no longer constitute an adverse event and thus would no longer require a vote. In addition, the adverse event relating to disallowances of cost recovery by Georgia Power would be amended to exclude any additional amounts paid by Georgia Power on behalf of the other co-owners pursuant to certain Vogtle Owner Term Sheet provisions and the first 6% of costs during any six-month VCM reporting period that are disallowed by the GPSC for recovery, or for which Georgia Power elects not to seek cost recovery, through retail rates. In addition, the Vogtle Owner Term Sheet provides that the Vogtle Joint Ownership Agreements would be revised to provide that Georgia Power may cancel the project at any time in its sole discretion.

10. Fuel Purchase and Purchased Power Commitments (continued)

Pursuant to the MEAG Term Sheet[1], if the Project J Entity is unable to make its payments due under the Vogtle Joint Ownership Agreements solely because (i) the conduct of JEA, such as JEA's continuation of its litigation challenging its obligations under the Additional Vogtle Units PPA, materially impedes access to capital markets for MEAG for Project J, or (ii) the Additional Vogtle Units PPA is declared void by a court of competent jurisdiction or rejected by JEA under the applicable provisions of the United States Bankruptcy Code (each of (i) and (ii), a JEA Default), Georgia Power will purchase from the Project J Entity the rights to PTCs attributable to the Project J Entity's share of Plant Vogtle Units 3 and 4 (approximately 206 MW) at varying prices dependent upon the stage of construction of Plant Vogtle Units 3 and 4.

At the option of MEAG, as an alternative or supplement to Georgia Power's purchase of PTCs as described above, Georgia Power has agreed to provide up to $250,000 in funding to MEAG for Project J in the form of loans (either advances under the Vogtle Joint Ownership Agreements or the purchase of Project J Bonds), subject to any required approvals of the GPSC and the DOE.

In the event the Project J Entity certifies to Georgia Power that it is unable to fund its obligations under the Vogtle Joint Ownership Agreements as a result of a JEA Default and Georgia Power becomes obligated to provide funding as described above, MEAG is required to (i) assign to Georgia Power its right to vote on any future adverse event and (ii) diligently pursue JEA for its breach of the Project J PPA.

Under the terms of the MEAG Term Sheet, Georgia Power may decline to provide any funding in the form of loans, including in the event of a failure to receive any required GPSC or DOE approvals, and cancel the project in lieu of providing such loan funding.

Litigation and Regulatory Proceedings

Litigation – As noted in the Overview section, on September 11, 2018, both MEAG and JEA filed court actions seeking declaratory judgment on the enforceability of the Additional Vogtle Units PPA. MEAG filed its action in the United States District Court for the Northern District of Georgia, Civil Action No.: 1:18-CV-04295-MHC and JEA and the City filed their action in the Circuit Court, Fourth Judicial Circuit, Duval County, Florida, Case No.: 16-2018-CA-006197-XXXX-CV-G, removed to the United States District Court for the Middle District of Florida, Case No.: 3:18-cv-174-J-39JRK. Both cases are engaged in extensive procedural litigation over the forum in which the substantive issues will be tried. JEA will vigorously defend and prosecute these actions, but provides no assurances regarding the outcome or consequences of the litigation.

[1] Information provided regarding the MEAG Term Sheet is based on information filed by MEAG with the Municipal Securities Rulemaking Board (the "MSRB"), through the MSRB's Electronic Municipal Market Access ("EMMA") website currently located at http://emma.msrb.org. JEA has not been able to independently review the MEAG Term Sheet.

10. Fuel Purchase and Purchased Power Commitments (continued)

Regulatory Proceedings – On September 17, 2018, JEA filed a petition with the Federal Energy Regulatory Commission (FERC) seeking a determination that FERC has exclusive jurisdiction pursuant to the Federal Power Act (FPA) over the Additional Vogtle Units PPA (FERC Petition). If FERC grants jurisdiction over the Additional Vogtle Units PPA, FERC will determine the validity of the Additional Vogtle Units PPA terms and conditions under the "just and reasonable" standard set forth in the FPA. Numerous entities, including MEAG, public utilities, municipalities, and trade groups, have filed comments with FERC challenging the theories of law and arguments raised in the FERC Petition. There is no deadline for FERC to render a decision on the FERC Petition.

Option to Purchase Interest in Lee Nuclear Station

On February 1, 2011, JEA entered into an option agreement with Duke Energy Carolinas, LLC (Duke Carolinas), a wholly owned subsidiary of Duke Energy Corporation, pursuant to which JEA has the option (but not the obligation) to purchase an undivided ownership interest of not less than 5% and not more than 20% of the proposed two-unit nuclear station currently known as William States Lee III Nuclear Station, Units 1 and 2 to be constructed at a site in Cherokee County, South Carolina (the Lee Project). The Lee Project planned to have 2,234 MW of electric generating capacity with a projected on-line date of 2026 with respect to Unit 1 and 2028 with respect to Unit 2. The total cost of the option was $7,500, payment of which has been completed. JEA obtained this option in furtherance of its 2010 policy target to acquire up to 30% of JEA's energy requirements from nuclear sources by 2030.

The option agreement requires that JEA and Duke Carolinas complete negotiation of an ownership agreement and an operation and maintenance agreement for the Lee Project prior to JEA exercising the option. The option exercise period will be opened by Duke Carolinas after it (i) receives NRC approval of the COL for the Lee Project and (ii) executes an engineering, procurement, and construction agreement for the Lee Project. The Lee Project COL was received from the NRC in December 2016. In August 2017, Duke Carolinas filed with the North Carolina Utilities Commission and the South Carolina Public Service Commission to cancel the plant. This cancellation allows Duke Carolinas to seek cost recovery for the expenditures on licensing the plant, however, the NRC license remains active and the cancellation is not permanent. There is currently no schedule for negotiating an EPC agreement.

Once the exercise period is opened, JEA will have 90 days within which to exercise the option, and, if it does exercise the option, it must specify the percentage undivided ownership interest in the Lee Project that it will acquire.

After JEA exercises the option (should it elect to do so) and various regulatory approvals are obtained, JEA must pay Duke Carolinas the exercise price for the option. Such price is generally JEA's pro rata share, based on its percentage ownership interest in the Lee Project, of the development and pre construction cost for the Lee Project incurred by Duke Carolinas from the beginning of the Lee Project through the closing date of the option exercise. JEA is undecided as to the financing structure it would employ to finance its interest in the Lee Project, should it elect to exercise its option.

Under certain circumstances, should the Lee Project be terminated by Duke Carolinas, Duke may be obligated to provide JEA with options for alternative resources (but not necessarily from nuclear resources) to replace JEA's optionable portion of the projected Lee Project capacity.

10. Fuel Purchase and Purchased Power Commitments (continued)

Such alternative resources are to be available to JEA within two years of the projected online date for the Lee Project, once such date is set. No alternative resource for the Lee Project has yet been proposed by Duke Carolinas.

Solar Projects

In 2009, JEA entered into a 30-year purchased power agreement with Jacksonville Solar, LLC for the produced energy, as well as the associated environmental attributes from a solar farm, Jacksonville Solar, which has been constructed in JEA's service territory. The facility, which consists of 200,000 photovoltaic panels on a JEA-leased 100-acre site, is owned by PSEG Solar Source, LLC and generated approximately 18,391 MWh of electricity in 2018 and 20,074 MWh of electricity in 2017. JEA pays only for the energy produced. Purchases of energy were $3,592 for fiscal year 2018 and $3,819 in 2017.

As part of JEA's continued commitment to the environment, and to increase JEA's level of carbon-free renewable energy generation, in December 2014, the Board established a solar policy to add up to 38 MWac of solar photovoltaic capacity. To support this policy, JEA issued Requests for Proposals for Power Purchase Agreements (PPAs) in December 2014 and April 2015. Seven PPAs, representing 27 MWac, have been finalized. One other PPA, which had been finalized, was terminated due to the failure of the awardee (SunEdison) to establish site control within the time allowed by the contract. The solar PPAs are distributed around JEA's service territory.

The projects for this 2014 initiative are scheduled for completion in 2018. As of the end of fiscal year 2018, five of the seven projects had been completed: NW Jacksonville Solar, Old Plank Road Solar, Starratt Solar, Simmons Solar, and Blair Road Solar. JEA entered into 20-25 year purchased power agreements for the energy and the associate environmental attributes from each solar farm. The solar facilities generated approximately 36,755 MWh in 2018 and 5,394 MWh in 2017. JEA pays only for the energy produced. Purchases of energy were $2,703 for fiscal year 2018 and $354 in 2017.

The JEA Board approved a further solar expansion consisting of five 50 MWac solar facilities to be constructed on JEA owned property. These projects, totaling 250 MWac, will be structured as PPAs. EDF-DS was selected as the vendor for the sites and contract negotiations are currently underway. It is expected the facilities will be phased into service with all sites completed by 2022.

Trail Ridge Landfill

JEA purchases energy from two landfill gas-to-energy facilities through PPA agreements with Landfill Energy Systems (LES). Each agreement is for 9.6 MWs. Currently, JEA purchases 9.6 MW from Trail Ridge Landfill in Jacksonville, FL and 6.4 MW from Sarasota Landfill in Sarasota, FL. LES can supply the remaining 3.2 MW from Sarasota if it is expanded and becomes available. JEA pays only for the energy produced. LES pays all transmission and ancillary charges associated with transmitting the energy from Sarasota to Jacksonville, which came online in January 2015. Purchases of landfill energy were 76,821 MWh for $4,554 in fiscal year 2018 and 89,682 MWh for $3,671 in 2017.

11. Energy Market Risk Management Program

The energy market risk management program is intended to help manage the risk of changes in the market prices of fuel consumed by JEA for electric generation. In December 2017, JEA entered into a financial swap that locked in the monthly commodity price of natural gas for calendar year 2018 for approximately 40% of its expected annual natural gas requirements. In August and September 2018, JEA entered into financial swaps that locked in the monthly commodity price of natural gas for December 2019 through December 2021 for approximately 45% of its expected annual natural gas requirements in those years. There was no additional activity in the program during fiscal year 2017.

JEA executes over-the-counter forward purchase and sale contracts and swaps. For effective derivative transactions, hedge accounting is applied in accordance with GASB Statement No. 53 and the fair market value changes are recorded on the accompanying statements of net position as either a deferred charge or a deferred credit until such time that the transactions end. Deferred charges of $1,851 were included in deferred inflows of resources on the statements of net position at September 30, 2018 and $0 at 2017. The related settled gains and losses from these transactions are recognized as fuel expenses on the accompanying statements of revenues, expenses, and changes in net position. For the year ended September 30, 2018, there was a realized gain included in fuel expense of $4,191 and a realized loss of $323 in 2017.

12. Pension Plans

Substantially all employees of the Electric System and Water and Sewer System participate in and contribute to the City of Jacksonville General Employee Retirement Plan (GERP), as amended. The GERP is a cost-sharing, multiple-employer contributory defined benefit pension plan with a defined contribution alternative. GERP, based on laws outlined in the City of Jacksonville Ordinance Code and applicable Florida statutes, provides for retirement, survivor, death, and disability benefits. Its latest financial statements and required supplementary information are included in the 2017 Comprehensive Annual Financial Report of the City of Jacksonville, Florida. This report may be obtained at: http://www.coj.net/departments/finance/docs/accounting/city-of-jacksonville-2017-cafr-secure.aspx or by writing to the City of Jacksonville, Florida, Department of Administration and Finance, Room 300, City Hall, 117 West Duval Street, Jacksonville, Florida 32202-3418.

The first phase of pension reform was approved by the City of Jacksonville in April 2017. The reform provides for a dedicated funding source for the GERP, Corrections Officers Plan, and Police and Fire Pension Plan through the extension of the Better Jacksonville Plan half-cent sales tax. The surtax will remain in effect until the earlier of December 31, 2060 or when it is determined by the actuarial report to the Florida Department of Management Services that the funding level of each of the City’s three defined benefit retirement plans, which are funded by surtax, is expected to reach or exceed 100%.

In order for the plan to benefit from the sales tax revenue, the GERP was closed to new members and employees as of September 30, 2017.

12. Pension Plans (continued)

Plan Benefits Provided – Participation in the GERP is mandatory for all full-time employees of JEA, Jacksonville Housing Authority, North Florida Transportation Planning Authority, and the City of Jacksonville, other than police officers and firefighters. Appointed officials and permanent employees not in the civil service system may opt to become members of GERP. Elected officials are members of the Florida Retirement System Elected Officer Class. Members of the GERP are eligible to retire with a normal pension benefit upon achieving one of the following: (a) completing 30 years of credited service, regardless of age; (b) attaining age 55 with 20 years of credited service; or (c) attaining age 65 with five years of credited service. There is no mandatory retirement age.

Upon reaching one of the three conditions for retirement described above, a member is entitled to a retirement benefit of 2.5% of final average compensation, multiplied by the number of years of credited service, up to a maximum benefit of 80% of final monthly compensation. A time service retirement benefit is payable bi-weekly, to commence upon the first payday coincident with or next payday following the member's actual retirement, and will continue until death.

Each member and survivor is entitled to a cost of living adjustment (COLA). The COLA consists of a 3% increase of the retiree's or survivor's pension benefits, which compounds annually. The COLA commences in the first full pay period of April occurring at least 4.5 years (and no more than 5.5 years) after retirement. In addition, there is a supplemental benefit. The supplemental benefit is equal to five dollars ($5) multiplied by the number of years of credited service. This benefit may not exceed $150 per month.

Contributions – Florida law requires plan contributions be made annually in amounts determined by an actuarial valuation in either dollars or as a percentage of payroll. The Florida Division of Retirement reviews and approves the City's actuarial report to ensure compliance with actuarial standards and appropriateness for funding purposes. In fiscal year 2018, JEA plan members were required to contribute 10% of their annual covered salary. In fiscal year 2017, JEA plan members were required to contribute 8% of their annual covered salary. JEA's contribution of the covered payroll for the JEA plan members was $35,459 (21.09%) in fiscal year 2018 and $48,942 (38.27%) in 2017. Contributions were made in accordance with contribution requirements determined through an actuarial valuation.

Defined Contribution Plan

The City has, by ordinance, a defined contribution (DC) plan within the Jacksonville Retirement System for GERP participants as an employee choice alternative to the defined benefit (DB) plans. Beginning in fiscal year 2011, employees had the option to participate in a DC plan. Employees vest in the employer contributions to the plan at 25% after two years, and 25% per year thereafter until fully vested after five years of service. Employees hired prior to September 30, 2017 can electively change from the DC plan to the DB plan, or vice versa, up to three times within their first five years of participation. All employees hired after September 30, 2017 now enter this plan.

In fiscal years 2018 and 2017, JEA plan members of the defined contribution plan were required to contribute 8% of their annual covered salary. JEA's contribution for the members of the defined contribution plan was $1,886 (11.31%) in fiscal year 2018 and $982 (8%) in 2017. Any contribution forfeitures were used to offset plan expenses.

12. Pension Plans (continued)

Disability Program Fund

All contributions for both the defined contribution and defined benefit plans of the City of Jacksonville were separated between the pension contribution and a disability program fund. Due to this change, a physical exam is not required to participate in the plans.

Pension Liabilities, Pension Expense, Deferred Outflows of Resources, and Deferred Inflow of Resources Related to Pensions

Net Pension Liability – JEA's net pension liability at September 30, 2018 and September 30, 2017 was measured based on an actuarial valuation as of September 30, 2017 and September 30, 2016, respectively. JEA's allocated share of the net pension liability is $527,680 (51.68%) as of September 30, 2018, based on an allocation proportional to the actual contributions paid during the year ended September 30, 2017. JEA's allocated share of the net pension liability as of September 30, 2017 was $541,025 (50.37%), based on an allocation proportional to the actual contributions paid during the year ended September 30, 2016.

For the year ended September 30, 2018 and 2017, JEA's recognized pension expense is $77,111 and $74,849, respectively. As JEA has implemented regulatory accounting for pensions, the difference between the recognized pension expense and the cash contributions paid has been deferred as a regulatory asset. See note 2, Regulatory Deferrals, for additional details.

(Dollars in Thousands)

12. Pension Plans (continued)

JEA reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

	September 30	
	2018	**2017**
Deferred outflows of resources		
Changes in assumptions	**$ 59,741**	$ 49,859
Contributions subsequent to the measurement date	**35,459**	48,942
Differences between expected and actual experience	**25,477**	24,354
Net difference between projected and actual earnings on pension investments	**–**	24,319
Changes in proportion	**16,452**	9,599
Total	**$ 137,129**	$ 157,073
Deferred inflows of resources		
Net difference between projected and actual earnings on pension investments	**$ (37,760)**	$ –
Changes in assumptions	**(3,730)**	(5,454)
Differences between expected and actual experience	**(1,543)**	(2,525)
Total	**$ (43,033)**	$ (7,979)

Contributions of $35,459 were reported as deferred outflows of resources related to pensions resulting from JEA contributions subsequent to the September 30, 2017 measurement date and will be recognized as a reduction of the net pension liability in the year ended September 30, 2019. Other amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows:

Year Ended September 30	**Recognition of Deferred Outflows (Inflows)**
2019	$ 28,251
2020	24,888
2021	8,622
2022	(3,124)
Total	$ 58,637

(Dollars in Thousands)

12. Pension Plans (continued)

Actuarial Assumptions – The total pension liability was determined by an actuarial valuation as of September 30, 2017, using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation	2.75%
Salary increases assumption	3.00%-6.00%, of which 2.75% is the Plan's long-term payroll inflation
Investment rate of return	7.20%, net of pension plan investment expense, including inflation
Healthy pre-retirement mortality rates	50% RP2000 Combined Healthy White Collar and 50% RP2000 Combined Healthy Blue Collar, set forward 2.5 years, projected generationally with Scale BB for males; RP2000 Combined Healthy White Collar, set forward 2.5 years, projected generationally with Scale BB for females.
Healthy post-retirement mortality rates	50% RP2000 White Collar Annuitant and 50% RP2000 Blue Collar Annuitant, set forward 2.5 years, projected generationally with Scale BB for males; RP2000 White Collar Annuitant, set forward 2.5 years, projected generationally with Scale BB for females.
Disabled mortality rates	RP-2000 Disabled Retiree Mortality Table, setback four years for males and set forward two years for females

The actuarial assumptions used in the valuations were based on the results of an experience study for the period October 1, 2007 to September 30, 2012. Data from the experience study is reviewed in conjunction with each annual valuation, and updates to the mortality improvement scale and discount rate have been made as of September 30, 2017.

(Dollars in Thousands)

12. Pension Plans (continued)

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentages and by adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in the pension plan's target asset allocation as of September 30, 2017, are summarized in the following table. The long-term expected real rates of return are based on 20-year projections of capital market assumptions provided by Segal Marco Advisors.

Asset Class	Target Allocation	Long-term Expected Real Rate of Return
Domestic equity	35%	6.40%
International equity	20%	7.40%
Real estate	25%	5.10%
Fixed income	19%	1.75%
Cash	1%	1.10%
Total	100%	

Discount Rate – The discount rate used to measure the total pension liability is 7.20%. The projection of cash flows used to determine the discount rate assumed plan member contributions would be made at their applicable contribution rates and that City contributions would be made at rates equal to the actuarially determined contribution rates. Based on these assumptions, the Plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on the Plan's investments was applied to all periods of projected benefit payments to determine the total pension liability. Cash flow projections were run for a 120-year period.

Sensitivity of the Net Pension Liability to Changes in the Discount Rate – The following presents the net pension liability of the Jacksonville GERP, calculated using the discount rate of 7.20% for 2018 and 7.40% for 2017, as well as what the Jacksonville GERP's net pension liability would be if it were calculated using a discount rate that is 1% lower or 1% higher than the discount rate used:

	Net Pension Liability	
	2018	**2017**
1% decrease	**$ 713,777**	$ 713,190
Current discount	**527,680**	541,025
1% increase	**372,518**	397,385

Pension Plan Fiduciary Net Position – Detailed information about the pension plan's fiduciary net position is included in the 2017 Comprehensive Annual Financial Report of the City of Jacksonville, Florida.

12. Pension Plans (continued)

St. Johns River Power Park Plan Description

Plan Description – The SJRPP Plan is a single employer contributory defined benefit plan that covers employees of SJRPP. The SJRPP Plan provides for pension, death, and disability benefits. Participation in the SJRPP Plan is required as a condition of employment. The SJRPP Plan is subject to provisions of Chapter 112 of the State of Florida Statutes and the oversight of the Florida Division of Retirement. The SJRPP Plan is governed by a five-member pension committee (Pension Committee). As part of the Asset Transfer Agreement with FPL related to the shutdown of SJRPP, JEA assumed all payment obligations and other liabilities related to separation benefits for the qualifying SJRPP employees and any amounts required to be deposited in SJRPP Pension Fund.

The SJRPP Plan periodically issues stand-alone financial statements, with the most recent report issued for the year ended September 30, 2017. This report may be obtained at https://www.jea.com/About/Investor_Relations/Financial_Reports/SJRPP_Pension.

Pursuant to the February 25, 2013 amendment, the SJRPP Plan consists of two tiers: Tier One is the Defined Benefits Tier and Tier Two is the Cash Balance Tier. Tier One participants will remain in the traditional defined benefit plan, and Tier Two employees (defined as employees with less than 20 years of experience) will participate in a modified defined benefit plan, or "cash balance" plan, with an employer match provided for any Tier Two employee who contributes to the 457 Plan. Participants hired after February 25, 2013 are only eligible to accrue Tier Two benefits.

Plan Benefits Provided – Members of the SJRPP Plan are eligible to retire with a normal pension benefit upon achieving one of the following: (a) completing 30 years of credited service, regardless of age; (b) attaining age 55 with 20 years of credited service; or (c) attaining age 65 with five years of credited service. There is no mandatory retirement age.

Upon reaching one of the three conditions for retirement described above, a member in Tier One is entitled to a retirement benefit of:

- 2.0% of final average earnings (FAE) multiplied by the number of years of credited service, not to exceed 15 years
- plus 2.4% of FAE multiplied by the number of years of credited service in excess of 15 years, but not to exceed 30 years
- plus .65% of the excess FAE over the Social Security Average Wages multiplied by years of credited service, not to exceed 35 years

FAE is the annual average of a participant's earnings over the highest 36 consecutive complete months out of the last 120 months of participation immediately preceding retirement or termination. Retirement benefits are payable bi-weekly beginning on the first day of the month following or coincident with the participant's Earliest Retirement Age.

(Dollars in Thousands)

12. Pension Plans (continued)

As of February 25, 2013, the accrued benefits in Tier One of newly classified Tier Two participants were frozen. Distribution of frozen Tier One Benefits is governed by the provisions applicable to Tier One. Tier Two Benefits employees receive annual pay credits to their Cash Balance accounts in the amount of 6.0% of earnings between February 25, 2013 and September 30, 2015 and 8.5% of earnings on or after October 1, 2015. Cash Balance Accounts are credited with interest at the rate of 4% per year. Benefits may be distributed as a lump sum, by rollover in accordance with the Internal Revenue Service Code or as an annuity, at the election of the participant.

For participants retired on or after October 1, 2003, each member and survivor of Tier One is entitled to a COLA. The COLA consists of a 1% increase of the retiree's or survivor's pension benefits, which compounds annually. The COLA commences each October 1 following the fifth anniversary of payment commencement.

Employees Covered by Benefit Terms – At September 30, 2018 and September 30, 2017, the following employees were covered by the benefit terms:

	2018	2017
Inactive Plan Members or Beneficiaries Currently Receiving Benefits	**309**	299
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	**54**	49
Active Plan Members	**159**	209
Total Plan Members	**522**	557

Contributions – The SJRPP Plan's funding policy provides for biweekly employer contributions at actuarially determined rates that, expressed as percentages of annual covered payroll, are sufficient to accumulate assets to pay benefits when due. In fiscal years 2018 and 2017, SJRPP plan members were required to contribute 4% of their annual covered salary, and SJRPP employer's contribution to the SJRPP Plan was $26,409 (454.62%) in 2018 and $8,039 (51.47%) in 2017.

Net Pension Liability – SJRPP's net pension liability at September 30, 2018 and September 30, 2017 was measured based on an actuarial valuation as of September 30, 2017 and September 30, 2016, respectively.

(Dollars in Thousands)

12. Pension Plans (continued)

Actuarial Assumptions –The total pension liability in the October 1, 2017 actuarial valuation was determined using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation	2.50%
Salary increases	2.5%–12.5% per year, including inflation
Investment rate of return	7.00%
Mortality rates	Mortality Rates used by the Florida Retirement System for classes other than Special Risk, described as follows: Healthy Mortality (Pre-Retirement and Post-Retirement) rates used: Females: RP2000 Healthy Annuitant rates with 100% White Collar adjustment, generationally projected from year 2000 using Scale BB. Males: RP2000 Healthy Annuitant rates with 50% White Collar/50% Blue Collar adjustment, generationally projected from year 2000 using Scale BB.

The actuarial assumptions used in the October 1, 2017 valuation were based on the demographic experience from 2004 through 2012 and economic forecasts available at the time the report was issued. Mortality rates were developed by the Florida Retirement System in a recent experience study and are mandated by the State Statutes for funding valuations.

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in the pension plan's target asset allocation at the measurement date of September 30, 2017, are summarized in the following table.

(Dollars in Thousands)

12. Pension Plans (continued)

The target allocation and the best estimates of the rate of return for each major asset class are summarized in the following table:

Asset Class	Target Allocation	Long-term Expected Real Rate of Return
Domestic equity	47%	6.56%
Fixed income	45%	2.20%
International equity	8%	5.50%
Total	100%	

Discount Rate – The discount rate used to measure the total pension liability is 7.0%. The projection of cash flows used to determine the discount rate assumed plan member contributions will be made at their applicable contribution rates and that the employer's contributions will be made at rates equal to the actuarially determined contribution rates. Based on these assumptions, the Plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on the Plan's investments was applied to all periods of projected benefit payments to determine the total pension liability.

Sensitivity of the Net Pension Liability to Changes in the Discount Rate – The following presents the net pension liability of SJRPP, calculated using a discount rate of 7.0%, as well as what the net pension liability would be if it were calculated using a discount rate that is 1% lower or 1% higher than the current rate:

	2018	2017
1% decrease	**$ 33,976**	$ 33,650
Current discount rate	**16,523**	16,640
1% increase	**1,896**	2,206

(Dollars in Thousands)

12. Pension Plans (continued)

Changes in the net pension liability are detailed below.

	2017	2016
Total pension liability		
Beginning balance	**$ 158,926**	$ 155,143
Service cost	**1,032**	1,210
Interest on the total pension liability	**10,768**	10,514
Changes in benefit terms	**–**	(59)
Difference between expected and actual experience	**10,826**	4,444
Changes in assumptions	**26**	–
Benefit payments	**(12,257)**	(12,326)
Ending balance	**169,321**	158,926
Plan fiduciary net postion		
Beginning balance	**142,286**	138,902
Employer contributions	**8,039**	2,142
Employee contributions	**625**	629
Pension plan net investment income (loss)	**14,571**	13,379
Benefit payments	**(12,257)**	(12,326)
Administrative expense	**(466)**	(440)
Ending balance	**152,798**	142,286
Net pension liability	**$ 16,523**	$ 16,640

Plan Assets – Cash balances are amounts on deposit with the SJRPP Plan's trust bank, as well as amounts held in various money market funds as authorized in the Investment Policy Statement (Policy). All investments shall comply with the Policy as approved by the Pension Committee, and with the fiduciary standards set forth by the Employee Retirement Income Security Act and requirements set forth by the Florida Statutes. The trust bank balances are collateralized and subject to the Florida Security for Public Deposits Act of Chapter 280, Florida Statutes.

The Plan follows GASB Statement No. 31, *Accounting and Financial Reporting for Certain Investments and for External Investment Pools*. Investments are presented at fair value, which is based on available or equivalent market values. The money market mutual fund is a 2a-7 fund registered with the SEC and, therefore is presented at actual pooled share price, which approximates fair value.

(Dollars in Thousands)

12. Pension Plans (continued)

At September 30, 2017, the SJRPP Plan's cash and cash equivalents consist of the following:

Cash on hand	$	1
Cash equivalents:		
Wells Fargo Treasury Plus Money Market Account		3,365
Total cash and cash equivalents	$	3,366

The Policy specifies investment objectives and guidelines for the SJRPP Plan's investment portfolio and provides asset allocation targets for various asset classes.

At September 30, 2017, investments controlled by the SJRPP Plan that represent 5% or more of the SJRPP Plan's net position were the Alliance Domestic Passive Collective Trust with a basis of $17,581 and a fair market value of $44,328. This investment represent 29% of the fiduciary net position available for benefits.

Risk

In accordance with GASB Statement No. 40, investments also require certain disclosures regarding policies and practices with respect to the risks associated with them (see discussion in the following paragraphs).

Interest Rate Risk

Interest rate risk is the risk that changes in the market interest rates will adversely affect the fair value of an investment. Generally speaking, the longer the maturity of an investment, the greater the sensitivity of its fair value to changes in market interest rates. As a means of limiting its exposure to interest rate risk, the SJRPP Plan's fixed income portfolio manager monitors the duration of the fixed maturity securities portfolio as part of the strategy to manage interest rate risk. As of September 30, 2017, the average modified duration of the managed fixed securities portfolio was 4.8 years.

Credit risk

Credit risk is the risk that a security or a portfolio will lose some or all of its value due to real or perceived changes in the ability of the issuer to repay its debt. The SJRPP Plan's rated debt instruments as of September 30, 2017 were rated by Standard & Poor's and/or an equivalent nationally recognized statistical rating organization.

The fixed income managers limit their investments to securities with an investment grade rating (BBB or equivalent) and the overall weighted average composite quality rating of the managed fixed income portfolio was Aa3.

(Dollars in Thousands)

12. Pension Plans (continued)

Custodial Credit Risk

Custodial credit risk is the risk that, in the event of the failure of the counterparty, the SJRPP Plan will not be able to recover the value of its investments or collateral securities that are in the possession of an outside party. All the SJRPP Plan's investments are held by the SJRPP Plan's directed trustee and custodian in the SJRPP Plan's name, or by an agent in the SJRPP Plan's name.

Concentration of Credit Risk

Concentration of credit risk is the risk of loss attributed to the magnitude of a government's investments in a single issuer. The Policy specifies an overall target allocation of 55% equities and 45% fixed income, including cash. The Policy further specifies target allocations for the equity investments among several asset classes.

The fair value of the asset classes and portfolio as of September 30, 2017, and specific target allocations are as follows:

	Fair Value	Actual Percent	Target Percent
U.S. Government Securities and Agencies	$ 28,258	19%	N/A
Corporate bonds – non-convertible	30,658	20%	N/A
Money Market/Cash	3,366	2%	N/A
Total fixed income	62,282	41%	45%
S&P 500 Index Fund	44,328	29%	28%
S&P 400 Mid-Cap Index Fund	18,428	12%	15%
Small and Mid-Cap Value Fund	13,652	9%	4%
International equities	13,920	9%	8%
Total equities	$ 90,328	59%	55%
Total	$ 152,610		

The Policy allows the percentage allocation to each asset class to vary by plus or minus 5% depending upon market conditions.

For the year ended September 30, 2017, the annual money-weighted rate of return on pension plan investments was 10.39%. This reflects the changing amounts actually invested.

(Dollars in Thousands)

12. Pension Plans (continued)

Foreign Currency Risk

Foreign currency risk is the risk that changes in the exchange rates will adversely affect the fair market value of the investment or a deposit. The Plan is exposed to foreign currency risk through its investments in an international equity mutual fund. Investments in international equities are limited by the Policy's target asset allocation for that asset class. The target for international equities is 8% of the total portfolio. The international fund comprised 9% of total investments as of September 30, 2017.

Fair Value Disclosures

GASB Statement No. 72, *Fair Value Measurement and Application*, addresses accounting and financial reporting issues related to fair value measurements. It provides guidance for applying fair value to certain investments and disclosures related to all fair value measurements.

The SJRPP Plan categorizes its fair value measurements within the fair value hierarchy established by generally accepted accounting principles. The hierarchy is based on the valuation inputs used to measure the fair value of the asset or liability.

- Level 1 – quoted prices (unadjusted) for identical assets or liabilities in active markets that are accessible at the measurement date
- Level 2 – Inputs – other than quoted prices included within Level 1 – that are observable for an asset or liability, either directly or indirectly
- Level 3 – unobservable inputs for an asset or liability

The table below summarizes the SJRPP Plan's investments. Level 1 investments are valued using prices quoted in active markets for those securities. Level 2 investments are valued using direct market observations combined with quantitative pricing models to generate prices.

	Level 1	Level 2	Total
U.S. Government Securities and Agencies	$ 16,662	$ 11,596	$ 28,258
Corporate bonds - non-convertible	–	30,658	30,658
Money Market/Cash	3,366	–	3,366
Total fixed income	20,028	42,254	62,282
S&P 500 Index Fund	44,328	–	44,328
S&P 400 Mid-Cap Index Fund	17,852	576	18,428
Small and Mid-Cap Value Fund	12,430	1,222	13,652
International equities	–	13,920	13,920
Total equities	74,610	15,718	90,328
Total	$ 94,638	$ 57,972	$ 152,610

(Dollars in Thousands)

12. Pension Plans (continued)

Pension Plan Fiduciary Net Position – Detailed information about the pension plan's fiduciary net position is available in the separately issued SJRPP Pension Plan financial report.

Pension Liabilities, Pension Expense, Deferred Outflows of Resources, and Deferred Inflows of Resources Related to the Pension

Net Pension Liability – SJRPP's net pension liability at September 30, 2018 and September 30, 2017 was measured based on an actuarial valuation as of September 30, 2017 and September 30, 2016, respectively. SJRPP's net pension liability is $16,523 as of September 30, 2018 and $16,640 as of September 30, 2017. As discussed in note 3, St. Johns River Power Park, during fiscal year 2018, JEA assumed FPL's portion of the pension obligation in accordance with the shutdown agreement.

For the year ended September 30, 2018 and 2017, SJRPP recognized pension expense is $14,408 and $4,785, respectively. As JEA has implemented regulatory accounting for pensions, the difference between the recognized pension expense and the cash contributions paid has been deferred as a regulatory asset. See note 2, Regulatory Deferrals, for additional details.

SJRPP Plan reported deferred outflows of resources and deferred inflows of resources related to pension from the following sources:

	September 30	
	2018	**2017**
Deferred outflows of resources		
Contributions subsequent to the measurement date	**$ 26,641**	$ 8,664
Net difference between projected and actual earnings on pension plan investments	**4,091**	6,136
Differences between expected and actual experience	**2,451**	4,022
Changes in assumptions	**1,055**	1,809
Total	**$ 34,238**	$ 20,631
Deferred inflows of resources		
Net difference between projected and actual earnings on pension plan investments	**$ (7,091)**	$ (4,976)
Total	**$ (7,091)**	$ (4,976)

(Dollars in Thousands)

12. Pension Plans (continued)

Contributions of $26,641 were reported as deferred outflows of resources related to pensions resulting from contributions subsequent to the September 30, 2017 measurement date and will be recognized as a reduction of the net pension liability in the year ended September 30, 2019. Other amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows:

Year Ended September 30		Recognition of Deferred Outflows (Inflows)
2019	$	1,421
2020		1,679
2021		(1,643)
2022		(951)
Total	$	506

13. Other Postemployment Benefits

Plan Description

Plan administration – JEA maintains a medical benefits plan (OPEB Plan) that it makes available to its retirees. The medical plan is a single-employer, experience rated insurance contract plan that provides medical benefits to employees and eligible retirees and their beneficiaries.

JEA currently determines the eligibility, benefit provisions, and changes to those provisions applicable to eligible retirees. The OPEB Plan does not issue separate financial statements.

Plan membership – As of September 30, 2017 (the actuarial valuation date), the OPEB Plan membership consisted of the following:

Inactive plan members or beneficiaries currently receiving benefit payments	502
Active plan members	2,041
Total	2,543

(Dollars in Thousands)

13. Other Postemployment Benefits (continued)

Benefits provided – The postretirement benefit portion of the benefits plan (OPEB Plan) refers to the benefits applicable to current and future retirees and their beneficiaries. In addition, retirees are eligible to continue life insurance coverage through the plan sponsored by JEA. Premiums for the first $5,000 of coverage are being subsidized by the employer and, as such, are considered as other postemployment benefits for purposes of GASB Statement No. 75. As of January 1, 2017, the PPO plan out of pocket maximums increased to $5,000/$10,000, the deductible increased to $500 per year, the coinsurance changed to 80%/50%, and the specialist copay increased to $60. The HRA out of pocket maximum increased to $5,000/$10,000. The HSA deductible was set to $1,500 for in network and $2,500 for out of network. The copays for prescription drug benefits under all plan options increased to $10/$40/$60 and copays for specialty drugs increased to $250. Under the HSA Plan, the deductible must be satisfied before the prescription co-pay requirements. The table below outlines other key components of the OPEB plan.

	PPO		HRA		HSA	
	In-Network	Out-of-Network	In-Network	Out-of-Network	In-Network	Out-of-Network
Annual deductible	$ 500	$ 1,000	$ 1,500	$ 3,000	$ 1,500	$ 2,500
Primary Care Physician co-pay	$ 25	40%	$ 25	40%	20%*	40%*
Specialist co-pay	$ 60	40%	$ 60	40%	20%*	40%*
Co-insurance	20%	40%	20%	40%	20%*	40%*

*After the annual deductible is met

Contributions – Retired members pay the full premium associated with the health coverage elected. There is no direct JEA subsidy currently applicable; however, there is an implicit cost. Spouses and other dependents are also eligible for coverage and the member is responsible for payment of the applicable premiums.

Florida law prohibits JEA from separately rating retirees and active employees. Therefore, JEA assigns to both groups blended-rate premiums.

In 2008, JEA began to advance-fund the OPEB obligation. This was accomplished by establishing a separate trust into which JEA makes periodic deposits and withdrawals to reimburse operations for costs incurred on a pay-as-you-go basis.

(Dollars in Thousands)

13. Other Postemployment Benefits (continued)

Actuarial assumptions – The total OPEB liability in the October 1, 2017 and October 1, 2016 actuarial valuation was determined using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation	2.50%
Salary increases	2.5%–12.5%, including inflation; varies by years of service
Investment rate of return	7.00%
Healthcare cost trend rates	Based on the Getzen Model, with trend starting at 7.00% and gradually decreasing to an ultimate trend rate of 4.57% as of October 1, 2017 and 4.59% as of October 1, 2016 (including the impact of the excise tax).
Mortality rates	Mortality tables used for Regular Class members in the July 1, 2016 actuarial valuation of the Florida Retirement System. They are based on the results of a state wide experience study covering the period 2008 through 2013.

The long-term expected rate of return on OPEB plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of OPEB plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in the OPEB plan's target asset allocation at the measurement date of September 30, 2017 and September 30, 2016, are summarized in the following table.

The target allocation and the best estimates of the rate of return for each major asset class are summarized in the following table:

	2017		2016	
Asset Class	**Target Allocation**	**Long-term Expected Nominal Rate of Return**	**Target Allocation**	**Long-term Expected Nominal Rate of Return**
Large cap domestic equity	**34%**	**8.0%**	39%	9.0%
Global fixed income	**18%**	**4.6%**	24%	4.0%
International equity	**15%**	**8.5%**	10%	9.8%
Domestic fixed income	**12%**	**4.3%**	16%	3.5%
Small cap domestic equity	**11%**	**8.5%**	11%	9.8%
Real estate	**10%**	**7.4%**	0%	N/A
Total	**100%**		100%	

(Dollars in Thousands)

13. Other Postemployment Benefits (continued)

Discount Rate – GASB Statement No. 75 includes a specific requirement for the discount rate that is used for the purpose of the measurement of the Total OPEB Liability. This rate considers the ability of the fund to meet benefit obligations in the future. To make this determination, employer contributions, employee contributions, benefit payments, expenses and investment returns are projected into the future. The Plan Net Position (assets) in future years can then be determined and compared to its obligation to make benefit payments in those years. As the assets are projected to be sufficient to meet benefit payments, the assumed valuation discount rate of 7.00% was used.

Sensitivity of the Net OPEB Liability to Changes in the Discount Rate – The following presents the net OPEB liability, calculated using a discount rate of 7.0%, as well as what the net OPEB liability would be if it were calculated using a rate that is 1% lower or 1% higher than the current rate:

	2018	2017
1% decrease	**$ 23,779**	$ 46,273
Current discount rate	**18,835**	39,508
1% increase	**14,662**	33,799

Healthcare Cost Trend Rate – JEA followed the Getzen model with trend rates for costs and premiums declining over a 22-year period from 7.00% assumed for the year 2018 to the ultimate level of 4.57%.

Sensitivity of the Net OPEB Liability to Changes in the Healthcare Cost Trend Rate – The following presents the net OPEB liability, calculated using a healthcare cost trend rate of 7.0% down to 4.57%, as well as what the net OPEB liability would be if it were calculated using a trend rate that is 1% lower or 1% higher than the current trend rate:

	2018	2017
1% decrease	**$ 14,401**	$ 33,442
Current healthcare cost trend rate	**18,835**	39,508
1% increase	**24,098**	46,709

(Dollars in Thousands)

13. Other Postemployment Benefits (continued)

Changes in the net OPEB liability are detailed below.

	2018	2017
Total OPEB liability		
Beginning balance	**$ 60,949**	$ 62,554
Service cost	**811**	781
Interest on the total OPEB liability	**4,253**	4,203
Changes in benefit terms	**(11,556)**	–
Difference between expected and actual experience	**(7,891)**	–
Benefit payments	**(2,019)**	(6,589)
Ending balance	**44,547**	60,949
Plan fiduciary net postion		
Beginning balance	**21,441**	18,156
Employer contributions	**5,240**	5,061
Net investment income	**2,942**	2,135
Reimbursements to employer	**(3,911)**	(3,911)
Ending balance	**25,712**	21,441
Net OPEB liability	**$ 18,835**	$ 39,508
Plan fiduciary net position as a percentage of the total OPEB liability	**57.72%**	35.18%
Covered payroll	**$155,326**	$150,073
Net OPEB liability as a percentage of covered payroll	**12.13%**	26.33%

Plan Assets – The assets of the plan consist of shares held in the Florida Municipal Investment Trust (FMIT), which is administered by the Florida League of Cities. The FMIT is an interlocal governmental entity created under the laws of the State of Florida and an Authorized Investment under Sec. 163.01 Florida Statutes. It is considered an external investment pool for reporting purposes. JEA owns shares in the OPEB Fund A as directed in the Master Trust Agreement. OPEB Fund A target asset allocation is 60% equities and 40% fixed income.

At September 30, 2017 and September 30, 2016, the OPEB Plan’s cash and money market balance within the OPEB Fund A was $309 and $322, respectively.

Risk

In accordance with GASB Statement No. 40, investments also require certain disclosures regarding policies and practices with respect to the risks associated with them (see discussion in the following paragraphs).

(Dollars in Thousands)

13. Other Postemployment Benefits (continued)

Interest Rate Risk

Interest rate risk is the risk that changes in the market interest rates will adversely affect the fair value of an investment. Generally speaking, the longer the maturity of an investment, the greater the sensitivity of its fair value to changes in market interest rates. The table below details the interest rate risk in years for investments in the trust.

	September 30, 2017		September 30, 2016	
Fixed Income Fund	Modified Duration	Weighted Average Maturity	Modified Duration	Weighted Average Maturity
FMIT Broad Market High Quality Bond Fund	**4.74**	**6.10**	4.45	5.90
FMIT Core Plus Fixed Income Fund	**2.24**	**7.40**	2.04	6.84

Credit risk

Credit risk is the risk that a security or a portfolio will lose some or all of its value due to real or perceived changes in the ability of the issuer to repay its debt. The FMIT Broad Market High Quality Bond Fund was rated by Fitch as AAf/S4 as of September 30, 2017 and September 30, 2016. The remaining funds of the trust are unrated.

Money-Weighted rates of return

The money-weighted rates of return for the fiscal years ended September 30, 2017 and September 30, 2016 are listed below.

Year Ended	Return
2016	7.90%
2017	13.35%

(Dollars in Thousands)

13. Other Postemployment Benefits (continued)

Fair Value Disclosures

The table below summarizes the OPEB Plan's investments. Level 1 investments are valued using prices quoted in active markets for those securities. Level 2 investments are valued using direct market observations combined with quantitative pricing models to generate prices. JEA's investment is in shares of the FMIT OPEB Fund A. The disclosure below is based on the asset allocation provided by the FMIT of those investments held by OPEB Fund A.

	September 30, 2017			September 30, 2016		
	Level 2	**Level 3**	**Total**	**Level 2**	**Level 3**	**Total**
FMIT Broad Market High Quality Bond Fund	**$ 3,831**	**$ –**	**$ 3,831**	$ 3,280	$ –	$ 3,280
FMIT Core Plus Fixed Income Fund	**–**	**5,785**	**5,785**	–	4,996	4,996
Total fixed income	**3,831**	**5,785**	**9,616**	3,280	4,996	8,276
FMIT High Quality Growth Portfolio	**2,057**	**–**	**2,057**	1,630	–	1,630
FMIT Large Cap Diversified Value Portfolio	**2,160**	**–**	**2,160**	1,758	–	1,758
FMIT Russell 1000 Enhanced Index Portfolio	**5,991**	**–**	**5,991**	4,803	–	4,803
FMIT Diversified Small to Mid Cap Equity Portfolio	**2,905**	**–**	**2,905**	2,444	–	2,444
FMIT International Equity Portfolio	**2,674**	**–**	**2,674**	2,208	–	2,208
Total equities	**15,787**	**–**	**15,787**	12,843	–	12,843
Total	**$ 19,618**	**$ 5,785**	**$ 25,403**	$ 16,123	$ 4,996	$ 21,119

OPEB Liabilities, OPEB Expense, Deferred Outflows of Resources, and Deferred Inflows of Resources Related to the OPEB

Net OPEB Liability – JEA's net OPEB liability at September 30, 2018 and September 30, 2017 was measured based on an actuarial valuation as of and with the measurement dates of September 30, 2017 and September 30, 2016, respectively. JEA's net OPEB liability is $18,835 as of September 30, 2018 and $39,508 as of September 30, 2017.

For the year ended September 30, 2018 and 2017, JEA recognized OPEB expense is ($9,272) and $3,508, respectively. As JEA has implemented regulatory accounting for OPEB, the difference between the recognized OPEB expense and the cash contributions paid has been deferred as a regulatory asset. See note 2, Regulatory Deferrals, for additional details.

(Dollars in Thousands)

13. Other Postemployment Benefits (continued)

The JEA Plan recorded deferred outflows of resources and deferred inflows of resources related to OPEB as detailed in the table below.

	September 30 2018	September 30 2017
Deferred outflows of resources		
Contributions subsequent to the measurement date	**$ 4,078**	$ 5,240
Total	**$ 4,078**	$ 5,240
Deferred inflows of resources		
Differences between expected and actual experience	**$ (7,102)**	$ –
Net difference between projected and actual earnings on pension plan investments	**(1,610)**	(659)
Total	**$ (8,712)**	$ (659)

Contributions of $4,078 were reported as deferred outflows of resources related to OPEB resulting from contributions subsequent to the September 30, 2017 measurement date and will be recognized as a reduction of the net OPEB liability in the year ended September 30, 2019. Other amounts reported as deferred outflows of resources and deferred inflows of resources related to OPEB will be recognized in OPEB expense as follows:

Year Ended September 30	Recognition of Deferred Outflows (Inflows)
2019	$ (1,233)
2020	(1,233)
2021	(1,233)
2022	(1,068)
2023	(789)
Thereafter	(3,156)
Total	$ (8,712)

(Dollars in Thousands)

14. Fair Value Measurements

GASB Statement No. 72, *Fair Value Measurement and Application*, addresses accounting and financial reporting issues related to fair value measurements. It provides guidance for applying fair value to certain investments and disclosures related to all fair value measurements. For JEA, this statement applies to certain investments, interest rate swap agreements, and natural gas cash flow hedges.

JEA categorizes its fair value measurements within the fair value hierarchy established by GAAP. The hierarchy is based on the valuation inputs used to measure the fair value of the asset or liability.

- Level 1 – quoted prices (unadjusted) for identical assets or liabilities in active markets that a government can access at the measurement date
- Level 2 – Inputs – other than quoted prices included within Level 1 – that are observable for an asset or liability, either directly or indirectly
- Level 3 – unobservable inputs for an asset or liability

Investments

JEA's investments are summarized in the table below. Level 1 investments are valued using prices quoted in active markets for those securities. Level 2 investments are valued using direct market observations combined with quantitative pricing models to generate prices. Money market mutual funds are managed to meet the requirements of Rule 2a-7 under the Investment Company Act of 1940, as amended, and are recorded at net asset value (NAV). The local government investment pools transact with participants at a stable NAV and are recorded at NAV. Certain U.S. Treasury and government agency securities and commercial paper are measured at cost.

	2018			
	Total	**Level 1**	**Level 2**	**Level 3**
Investments by fair value level				
U.S. Treasury and government agency securities	$ 453,060	$ 453,060	$ –	$ –
State and local government securities	223,845	–	223,845	–
Total investments by fair value level	$ 676,905	$ 453,060	$ 223,845	$ –
Investments measured at NAV				
Local government investment pools	194,786			
Money market mutual funds	23,208			
Total investments measured at fair value	894,899			
Investments measured at cost				
Commercial paper	133,074			
U.S. Treasury and government agency securities	9,837			
Total investments by cost	142,911			
Total investments per statement of net position	$ 1,037,810			

(Dollars in Thousands)

14. Fair Value Measurements (continued)

	2017			
	Total	**Level 1**	**Level 2**	**Level 3**
Investments by fair value level				
U.S. Treasury and government agency securities	$ 420,524	$ 420,524	$ –	$ –
State and local government securities	323,507	54,923	268,584	–
Total investments by fair value level	$ 744,031	$ 475,447	$ 268,584	$ –
Investments measured at NAV				
Local government investment pools	138,207			
Money market mutual funds	51,460			
Total investments measured at fair value	933,698			
Investments measured at cost				
Commercial paper	170,829			
U.S. Treasury and government agency securities	118,363			
Total investments by cost	289,192			
Total investments per statement of net position	$ 1,222,890			

Interest Rate Swap Agreements

JEA's interest rate swap agreements are valued using market rates as of September 30, 2018 and 2017 and standard cash flow present valuing techniques, which places them at Level 2 in the fair value hierarchy. The agreements are recorded at fair value as part of long-term debt in the statements of net position. The fair value of the interest rate swap agreements is detailed below.

	2018	2017
Electric	**$ (70,103)**	$ (101,350)
Water and Sewer	**(16,253)**	(23,919)
Total	**$ (86,356)**	$ (125,269)

Natural Gas Cash Flow Hedges

JEA's natural gas cash flow hedges consisted of swap agreements for either a 3-month or 12-month period, covering calendar year 2018 and December 2019 through December 2021. These hedges were valued using prices observed on commodities exchanges and/or using industry-standard valuation techniques, such as option modeling or discounted cash flows techniques, incorporating both observable and unobservable valuation inputs, which placed them at Level 3 in the fair value hierarchy. The fair market value changes in the hedges were recorded on a net basis in the statements of net position as either a deferred charge or a deferred credit until such time that the transactions end. At September 30, 2018 and 2017, deferred credits of $2,536 and $0 were included in deferred inflows of resources on the statements of net position, respectively.

15. Commitments and Contingent Liabilities

Grants

JEA participates in various federal and state assisted grant programs that are subject to review and audit by the grantor agencies. Entitlements to these resources are generally conditional upon compliance with the terms and conditions of grant agreements and applicable federal and state regulations, including the expenditure of resources for allowable purposes. Any disallowance resulting from a federal or state audit may become a liability of JEA. It is management's opinion that the results of these audits will have no material adverse effect on JEA's financial position or results of operations.

Regulatory Initiatives

The electric industry and water and wastewater industry have been and will continue to be affected by a number of legislative and regulatory initiatives. The following summarizes the key regulations affecting JEA:

Electric Enterprise System – On August 3, 2015, the Environmental Protection Agency (EPA) issued concurrently three separate rules pertaining to emissions of carbon dioxide (CO2) fossil fuel-fired electric generating units (EGUs):

- The Final Clean Power Plan (CPP), applicable to existing fossil fuel-fired electric EGUs.
- The Final Carbon Pollution Standards Rule (CPS), applicable to new, modified and reconstructed fossil fuel-fired EGUs.
- The Proposed Federal Plan applicable to states that fail to submit an approvable plan that achieves CPP goals.

On February 9, 2016, the United States Supreme Court (SCOTUS) issued an order staying implementation of the CPP. The SCOTUS granted the applications of numerous parties to stay the CPP pending judicial review of the rule. On March 28, 2017, President Trump issued an Executive Order establishing a national policy "in favor of energy independence, economic growth, and the rule of law". The President has directed agencies to review existing regulations that potentially burden the development of domestic energy resources, and appropriately suspend, revise, or rescind regulations that unduly burden the development of U.S. energy resources beyond what is necessary to protect the public interest or otherwise comply with the law. The Executive Order specifically directed EPA to review and, if appropriate, initiate reconsideration proceedings to suspend, revise or rescind the new EPA Final Rules pertaining to CO^2 emissions. EPA initially obtained temporary court orders to hold the court challenge of the CPP and the CPS in abeyance, pending the completion of EPA's review of the rules. EPA subsequently petitioned the court to pause the litigation indefinitely while EPA promulgates new rules.

15. Commitments and Contingent Liabilities (continued)

On August 30, 2018, EPA a proposed rule to replace the CPP. The proposed rule is titled the Affordable and Clean Energy (ACE) Rule. ACE proposes new Existing Source Performance Standards (ESPS) to regulate CO2 emissions from fossil-fueled boilers. The ACE standards are significantly less stringent than the CPP standards. ACE also proposes to simplify and remove considerable ambiguity from EPA's New Source Review (NSR) rules applicable to major improvements to generating units. EPA has also promulgated but not issued proposed New Source Performance Standards (NSPS) for fossil-fueled units. Provisions of ACE are anticipated to be complied with without significant capital expenditure and do not represent significant cost exposure for JEA. Similarly, since JEA is not presently anticipating construction of any electric generation units that would be impacted by a new NSPS, the pending rule likewise does not represent significant cost exposure for JEA. Because these rules are either proposed or pending issuance, it is difficult to know when or if the rules will become "final" and enforceable. For this reason, JEA is unable, at this time, to definitively ascertain the impact to JEA to come from prospective regulation of CO2 emissions.

On July 6, 2011, the EPA released the Cross-State Air Pollution Rule (CSAPR), which is intended as a substitute for the invalidated Clean Air Interstate Rule (CAIR). In the CSAPR, the EPA determined that 27 states in the eastern United States are in violation of the Clean Air Act, because they significantly contribute to nonattainment or interference with the maintenance of attainment of three National Ambient Air Quality Standards (NAAQS) in one or more downwind states. The three air quality standards addressed in the CSAPR are the 1997 and 2006 fine particulate matter ($PM_{2.5}$), NAAQS, and the 1997 ozone NAAQS. To address these violations, the CSAPR imposes Federal Implementation Plans (FIPs) that establish state budgets for SO2 and NOx emissions from EGUs. The EPA targeted these two pollutants, because they are precursors to the formation of $PM_{2.5}$ and ozone in the atmosphere. The budgets are allocated to individual EGUs in the form of allowances and the CSAPR permits limited interstate emissions trading and unlimited intrastate emissions trading as a means of compliance. States became subject to the emission budgets in 2012 with more stringent limits taking effect in 2014. In April 2014, the SCOTUS upheld the rule, but remanded back certain legal issues to the DCA to address. On July 28, 2015, the DCA issued an order and opinion remanding, without vacatur, certain state budgets under the CSAPR for reconsideration by the EPA, including the ozone-season NOx emissions budget for Florida. On September 7, 2016, the EPA issued a final updated CSAPR rule that removed Florida and two other eastern states from the rule. However, the EPA has made known that it is in the early stages of developing a supplemental rule (CSAPR Update II) to address the 2015 ozone and $PM_{2.5}$ NAAQS. It is possible that the CSAPR Update II may mandate deeper emission reductions and an expansion of the geographic area for regulation, possibly to again include Florida. The EPA has not established a rulemaking schedule for the CSAPR Update II. Consequently, JEA is not able to estimate any impacts from the CSAPR Update II.

On December 21, 2011, the EPA issued its Mercury and Air Toxics Standards (MATS) rule, setting forth maximum achievable control technology (MACT) standards for coal and oil generating stations. The new standards regulate four categories of hazardous air pollutants (HAPS) emitted by coal- or oil-fired EGUs, namely mercury, HAP metals, acid gases, and organic HAP.

The compliance deadline for affected sources to have all necessary pollution controls installed was April 2015. JEA's units that are regulated under MATS comply with all rule requirements.

15. Commitments and Contingent Liabilities (continued)

In April 2015, the EPA finalized rules to regulate the disposal and management of coal combustion residuals (CCRs), meaning fly ash, bottom ash, boiler slag, and flue gas desulfurization materials, destined for disposal from coal-fired power plants. The new rule became effective on October 19, 2015 and established technical requirements for surface impoundments and landfills. The rule requires protective controls, such as liners and groundwater monitoring, at landfills and surface impoundments that store CCRs. The rule, as adopted by the EPA, is enforced only by citizen-initiated lawsuits, rather than by the EPA. However, with passage of the WIIN Act in 2016, the rule can now be reformed to provide the following: 1) conversion from a “self-implementing” program to a permit program the states or EPA would have primary responsibility to administer and enforce; and, 2) flexibility for state programs to adjust and tailor federal CCR requirements to meet local, case-specific situations, so long as they are adequately protective of federal CCR requirements.

The rule applies to CCR management practices at SJRPP and Scherer. The rule does not apply to management of CCRs at Northside Generating Station (NGS) as long as it continues to burn a fuel mix with less than 50% coal. The currently operating cell within Area B of SJRPP does not have to be lined, but must comply with the operating and monitoring requirements of the rule even after the plant was decommissioned in 2018. SJRPP’s two closed byproduct storage areas (Areas I and II) are not affected by this rule. SJRPP has no regulated surface impoundments. Existing surface impoundments, like that at Scherer, are required to meet increased and more restrictive technical and operating criteria or close. Georgia Power has decided to close the surface impoundment at Scherer instead of pursuing a retrofit and the timeline for closure activities is currently projected to run through 2030.

The EPA left in place the Bevill exemption for beneficial uses of CCRs in which CCRs are recycled as components of products instead of placed in impoundments or landfills. Large quantities of CCRs are used today in concrete, cement, wallboard, and other contained applications that should not involve any exposure by the public to unsafe contaminants.

On November 22, 2010, the EPA entered into a settlement agreement with Riverkeeper, Inc. regarding rule-making dates for the EPA to set technology standards for cooling water intake systems for existing facilities under Section 316(b) of the Federal Clean Water Act. Section 316(b) requires that standards for the location, design, construction and capacity of cooling water intake systems reflect the best technology available for minimizing adverse environmental impacts. The EPA announced proposed standards for cooling water intake systems on March 28, 2011. Under the proposal, existing facilities are required to conduct studies to help their respective permitting authorities determine whether and what site-specific controls, if any, would be required to reduce the number of aquatic organisms that are captured in cooling water intake systems.

15. Commitments and Contingent Liabilities (continued)

With few changes to the proposed rule, the EPA published the final rule in the Federal Register in August 2015. The new standards will not affect any JEA facilities other than NGS. NGS is one of more than 1,260 existing facilities that use large volumes of cooling water from lakes, rivers, estuaries, or oceans to cool their plants. The new standards will likely require upgrades to the system, varying from establishment of existing facilities as the Best Technology Available (BTA) to improvements to the existing screening facilities or installation of cooling towers. A full two-year biological study is required to evaluate site-specific conditions and form a basis for assessing BTA and was initiated in 2018. Estimated final compliance deadlines are not expected until after 2024 and will depend on the level of upgrade ultimately required. Accordingly, costs of compliance have not been determined for NGS and are not included in JEA's capital program for the Electric System.

On September 30, 2016, the EPA issued the Effluent Limitation Guidelines for Steam Electric Power Plants. In setting the new and more stringent standards, the EPA evaluated the technologies and costs to remove metals and other parameters from individual wastewater streams generated by steam electric power plants and identify the BAT to affect their control. The new requirements for existing power plants must be phased in as soon as possible on or after November 1, 2018, but no later than December 31, 2023. The costs of compliance at NGS and Scherer have been evaluated and are anticipated in operating budgets and in JEA's five-year capital program for the Electric System.

Water Supply System Regulatory Initiatives – JEA was issued a 20-year Consumptive Use Permit (CUP) in May 2011 from the St. Johns River Water Management District (SJRWMD), which allows for aquifer withdrawals sufficient to completely satisfy customer demands until 2031 if certain permit conditions are met. JEA evaluates its total water management plan annually to continuously understand changes in demand and how to balance investments in a three-part program: (1) continued expansion of the reuse system, (2) measured conservation program and (3) water transfers from areas with a higher supply on JEA's north grid to areas with a lower supply on JEA's south grid via river-crossing pipelines. In North Florida, the Suwannee River Water Management District (SRWMD), Florida Department of Environmental Protection (FDEP), and the SJRWMD have set or are setting/revising Minimum Flows and Levels (MFLs) for water bodies in the region. MFLs are intended to assess the potential for ecological resource risks from water withdrawals and ensure sustainable supplies. In 2015, MFLs were adopted in the SRWMD and a determination required a recovery strategy. By permit, JEA will participate to the extent of its proportionate impact in prevention and recovery strategies that may be developed to ensure the groundwater resource remains sustainable.

15. Commitments and Contingent Liabilities (continued)

Wastewater Treatment System Regulatory Initiatives – The Sewer System is regulated by the EPA under provisions of the Federal Clean Water Act and the Federal Water Pollution Act. In Florida, the EPA has delegated the wastewater regulatory program to FDEP. The FDEP has implemented a Total Maximum Daily Load regulation (TMDL) defining the mass of nitrogen and phosphorus that can be assimilated by the St. Johns River, to which 8 of JEA's 11 wastewater treatment plants discharge. This state rule limits the amount of nitrogen and phosphorus that these eight wastewater treatment facilities are allowed to discharge by permit. JEA is meeting these limits as the result of past capital improvements to its wastewater facilities, expansion of the reclaimed water system, and phase-out of smaller old technology wastewater facilities. By virtue of exceeding its own regulatory obligation, JEA has generated nutrient reduction credits and has assisted the City in meeting a portion of their Municipal Separate Storm System nutrient requirements by transferring 33.44 short tons per year. This was recognized in JEA's annual contribution agreement negotiated in 2016. In 2013, both the FDEP and EPA reaffirmed the site-specific nutrient standard that is codified in the Lower St. Johns River TMDL.

Pollution Remediation Obligations

JEA is subject to numerous federal, state, and local environmental regulations resulting in environmental liabilities due to compliance costs associated with new regulatory initiatives, enforcement actions, legal actions, and contaminated site assessment and remediation. Based on an analysis of the cost of cleanup and other identified environmental contingencies, JEA has accrued a liability associated with the remediation efforts. In accordance with GASB No. 49, *Accounting and Financial Reporting for Pollution Remediation Obligations*, based on project estimates and probabilities, the liability is estimated to be $20,726 at September 30, 2018. The accrual is related to the following environmental matters: Kennedy Generating Station RCRA Corrective Action for former wood preserving site; Sans Souci Substation remedial activities; Pearl Street Electric Shop remedial activities; WSSC PCB Issue, Northside Generating Station RCRA Corrective Action program; and remediation at a number of miscellaneous petroleum sites. Of the $20,726 that JEA has accrued as environmental liabilities, approximately $15,795 is associated with the expected cost of remediating the former wood preserving facility at the Kennedy Generating Facility. Following are other environmental matters that could have an impact on JEA; however, the resolution of these matters is uncertain and no accurate prediction of range of loss is possible at this time: Pickettville Road Landfill CERCLA site post-closure activities and the Ellis Road CERCLA site. Although uncertainties associated with these recognized environmental liabilities remain, JEA believes that the current provision for such costs is adequate and additional costs, if any, will not have a material adverse effect upon its financial position, results of operations, or liquidity. Costs associated with these obligations that were expensed prior to the approval of regulatory accounting for environmental projects are recorded in other noncurrent liabilities and total $16,818. The remaining liability is recognized as part of revenues to be used for future costs.

15. Commitments and Contingent Liabilities (continued)

Northside Generating Station Byproduct

JEA Northside Generating Station (NGS) Units 1 and 2 produce byproducts that consist of fly ash and bed ash. JEA has obtained a permit from FDEP to beneficially use the processed byproduct material in the State of Florida, subject to certain restrictions. These ash products are processed into materials marketed as EZBase and EZSorb. The expansion of rail capacity, the ability to load rail cars directly from the storage silos, and direct leasing of railcars has enabled JEA to become a full-service marketer, delivering products by truck or rail. EZSorb is currently being transported by truck and rail to leachate solidification and environmental remediation/stabilization projects in several southeastern states.

The Byproducts Storage Area is an FDEP permitted, Class I lined storage facility at NGS. JEA received a new 20-year permit effective May 4, 2015.

A case is pending in the Second Judicial Circuit in Harrison County, Mississippi. Plaintiff is suing multiple defendants seeking damages allegedly resulting from construction defects at The Promenade, a retail shopping mall in D'Iberville, Mississippi. Plaintiff amended the complaint in April 2010 to add JEA as a defendant on various product liability theories, claiming that JEA's ash byproduct was allegedly incorporated as a component of the product of another party defendant and used by other party defendants at the subject project. Plaintiff seeks injunctive relief, to remediate the site, and damages. Multiple third party claims and cross claims were raised and remain pending. JEA believes it has good and meritorious defenses in this action and will vigorously defend the case. The plaintiff is seeking approximately $75,000; however, the trial court ruled that JEA is entitled to a sovereign immunity cap of $500. Plaintiff has appealed this ruling and the pre-trial rulings are currently being heard by the Mississippi Supreme Court.

General Litigation

JEA is party to various pending or threatened legal actions in connection with its normal operations. In the opinion of management, any ultimate liabilities that may arise from these actions are not expected to materially affect JEA's financial position, results of operations, or liquidity.

16. Storm Costs

Hurricane Matthew tracked parallel along the coast of Florida on October 7, 2016 and Hurricane Irma passed to the west of Jacksonville as a tropical storm on September 11, 2017, causing extensive damage within the JEA service territory. Damage to JEA property was primarily to the transmission and distribution systems. Because of the extensive damage, Jacksonville was declared a federal major disaster area, making JEA eligible to receive reimbursement from FEMA. Requests for Public Assistance for both declared disasters were filed and accepted.

(Dollars in Thousands)

16. Storm Costs (continued)

JEA is in the midst of the cost reimbursement process through FEMA, which allows cost share of 87.5% of eligible cost (75.0% from FEMA and 12.5% from the State of Florida) of those costs not covered by insurance. As a result, $27,999 of the eligible costs were deferred as costs to be recovered from future revenues in the statement of net position with the 12.5%, or $4,000, being recognized in the maintenance and other operating expenses financial statement line item in the statement of revenues, expenses and changes in net position in fiscal year 2017. Through September 30, 2018, JEA has received $9,033, which reduced the deferred costs to be recovered from future revenues. Of the $9,033 received, $6,970 was from insurance and $2,063 from FEMA. JEA believes it is probable that reimbursement from either insurance or FEMA will be received for the eligible cost incurred that is remaining.

17. Segment Information

The financial statements of JEA contain four segments, as the Electric System and Bulk Power Supply System, the SJRPP System, the Water and Sewer System, and DES represent separate identifiable activities. These systems have debt outstanding with a revenue stream pledged in support of the debt. In addition, the activities are required to be accounted for separately. JEA's Electric System and Bulk Power Supply System segment consists of an electric utility engaged in the generation, purchase, transmission, distribution, and sale of electricity primarily in Northeast Florida. JEA's SJRPP System segment consists of a generation facility that is 80% owned by JEA, which is currently in the process of being decommissioned as discussed in note 2, St. Johns River Power Park. JEA's Water and Sewer System segment consists of water collection, distribution, and wastewater treatment in Northeast Florida. The DES consists of chilled water activities.

Intercompany billing is employed between the Electric System, the Water and Sewer System, and DES and includes purchases of electricity, water, sewer, and chilled water services and the rental of inventory and buildings. The utility charges between entities are based on a commercial customer rate. All intercompany billings are eliminated in the financial statements. See intercompany charges detailed below.

	2018			**2017**		
	Electric	**W&S**	**DES**	**Electric**	**W&S**	**DES**
Electricity services	N/A	$ 13,422	$ 3,282	N/A	$ 13,324	$ 3,351
Water and sewer services	505	N/A	136	147	N/A	144
Chilled water services	–	408	N/A	–	507	N/A

The Electric System shares certain administrative functions with the Water and Sewer System. Generally, these costs are charged to the Electric System and the costs of these functions are allocated to the Water and Sewer System based on the benefits provided. Operating expense allocated to the Water and Sewer System was $45,869 for fiscal year 2018 and $43,327 for 2017.

17. Segment Information (continued)

In September 1999, the Water and Sewer System purchased the inventory owned by the Electric System for $32,929. This was initiated to increase the utilization of its assets between the Electric System and the Water and Sewer System. A monthly inventory carrying charge is paid by the Electric System based on the value of the inventory multiplied by one-twelfth of the prior year's Water and Sewer average cost of debt. Inventory carrying charges were $784 for fiscal year 2018 and $280 for 2017.

In July 1999 and July 2004, the Electric System transferred several buildings to the Water and Sewer System in the amounts of $22,940 and $6,284, respectively, an amount equal to the net book value of the assets. Monthly, the Electric System reimburses the Water and Sewer System for their equitable allocation. Annual rent paid by the Electric System to the Water and Sewer System for use of these buildings was $2,030 for fiscal year 2018 and $1,999 for 2017.

To utilize the efficiencies in the Customer Account Information billing system and reduce the administrative efforts in recording deposits, customer deposits are recorded to one Service Agreement per account. Deposits are allocated to the Electric System or Water and Sewer System based on revenues. When the deposits are credited to customer accounts, they are allocated between the service agreements.

(Dollars in Thousands)

17. Segment Information (continued)

Segment information for these activities for the fiscal years ended September 30, 2018 and 2017 was as follows:

	Electric System and Bulk Power Supply System		SJRPP System		Water and Sewer		DES	
	2018	2017	2018	2017	2018	2017	2018	2017
Condensed statements of net position								
Total current assets	**$ 603,965**	$ 604,305	**$ 70,352**	$ 117,017	**$ 196,938**	$ 204,171	**$ 4,396**	$ 4,355
Total noncurrent assets	**740,394**	754,337	**358,767**	276,865	**574,441**	589,523	**3,445**	3,257
Net capital assets	**2,652,224**	2,687,232	**10,144**	474,437	**2,682,864**	2,615,950	**35,027**	36,180
Deferred outflows of resources	**241,405**	278,864	**67,596**	27,339	**125,501**	131,037	**194**	203
Total assets and deferred outflows of resources	**$ 4,237,988**	$ 4,324,738	**$ 506,859**	$ 895,658	**$ 3,579,744**	$ 3,540,681	**$ 43,062**	$ 43,995
Total current liabilities	**$ 163,168**	$ 145,154	**$ 7,668**	$ 11,722	**$ 37,101**	$ 35,426	**$ 103**	$ 89
Total current liabilities payable from restricted assets	**184,899**	191,785	**63,435**	157,877	**117,447**	120,756	**2,601**	2,445
Total noncurrent liabilities	**373,718**	393,733	**39,049**	14,865	**221,990**	235,258	**34**	11
Total long-term debt	**2,166,201**	2,328,211	**281,359**	420,060	**1,570,576**	1,625,187	**34,791**	36,446
Total liabilities	**2,887,986**	3,058,883	**391,511**	604,524	**1,947,114**	2,016,627	**37,529**	38,991
Deferred inflows of resources	**283,185**	282,821	**17,715**	151,613	**47,304**	22,791	**–**	–
Net investment in (divestment of) capital assets	**530,479**	425,023	**2,138**	(3,751)	**1,325,600**	1,202,706	**(1,492)**	(1,818)
Restricted net position	**316,700**	336,210	**26,164**	39,530	**195,319**	211,166	**2,738**	2,539
Unrestricted net position	**219,638**	221,801	**69,331**	103,742	**64,407**	87,391	**4,287**	4,283
Total net position	**1,066,817**	983,034	**97,633**	139,521	**1,585,326**	1,501,263	**5,533**	5,004
Total liabilities, deferred inflows of resources, and net position	**$ 4,237,988**	$ 4,324,738	**$ 506,859**	$ 895,658	**$ 3,579,744**	$ 3,540,681	**$ 43,062**	$ 43,995
Condensed statements of revenues, expenses, and changes in net position information								
Total operating revenues	**$ 1,275,255**	$ 1,299,592	**$ 147,838**	$ 268,899	**$ 435,682**	$ 457,908	**$ 8,756**	$ 8,692
Depreciation	**203,075**	199,743	**10,987**	42,754	**144,144**	141,838	**2,403**	2,364
Other operating expenses	**829,441**	782,778	**115,612**	203,273	**166,291**	163,293	**4,603**	4,570
Operating income	**242,739**	317,071	**21,239**	22,872	**125,247**	152,777	**1,750**	1,758
Total nonoperating expenses, net	**(67,484)**	(72,558)	**(18,028)**	(22,153)	**(44,079)**	(52,807)	**(1,221)**	(1,322)
Total contributions, net	**(91,472)**	(92,271)	**–**	–	**2,895**	1,254	**–**	–
Total special items	**–**	–	**(45,099)**	–	**–**	–	**–**	–
Changes in net position	**83,783**	152,242	**(41,888)**	719	**84,063**	101,224	**529**	436
Net position, beginning of year	**983,034**	832,508	**139,521**	138,802	**1,501,263**	1,401,047	**5,004**	4,568
Effect of adoption of GASB Statement No. 75	**–**	(1,716)	**–**	–	**–**	(1,008)	**–**	–
Net position, beginning of year, restated	**983,034**	830,792	**139,521**	138,802	**1,501,263**	1,400,039	**5,004**	4,568
Net position, end of year	**$ 1,066,817**	$ 983,034	**$ 97,633**	$ 139,521	**$ 1,585,326**	$ 1,501,263	**$ 5,533**	$ 5,004
Condensed statements of cash flow information								
Net cash provided by operating activities	**$ 457,242**	$ 447,104	**$ 38,185**	$ 37,578	**$ 276,662**	$ 287,362	**$ 3,880**	$ 3,588
Net cash used in noncapital and related financing activities	**(91,538)**	(92,225)	**–**	–	**(25,031)**	(23,469)	**–**	–
Net cash used in capital and related financing activities	**(389,543)**	(396,544)	**(193,269)**	(63,622)	**(291,095)**	(259,443)	**(4,064)**	(5,139)
Net cash provided by (used in) investing activities	**(30,410)**	86,505	**174,010**	17,053	**16,616**	(21,679)	**103**	45
Net change in cash and cash equivalents	**(54,249)**	44,840	**18,926**	(8,991)	**(22,848)**	(17,229)	**(81)**	(1,506)
Cash and cash equivalents at beginning of year	**340,063**	295,223	**121,027**	130,018	**145,909**	163,138	**7,035**	8,541
Cash and cash equivalents at end of year	**$ 285,814**	$ 340,063	**$ 139,953**	$ 121,027	**$ 123,061**	$ 145,909	**$ 6,954**	$ 7,035

18. Subsequent Events

On October 11, 2018, Moody's Investors Service lowered its ratings with respect to the Bonds of JEA as follows:

(a) with respect to Electric System Revenue Bonds, Bulk Power Supply System Revenue Bonds, and SJRPP System Revenue Bonds, the long-term debt ratings were lowered from "Aa2" to "A2";

(b) with respect to Electric System Subordinated Revenue Bonds, the long-term ratings were lowered from "Aa3" to "A3";

(c) with respect to Water and Sewer Revenue Bonds and Water and Sewer Subordinated Revenue Bonds, the long-term ratings were lowered from "Aa2" to "A2"; and

(d) with respect to DES Revenue Bonds, the long-term ratings were lowered from "Aa3" to "A3".

As a result of the ratings change above, commitment fees related to Electric System VRDOs changed from a range of 0.38% to 0.40% to a range of 0.48% to 0.55% and commitment fees related to Water and Sewer System VRDOs remained unchanged within a range of 0.38% to 0.42%.

On November 1, 2018, as a result of the ratings change, the interest rate related to the Direct Purchased Bonds changed from SIFMA plus 40 basis points to SIFMA plus 55 basis points.

On November 1, 2018, JEA amended the revolving credit agreement to increase the maximum principal amount of the credit facility available for the Electric System by $200,000, for a total unsecured amount of $500,000.

On November 2, 2018, the revolving credit agreement was drawn upon by the Water and Sewer System for $2,000, with $495,000 available to be drawn.

On November 7, 2018, JEA extended the existing irrevocable direct-pay letter of credit and reimbursement agreement related to the Water and Sewer System 2008 Series A-2 VRDO to a stated expiration date of December 1, 2023. The new commitment fee is 0.42%.

REQUIRED SUPPLEMENTARY INFORMATION

JEA

Required Supplementary Information – Pension
(Dollars in Thousands)

September 30, 2018

Schedules of Required Supplementary Information

Schedule of JEA's Proportionate Share of the Net Pension Liability

City of Jacksonville General Employees Retirement Plan

Last Five Fiscal Years*

	2018	2017	2016	2015	2014
Proportional share percentage	**51.68%**	50.37%	49.15%	48.85%	48.85%
Net pension liability	**$ 527,680**	$ 541,025	$ 480,353	$ 404,466	$ 386,789
Covered payroll	**$ 134,443**	$ 126,808	$ 127,440	$ 128,084	$ 129,922
Net pension liability as a percentage of covered payroll	**392.49%**	426.65%	376.92%	315.78%	297.71%
Plan fiduciary net pension as a percentage of the total pension liability	**63.71%**	63.00%	64.03%	69.06%	68.64%

Schedule of JEA Contributions

City of Jacksonville General Employees Retirement Plan

Last Ten Fiscal Years*

Fiscal Year Ending September 30,	Actuarially Determined Contribution	Actual Contribution	Contribution Deficiency (Excess)	Covered Payroll*	Actual Contribution as a % of Covered Payroll
2009	$ 13,280	$ 13,280	$ –	$ 120,727	11.00%
2010	16,257	16,257	–	125,054	13.00%
2011	17,195	17,195	–	132,269	13.00%
2012	22,301	22,301	–	127,434	17.50%
2013	27,038	27,038	–	129,990	20.80%
2014	34,149	34,149	–	129,922	26.28%
2015	40,179	40,179	–	128,084	31.37%
2016	43,156	43,156	–	127,440	33.86%
2017	48,942	48,942	–	126,808	38.60%
2018	35,459	35,459	–	134,443	26.37%

* All information is on measurement year basis.

Required Supplementary Information – Pension (continued)
(Dollars in Thousands)

Notes to Schedule of Contributions

Valuation date:	October 1, 2017

Methods and Assumptions Used to Determine Contribution Rates:

Actuarial cost method	Entry Age Normal Cost Method
Amortization method	Level Percent of Payroll, using 1.14% Annual Increases*
Remaining amortization period	All new bases are amortized over 30 years.
Asset valuation method	Market value of assets less unrecognized returns in each of the last five years. Unrecognized return is equal to the difference between the actual market return and the expected return on the market value and is recognized over a five-year period, further adjusted, if necessary, to be within 20% of the market value.

Actual assumptions:

Investment rate of return	7.50%, including inflation, net of pension plan investment expense
Inflation rate	2.75%*
Projected salary increases	3.00% – 6.00%, of which 2.75% is the Plan's long-term payroll inflation assumption
Cost-of-living adjustments	The Plan provision contains a 3.00% COLA.

* The Fund's payroll inflation assumption is 2.75%. However, based on Part VII, Chapter 112.64(5)(a) of *Florida Statutes*, an assumption of 1.14% was used for amortization purposes in the valuation.

Required Supplementary Information – Pension (continued)
(Dollars in Thousands)

SJRPP Plan – Schedule of Changes in Net Pension Liability and Related Ratios*

	2017	2016	2015	2014
Total Pension Liability				
Beginning balance	**$ 158,926**	$ 155,143	$ 150,629	$ 146,521
Service cost	**1,032**	1,210	1,275	1,470
Interest	**10,768**	10,514	10,271	10,026
Changes in benefit terms	**–**	(59)	–	–
Difference between actual and expected experience	**10,826**	714	3,316	2,121
Changes in assumptions	**26**	3,730	–	–
Benefit payments	**(12,257)**	(12,326)	(10,348)	(9,509)
Total pension liability – ending	**$ 169,321**	$ 158,926	$ 155,143	$ 150,629
Plan Fiduciary Net Position				
Beginning balance	**$ 142,286**	$ 138,902	$ 145,425	$ 135,019
Contributions – employer	**8,039**	2,142	3,509	5,559
Contributions – employee	**625**	629	648	655
Net investment income	**14,571**	13,379	(266)	13,763
Benefit payments	**(12,257)**	(12,326)	(10,348)	(9,509)
Administrative expense	**(466)**	(440)	(66)	(62)
Plan fiduciary net position – ending	**$ 152,798**	$ 142,286	$ 138,902	$ 145,425
Net Pension Liability – Ending	**$ 16,523**	$ 16,640	$ 16,241	$ 5,204
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	**90.24%**	89.53%	89.53%	96.55%
Covered Payroll	**$ 15,621**	$ 15,730	$ 16,665	$ 21,304
Net Pension Liability as a Percentage of Covered Payroll	**105.78%**	105.79%	97.46%	24.43%

* These schedules are presented to illustrate the requirement to share information for ten years. However, until a full ten-year trend is compiled, only available information is shown. All information is on a measurement year basis.

SJRPP Plan – Investment Returns

Year Ended	Return
2008	-12.67%
2009	7.60%
2010	10.14%
2011	0.41%
2012	17.17%
2013	12.64%
2014	10.32%
2015	-0.19%
2016	9.99%
2017	10.39%

JEA

Required Supplementary Information – Pension (continued)
(Dollars in Thousands)

SJRPP Plan – Schedule of Contributions

Fiscal Year Ending September 30,	Actuarially Determined Contribution	Actual Contribution	Contribution Deficiency (Excess)	Covered Payroll	Actual Contribution as a % of Covered Payroll
2009	10,239	10,398	(159)	21,327	48.76%
2010	13,453	13,565	(112)	19,431	69.81%
2011	8,919	9,028	(109)	19,895	45.38%
2012	7,995	8,005	(10)	19,318	41.44%
2013	11,845	11,885	(40)	17,761	66.92%
2014	5,397	5,559	(162)	21,304	26.09%
2015	3,414	3,509	(95)	16,665	21.06%
2016	2,050	2,142	(92)	15,730	13.62%
2017	7,967	8,039	(72)	15,621	51.46%
2018	7,727	26,409	(18,682)	5,809	454.62%

Required Supplementary Information – Pension (continued)

(Dollars in Thousands)

Notes to Schedule of Contributions

Valuation date:	October 1, 2017
Methods and Assumptions Used to Determine Contribution Rates:	
Actuarial cost method	Entry Age Normal
Amortization method	Level Dollar, Closed
Remaining amortization period	2 years
Asset valuation method	Market value of assets
Actual assumptions:	
Investment rate of return	7.00% per year, compounded annually, net of investment expenses
Inflation rate	2.5%
Projected salary increases	2.5% – 12.5%, per year, including inflation
Retirement age	Experience-based table of rates based on year of eligibility.
Mortality	Mortality tables used for Regular Class and Special Risk Class members in the July 1, 2016 actuarial valuation of the Florida Retirement System. They are based on the results of a statewide experience study covering the period 2008 through 2013.

JEA

Required Supplementary Information – OPEB
(Dollars in Thousands)

September 30, 2018

OPEB Plan – Schedule of Changes in Net OPEB Liability and Related Ratios*

	2017	2016
Total OPEB Liability		
Beginning balance	**$ 60,949**	$ 62,554
Service cost	**811**	781
Interest on the total OPEB liability	**4,253**	4,203
Changes in benefit terms	**(11,556)**	–
Difference between actual and expected experience	**(7,891)**	–
Benefit payments	**(2,019)**	(6,589)
Total OPEB liability – ending	**$ 44,547**	$ 60,949
Plan Fiduciary Net Position		
Beginning balance	**$ 21,441**	$ 18,156
Employer contributions	**5,240**	5,061
Net investment income	**2,942**	2,135
Reimbursements to employer	**(3,911)**	(3,911)
Plan fiduciary net position – ending	**$ 25,712**	$ 21,441
Net OPEB Liability – Ending	**$ 18,835**	$ 39,508
Plan Fiduciary Net Position as a Percentage of Total OPEB Liability	**57.72%**	35.18%
Covered Payroll	**$ 155,326**	$ 150,073
Net OPEB Liability as a Percentage of Covered Payroll	**12.13%**	26.33%

* This schedule is presented to illustrate the requirement to share information for ten years. However, until a full ten-year trend is compiled, only available information is shown. All information is on a measurement year basis.

OPEB Plan – Investment Returns

All information is on a measurement year basis

Year Ended	Return
2008	0.03%
2009	1.44%
2010	6.74%
2011	-1.41%
2012	15.84%
2013	11.93%
2014	8.22%
2015	-0.46%
2016	7.90%
2017	13.35%

Required Supplementary Information – OPEB (continued)
(Dollars in Thousands)

OPEB Plan – Schedule of Contributions*

Fiscal Year Ending September 30,	Actuarially Determined Contribution	Actual Contribution	Contribution Deficiency (Excess)	Covered Payroll	Actual Contribution as a % of Covered Payroll
2009	$ 5,779	$ 4,023	$ 1,756	N/A	N/A
2010	5,126	5,236	(110)	138,093	3.79%
2011	5,344	6,601	(1,257)	N/A	N/A
2012	5,211	5,423	(212)	150,714	3.60%
2013	5,433	6,185	(752)	N/A	N/A
2014	4,819	4,382	437	148,617	2.95%
2015	5,011	7,255	(2,244)	N/A	N/A
2016	5,061	7,739	(2,678)	150,073	5.16%
2017	4,138	5,240	(1,102)	155,326	3.37%
2018	3,885	4,078	(193)	161,602	2.52%

* This schedule is presented to illustrate the requirement to share information for ten years. However, until a full ten-year trend is compiled, only available information is shown.

Required Supplementary Information – OPEB
(Dollars in Thousands)

Notes to Schedule of Contributions

Actuarial valuations are performed as of the beginning of the fiscal year and assumptions below pertain to all years presented unless otherwise noted.

Methods and Assumptions Used to Determine Contribution Rates:

Actuarial cost method	Entry Age Normal
Inflation	2.50%
Discount rate	7.00%
Salary increases	2.5% – 12.5% per year, including inflation; varies by years of service
Retirement age	Experience-based table of rates that are specific to the type of eligibility condition
Mortality	Mortality tables used for Regular Class members in the July 1, 2016 actuarial valuation of the Florida Retirement System. They are based on the results of a statewide experience study covering the period 2008 through 2013.
Healthcare cost trend rates	Based on the Getzen Model, with trend starting at 7.00% and gradually decreasing to an ultimate trend rate of 4.57% as of October 1, 2017 and 4.59% as of October 1, 2016 (including the impact of the excise tax). The decrease is a result of the decrease in the load for excise tax.
Aging factors	Based on the 2013 SOA Study "Health Care Costs – From Birth to Death".
Expenses	Investment returns are net of the investment expenses; and, administrative expenses related to operation of the health plan are included in the premium costs.

Other information:

Notes	Health-related assumptions are based on experience over the plan year ending December 31, 2017.

JEA

Combining Statement of Net Position

(In Thousands)

September 30, 2018

	Electric System and Bulk Power Supply System	SJRPP System	Elimination of intercompany transactions	Total Electric Enterprise Fund	Water and Sewer Enterprise Fund	District Energy System Fund	Total JEA
Assets							
Current assets:							
Cash and cash equivalents	$ 285,611	$ 65,840	$ –	$ 351,451	$ 86,219	$ 3,536	$ 441,206
Investments	83,268	2,042	–	85,310	–	–	85,310
Accounts and interest receivable, net of allowance of $1,830	197,041	790	(1,912)	195,919	54,369	860	251,148
Inventories:							
Fuel	35,856	1,015	–	36,871	–	–	36,871
Materials and supplies	2,189	665	–	2,854	56,350	–	59,204
Total current assets	603,965	70,352	(1,912)	672,405	196,938	4,396	873,739
Noncurrent assets:							
Restricted assets:							
Cash and cash equivalents	203	74,113	–	74,316	36,842	3,418	114,576
Investments	419,536	23,330	–	442,866	288,761	–	731,627
Accounts and interest receivable	7	47	–	54	8	–	62
Total restricted assets	419,746	97,490	–	517,236	325,611	3,418	846,265
Costs to be recovered from future revenues	301,805	261,277	–	563,082	244,987	27	808,096
Investment in The Energy Authority	6,811	–	–	6,811	–	–	6,811
Other assets	12,032	–	–	12,032	3,843	–	15,875
Total noncurrent assets	740,394	358,767	–	1,099,161	574,441	3,445	1,677,047
Net capital assets	2,652,224	10,144	–	2,662,368	2,682,864	35,027	5,380,259
Total assets	3,996,583	439,263	(1,912)	4,433,934	3,454,243	42,868	7,931,045
Deferred outflows of resources							
Unrealized pension contributions and losses	83,649	34,238	–	117,887	53,480	–	171,367
Unamortized deferred losses on refundings	85,165	4,185	–	89,350	54,178	194	143,722
Accumulated decrease in fair value of hedging derivatives	70,103	–	–	70,103	16,253	–	86,356
Unrealized asset retirement obligation	–	29,173	–	29,173	–	–	29,173
Unrealized OPEB contributions and losses	2,488	–	–	2,488	1,590	–	4,078
Total deferred outflows of resources	241,405	67,596	–	309,001	125,501	194	434,696
Total assets and deferred outflows of resources	$ 4,237,988	$ 506,859	$ (1,912)	$ 4,742,935	$ 3,579,744	$ 43,062	$ 8,365,741
Liabilities							
Current liabilities:							
Accounts and accrued expenses payable	$ 118,901	$ 7,668	$ (796)	$ 125,773	$ 21,485	$ 103	$ 147,361
Customer deposits	44,267	–	–	44,267	15,616	–	59,883
Total current liabilities	163,168	7,668	(796)	170,040	37,101	103	207,244
Current liabilities payable from restricted assets:							
Debt due within one year	130,690	1,720	–	132,410	51,720	1,660	185,790
Renewal and replacement reserve	–	54,370	–	54,370	–	–	54,370
Interest payable	37,613	5,603	–	43,216	29,841	680	73,737
Construction contracts and accounts payable	16,596	1,742	(1,116)	17,222	35,886	261	53,369
Total current liabilities payable from restricted assets	184,899	63,435	(1,116)	247,218	117,447	2,601	367,266
Noncurrent liabilities:							
Net pension liability	321,885	16,523	–	338,408	205,795	–	544,203
Asset retirement obligation	–	22,526	–	22,526	–	–	22,526
Net OPEB liability	11,489	–	–	11,489	7,346	–	18,835
Other liabilities	40,344	–	–	40,344	8,849	34	49,227
Total noncurrent liabilities	373,718	39,049	–	412,767	221,990	34	634,791
Long-term debt:							
Debt payable, less current portion	2,019,350	278,885	–	2,298,235	1,480,620	34,825	3,813,680
Unamortized premium (discount), net	76,748	2,474	–	79,222	73,703	(34)	152,891
Fair value of debt management strategy instruments	70,103	–	–	70,103	16,253	–	86,356
Total long-term debt	2,166,201	281,359	–	2,447,560	1,570,576	34,791	4,052,927
Total liabilities	2,887,986	391,511	(1,912)	3,277,585	1,947,114	37,529	5,262,228
Deferred inflows of resources							
Revenues to be used for future costs	249,085	10,624	–	259,709	27,123	–	286,832
Unrealized pension gains	26,250	7,091	–	33,341	16,783	–	50,124
Unrealized OPEB gains	5,314	–	–	5,314	3,398	–	8,712
Accumulated increase in fair value of hedging derivatives	2,536	–	–	2,536	–	–	2,536
Total deferred inflows of resources	283,185	17,715	–	300,900	47,304	–	348,204
Net position							
Net investment in (divestment of) capital assets	530,479	2,138	–	532,617	1,325,600	(1,492)	1,856,725
Restricted							
Debt service	130,072	1,843		131,915	53,799	1,660	187,374
Other purposes	186,628	24,321	1,116	212,065	141,520	1,078	354,663
Unrestricted	219,638	69,331	(1,116)	287,853	64,407	4,287	356,547
Total net position	1,066,817	97,633	–	1,164,450	1,585,326	5,533	2,755,309
Total liabilities, deferred inflows of resources, and net position	$ 4,237,988	$ 506,859	$ (1,912)	$ 4,742,935	$ 3,579,744	$ 43,062	$ 8,365,741

JEA

Combining Statement of Net Position

(In Thousands)

September 30, 2017

	Electric System and Bulk Power Supply System	SJRPP System	Elimination of intercompany transactions	Total Electric Enterprise Fund	Water and Sewer Enterprise Fund	District Energy System Fund	Total JEA
Assets							
Current assets:							
Cash and cash equivalents	$ 340,063	$ 41,950	$ –	$ 382,013	$ 103,741	$ 3,805	$ 489,559
Investments	20,629	4,493	–	25,122	–	–	25,122
Accounts and interest receivable, net of allowance of $2,101	203,433	16,597	(27,230)	192,800	52,094	550	245,444
Inventories:							
Fuel	38,044	34,728	–	72,772	–	–	72,772
Materials and supplies	2,136	19,249	–	21,385	48,336	–	69,721
Total current assets	604,305	117,017	(27,230)	694,092	204,171	4,355	902,618
Noncurrent assets:							
Restricted assets:							
Cash and cash equivalents	–	79,077	–	79,077	42,168	3,230	124,475
Investments	442,080	192,794	–	634,874	301,834	–	936,708
Accounts and interest receivable	20	952	–	972	12	–	984
Total restricted assets	442,100	272,823	–	714,923	344,014	3,230	1,062,167
Costs to be recovered from future revenues	297,241	4,042	–	301,283	239,711	27	541,021
Investment in The Energy Authority	6,283	–	–	6,283	–	–	6,283
Other assets	8,713	–	–	8,713	5,798	–	14,511
Total noncurrent assets	754,337	276,865	–	1,031,202	589,523	3,257	1,623,982
Net capital assets	2,687,232	474,437	–	3,161,669	2,615,950	36,180	5,813,799
Total assets	4,045,874	868,319	(27,230)	4,886,963	3,409,644	43,792	8,340,399
Deferred outflows of resources							
Unrealized pension contributions and losses	95,814	16,505	–	112,319	61,259	–	173,578
Unamortized deferred losses on refundings	78,503	10,834	–	89,337	43,816	203	133,356
Accumulated decrease in fair value of hedging derivatives	101,350	–	–	101,350	23,919	–	125,269
Unrealized OPEB contributions and losses	3,197	–	–	3,197	2,043	–	5,240
Total deferred outflows of resources	278,864	27,339	–	306,203	131,037	203	437,443
Total assets and deferred outflows of resources	$ 4,324,738	$ 895,658	$ (27,230)	$ 5,193,166	$ 3,540,681	$ 43,995	$ 8,777,842
Liabilities							
Current liabilities:							
Accounts and accrued expenses payable	$ 102,962	$ 11,722	$ (3,221)	$ 111,463	$ 20,340	$ 89	$ 131,892
Customer deposits	42,192	–	–	42,192	15,086	–	57,278
Total current liabilities	145,154	11,722	(3,221)	153,655	35,426	89	189,170
Current liabilities payable from restricted assets:							
Debt due within one year	135,105	41,330	–	176,435	51,020	1,640	229,095
Renewal and replacement reserve	–	82,577	–	82,577	–	–	82,577
Interest payable	40,458	9,571	–	50,029	31,501	691	82,221
Construction contracts and accounts payable	16,222	24,399	(24,009)	16,612	38,235	114	54,961
Total current liabilities payable from restricted assets	191,785	157,877	(24,009)	325,653	120,756	2,445	448,854
Noncurrent liabilities:							
Net pension liability	330,025	13,312	–	343,337	211,000	–	554,337
Net OPEB liability	24,100	–	–	24,100	15,408	–	39,508
Other liabilities	39,608	1,553	–	41,161	8,850	11	50,022
Total noncurrent liabilities	393,733	14,865	–	408,598	235,258	11	643,867
Long-term debt:							
Debt payable, less current portion	2,171,305	408,885	–	2,580,190	1,555,485	36,485	4,172,160
Unamortized premium (discount), net	55,556	11,175	–	66,731	45,783	(39)	112,475
Fair value of debt management strategy instruments	101,350	–	–	101,350	23,919	–	125,269
Total long-term debt	2,328,211	420,060	–	2,748,271	1,625,187	36,446	4,409,904
Total liabilities	3,058,883	604,524	(27,230)	3,636,177	2,016,627	38,991	5,691,795
Deferred inflows of resources							
Revenues to be used for future costs	277,552	147,632	–	425,184	19,422	–	444,606
Unrealized pension gains	4,867	3,981	–	8,848	3,112	–	11,960
Unrealized OPEB gains	402	–	–	402	257	–	659
Total deferred inflows of resources	282,821	151,613	–	434,434	22,791	–	457,225
Net position							
Net investment in (divestment of) capital assets	425,023	(3,751)	–	421,272	1,202,706	(1,818)	1,622,160
Restricted							
Debt service	134,071	41,709	–	175,780	56,848	1,640	234,268
Other purposes	202,139	(2,179)	24,009	223,969	154,318	899	379,186
Unrestricted	221,801	103,742	(24,009)	301,534	87,391	4,283	393,208
Total net position	983,034	139,521	–	1,122,555	1,501,263	5,004	2,628,822
Total liabilities, deferred inflows of resources, and net position	$ 4,324,738	$ 895,658	$ (27,230)	$ 5,193,166	$ 3,540,681	$ 43,995	$ 8,777,842

JEA

Combining Statement of Revenues, Expenses, and Changes in Net Position
(In Thousands)

Year Ended September 30, 2018

	Electric System and Bulk Power Supply System	SJRPP System	Elimination of intercompany transactions	Total Electric Enterprise Fund	Water and Sewer Enterprise Fund	District Energy System Fund	Eliminations	Total JEA
Operating revenues								
Electric	$ 1,253,139	$ 87,749	$ (56,982)	$ 1,283,906	$ –	$ –	$ (16,704)	$ 1,267,202
Water and sewer	–	–	–	–	424,121	–	(641)	423,480
District energy system	–	–	–	–	–	8,756	(408)	8,348
Other	22,116	60,089	–	82,205	11,561	–	(2,814)	90,952
Total operating revenues	1,275,255	147,838	(56,982)	1,366,111	435,682	8,756	(20,567)	1,789,982
Operating expenses								
Operations and maintenance:								
Fuel	356,877	64,175	–	421,052	–	–	–	421,052
Purchased power	166,176	–	(56,982)	109,194	–	–	–	109,194
Maintenance and other operating expenses	244,011	52,296	–	296,307	149,646	4,603	(20,567)	429,989
Depreciation	203,075	10,987	–	214,062	144,144	2,403	–	360,609
State utility and franchise taxes	60,831	–	–	60,831	10,476	–	–	71,307
Recognition of deferred costs and revenues, net	1,546	(859)	–	687	6,169	–	–	6,856
Total operating expenses	1,032,516	126,599	(56,982)	1,102,133	310,435	7,006	(20,567)	1,399,007
Operating income	242,739	21,239	–	263,978	125,247	1,750	–	390,975
Nonoperating revenues (expenses)								
Interest on debt	(86,808)	(20,292)	–	(107,100)	(58,034)	(1,374)	–	(166,508)
Investment income	6,910	1,196	–	8,106	3,617	103	–	11,826
Allowance for funds used during construction	3,912	–	–	3,912	7,802	50	–	11,764
Other nonoperating income, net	6,025	1,068	–	7,093	2,764	–	–	9,857
Earnings from The Energy Authority	4,074	–	–	4,074	–	–	–	4,074
Other interest, net	(1,597)	–	–	(1,597)	(228)	–	–	(1,825)
Total nonoperating expenses, net	(67,484)	(18,028)	–	(85,512)	(44,079)	(1,221)	–	(130,812)
Income before contributions	175,255	3,211	–	178,466	81,168	529	–	260,163
Contributions (to) from								
General Fund, City of Jacksonville, Florida	(91,472)	–	–	(91,472)	(25,148)	–	–	(116,620)
Developers and other	1,597	–	–	1,597	80,560	–	–	82,157
Reduction of plant cost through contributions	(1,597)	–	–	(1,597)	(52,517)	–	–	(54,114)
Total contributions, net	(91,472)	–	–	(91,472)	2,895	–	–	(88,577)
Special items								
SJRPP deferred revenues, net	–	451,037	–	451,037	–	–	–	451,037
SJRPP impairment loss	–	(496,136)	–	(496,136)	–	–	–	(496,136)
Total special items	–	(45,099)	–	(45,099)	–	–	–	(45,099)
Change in net position	83,783	(41,888)	–	41,895	84,063	529	–	126,487
Net position, beginning of year	983,034	139,521	–	1,122,555	1,501,263	5,004	–	2,628,822
Net position, end of year	1,066,817	97,633	–	1,164,450	1,585,326	5,533	–	2,755,309

JEA

Combining Statement of Revenues, Expenses, and Changes in Net Position
(In Thousands)

Year Ended September 30, 2017

	Electric System and Bulk Power Supply System	SJRPP System	Elimination of intercompany transactions	Total Electric Enterprise Fund	Water and Sewer Enterprise Fund	District Energy System Fund	Eliminations	Total JEA
Operating revenues								
Electric	$ 1,270,144	$ 268,899	$ (140,162)	$ 1,398,881	$ –	$ –	$ (16,675)	$ 1,382,206
Water and sewer	–	–	–	–	448,348	–	(291)	448,057
District energy system	–	–	–	–	–	8,692	(507)	8,185
Other	29,448	–	–	29,448	9,560	–	(2,279)	36,729
Total operating revenues	1,299,592	268,899	(140,162)	1,428,329	457,908	8,692	(19,752)	1,875,177
Operating expenses								
Operations and maintenance:								
Fuel	289,949	168,845	–	458,794	–	–	–	458,794
Purchased power	217,618	–	(140,162)	77,456	–	–	–	77,456
Maintenance and other operating expenses	219,434	46,445	–	265,879	141,445	4,570	(19,752)	392,142
Depreciation	199,743	42,754	–	242,497	141,838	2,364	–	386,699
State utility and franchise taxes	59,121	–	–	59,121	10,562	–	–	69,683
Recognition of deferred costs and revenues, net	(3,344)	(12,017)	–	(15,361)	11,286	–	–	(4,075)
Total operating expenses	982,521	246,027	(140,162)	1,088,386	305,131	6,934	(19,752)	1,380,699
Operating income	317,071	22,872	–	339,943	152,777	1,758	–	494,478
Nonoperating revenues (expenses)								
Interest on debt	(94,350)	(24,064)	–	(118,414)	(63,183)	(1,395)	–	(182,992)
Investment income	5,177	1,522	–	6,699	3,832	45	–	10,576
Allowance for funds used during construction	6,102	–	–	6,102	5,644	28	–	11,774
Other nonoperating income, net	4,595	389	–	4,984	934	–	–	5,918
Earnings from The Energy Authority	6,335	–	–	6,335	–	–	–	6,335
Other interest, net	(417)	–	–	(417)	(34)	–	–	(451)
Total nonoperating expenses, net	(72,558)	(22,153)	–	(94,711)	(52,807)	(1,322)	–	(148,840)
Income before contributions	244,513	719	–	245,232	99,970	436	–	345,638
Contributions (to) from								
General Fund, City of Jacksonville, Florida	(92,271)	–	–	(92,271)	(23,552)	–	–	(115,823)
Developers and other	906	–	–	906	65,969	–	–	66,875
Reduction of plant cost through contributions	(906)	–	–	(906)	(41,163)	–	–	(42,069)
Total contributions, net	(92,271)	–	–	(92,271)	1,254	–	–	(91,017)
Change in net position	152,242	719	–	152,961	101,224	436	–	254,621
Net position, beginning of year	832,508	138,802	–	971,310	1,401,047	4,568	–	2,376,925
Effect of adoption of GASB Statement No. 75	(1,716)	–	–	(1,716)	(1,008)	–	–	(2,724)
Net position, beginning of year, as restated	830,792	138,802	–	969,594	1,400,039	4,568	–	2,374,201
Net position, end of year	983,034	139,521	–	1,122,555	1,501,263	5,004	–	2,628,822

JEA

Combining Statement of Cash Flows
(In Thousands)

Year Ended September 30, 2018

	Electric System and Bulk Power Supply System	SJRPP System	Elimination of intercompany transactions	Total Electric Enterprise Fund	Water and Sewer Enterprise Fund	District Energy System Fund	Elimination of intercompany transactions	Total JEA
Operating activities								
Receipts from customers	$ 1,249,048	$ 104,261	$ (34,089)	$ 1,319,220	$ 430,685	$ 8,446	$ (17,753)	$ 1,740,598
Payments to suppliers	(655,986)	(81,496)	34,089	(703,393)	(104,124)	(4,012)	20,567	(790,962)
Payments to employees	(160,943)	(44,669)	–	(205,612)	(61,403)	(554)	–	(267,569)
Other operating activities	25,123	60,089	–	85,212	11,504	–	(2,814)	93,902
Net cash provided by operating activities	457,242	38,185	–	495,427	276,662	3,880	–	775,969
Noncapital and related financing activities								
Contribution to General Fund, City of Jacksonville, Florida	(91,538)	–	–	(91,538)	(25,031)	–	–	(116,569)
Net cash used in noncapital and related financing activities	(91,538)	–	–	(91,538)	(25,031)	–	–	(116,569)
Capital and related financing activities								
Defeasance of debt	(405,105)	(128,280)	–	(533,385)	(460,305)	–	–	(993,690)
Proceeds from issuance of debt, net	383,840	–	–	383,840	437,160	–	–	821,000
Acquisition and construction of capital assets	(180,050)	–	–	(180,050)	(203,474)	(1,053)	–	(384,577)
Repayment of debt principal	(135,105)	(41,330)	–	(176,435)	(51,020)	(1,640)	–	(229,095)
Interest paid on debt	(97,134)	(16,685)	–	(113,819)	(67,659)	(1,371)	–	(182,849)
Capital contributions	–	–	–	–	28,043	–	–	28,043
Other capital financing activities	44,011	(6,974)	–	37,037	26,160	–	–	63,197
Net cash used in capital and related financing activities	(389,543)	(193,269)	–	(582,812)	(291,095)	(4,064)	–	(877,971)
Investing activities								
Purchase of investments	(506,359)	(252,593)	–	(758,952)	(279,014)	–	–	(1,037,966)
Proceeds from sale and maturity of investments	462,211	428,653	–	890,864	288,607	–	–	1,179,471
Investment income	10,225	(2,050)	–	8,175	7,023	103	–	15,301
Distributions from The Energy Authority	3,513	–	–	3,513	–	–	–	3,513
Net cash provided by (used in) investing activities	(30,410)	174,010	–	143,600	16,616	103	–	160,319
Net change in cash and cash equivalents	(54,249)	18,926	–	(35,323)	(22,848)	(81)	–	(58,252)
Cash and cash equivalents at beginning of year	340,063	121,027	–	461,090	145,909	7,035	–	614,034
Cash and cash equivalents at end of year	$ 285,814	$ 139,953	$ –	$ 425,767	$ 123,061	$ 6,954	$ –	$ 555,782
Reconciliation of operating income to net cash provided by operating activities								
Operating income	$ 242,739	$ 21,239	$ –	$ 263,978	$ 125,247	$ 1,750	$ –	$ 390,975
Adjustments:								
Depreciation and amortization	203,075	10,987	–	214,062	145,424	2,403	–	361,889
Recognition of deferred costs and revenues, net	1,546	(859)	–	687	6,169	–	–	6,856
Other nonoperating income, net	103	700	–	803	270	–	–	1,073
Changes in noncash assets and noncash liabilities:								
Accounts receivable	13,184	15,812	–	28,996	(2,200)	(310)	–	26,486
Accounts receivable, restricted	13	–	–	13	3	–	–	16
Inventories	2,136	52,297	–	54,433	(8,014)	–	–	46,419
Other assets	5,688	–	–	5,688	733	–	–	6,421
Accounts and accrued expenses payable	10,076	(10,441)	–	(365)	1,330	14	–	979
Current liabilities payable from restricted liabilities	–	(49,998)	–	(49,998)	–	–	–	(49,998)
Other noncurrent liabilities and deferred inflows	(21,318)	(1,552)	–	(22,870)	7,700	23	–	(15,147)
Net cash provided by operating activities	$ 457,242	$ 38,185	$ –	$ 495,427	$ 276,662	$ 3,880	$ –	$ 775,969
Non-cash activity								
Contribution of capital assets from developers	$ 1,597	$ –	$ –	$ 1,597	$ 52,517	$ –	$ –	$ 54,114
Unrealized gains (losses) on fair value of investments	$ (4,052)	$ 4,146	$ –	$ 94	$ (3,480)	$ –	$ –	$ (3,386)

JEA

Combining Statement of Cash Flows
(In Thousands)

Year Ended September 30, 2017

	Electric System and Bulk Power Supply System	SJRPP System	Elimination of intercompany transactions	Total Electric Enterprise Fund	Water and Sewer Enterprise Fund	District Energy System Fund	Elimination of intercompany transactions	Total JEA
Operating activities								
Receipts from customers	$ 1,207,855	$ 269,957	$ (143,764)	$ 1,334,048	$ 433,658	$ 8,282	$ (17,473)	$ 1,758,515
Payments to suppliers	(605,225)	(201,043)	143,764	(662,504)	(91,308)	(4,171)	19,752	(738,231)
Payments to employees	(159,127)	(31,336)	–	(190,463)	(58,234)	(496)	–	(249,193)
Other operating activities	3,601	–	–	3,601	3,246	(27)	(2,279)	4,541
Net cash provided by operating activities	447,104	37,578	–	484,682	287,362	3,588	–	775,632
Noncapital and related financing activities								
Contribution to General Fund, City of Jacksonville, Florida	(92,225)	–	–	(92,225)	(23,469)	–	–	(115,694)
Net cash used in noncapital and related financing activities	(92,225)	–	–	(92,225)	(23,469)	–	–	(115,694)
Capital and related financing activities								
Defeasance of debt	(153,210)	–	–	(153,210)	(6,135)	–	–	(159,345)
Proceeds from issuance of debt, net	90,405	–	–	90,405	–	–	–	90,405
Acquisition and construction of capital assets	(128,665)	–	–	(128,665)	(177,345)	(2,123)	–	(308,133)
Repayment of debt principal	(102,240)	(43,785)	–	(146,025)	(33,875)	(1,625)	–	(181,525)
Interest paid on debt	(102,667)	(20,226)	–	(122,893)	(69,199)	(1,391)	–	(193,483)
Capital contributions	–	–	–	–	24,805	–	–	24,805
Other capital financing activities	(167)	389	–	222	2,306	–	–	2,528
Net cash used in capital and related financing activities	(396,544)	(63,622)	–	(460,166)	(259,443)	(5,139)	–	(724,748)
Investing activities								
Purchase of investments	(641,438)	(572,124)	–	(1,213,562)	(589,885)	–	–	(1,803,447)
Proceeds from sale and maturity of investments	714,603	585,322	–	1,299,925	561,671	–	–	1,861,596
Investment income	7,158	3,855	–	11,013	6,535	45	–	17,593
Distributions from The Energy Authority	6,182	–	–	6,182	–	–	–	6,182
Net cash provided by (used in) investing activities	86,505	17,053	–	103,558	(21,679)	45	–	81,924
Net change in cash and cash equivalents	44,840	(8,991)	–	35,849	(17,229)	(1,506)	–	17,114
Cash and cash equivalents at beginning of year	295,223	130,018	–	425,241	163,138	8,541	–	596,920
Cash and cash equivalents at end of year	$ 340,063	$ 121,027	$ –	$ 461,090	$ 145,909	$ 7,035	$ –	$ 614,034
Reconciliation of operating income to net cash provided by operating activities								
Operating income	$ 317,071	$ 22,872	$ –	$ 339,943	$ 152,777	$ 1,758	$ –	$ 494,478
Adjustments:								
Depreciation and amortization	199,743	42,754	–	242,497	143,179	2,364	–	388,040
Recognition of deferred costs and revenues, net	(3,344)	(12,017)	–	(15,361)	11,286	–	–	(4,075)
Other nonoperating income, net	45	–	–	45	(1,117)	–	–	(1,072)
Changes in noncash assets and noncash liabilities:								
Accounts receivable	(2,083)	1,058	–	(1,025)	(12,751)	(409)	–	(14,185)
Accounts receivable, restricted	28	–	–	28	4	–	–	32
Inventories	(1,582)	(19,603)	–	(21,185)	(3,507)	–	–	(24,692)
Other assets	(23,056)	–	–	(23,056)	(4,542)	(27)	–	(27,625)
Accounts and accrued expenses payable	21,878	(2,327)	–	19,551	3,780	(69)	–	23,262
Current liabilities payable from restricted liabilities	–	4,409	–	4,409	–	–	–	4,409
Other noncurrent liabilities and deferred inflows	(61,596)	432	–	(61,164)	(1,747)	(29)	–	(62,940)
Net cash provided by operating activities	$ 447,104	$ 37,578	$ –	$ 484,682	$ 287,362	$ 3,588	$ –	$ 775,632
Non-cash activity								
Contribution of capital assets from developers	$ 906	$ –	$ –	$ 906	$ 41,163	$ –	$ –	$ 42,069
Unrealized losses on fair value of investments	$ (2,193)	$ (2,556)	$ –	$ (4,749)	$ (2,961)	$ –	$ –	$ (7,710)

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Report of Independent Auditors on Internal Control Over Financial Reporting and on Compliance and Other Matters Based on an Audit of Financial Statements Performed in Accordance with *Government Auditing Standards*

The Board of Directors
JEA
Jacksonville, Florida

We have audited, in accordance with auditing standards generally accepted in the United States and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States, the financial statements of JEA, which comprise the statement of net position as of September 30, 2018, and the related statements of revenues, expenses and changes in net position and cash flows for the year then ended, and the related notes to the financial statements, and have issued our report thereon dated December 3, 2018.

Internal Control Over Financial Reporting

In planning and performing our audit of the financial statements, we considered JEA's internal control over financial reporting (internal control) to determine the audit procedures that are appropriate in the circumstances for the purpose of expressing our opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of JEA's internal control. Accordingly, we do not express an opinion on the effectiveness of JEA's internal control.

A *deficiency in internal control* exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct misstatements on a timely basis. A *material weakness* is a deficiency, or combination of deficiencies, in internal control, such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected on a timely basis. A *significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

Compliance and Other Matters

As part of obtaining reasonable assurance about whether JEA's financial statements are free of material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts and grant agreements, noncompliance with which could have a direct and material effect on the determination of financial statement amounts. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

Purpose of this Report

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the result of that testing, and not to provide an opinion on the effectiveness of the entity's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the entity's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

Ernst & Young LLP

December 3, 2018

BOND COMPLIANCE INFORMATION

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Report of Independent Auditors on Schedules of Debt Service Coverage

The Board of Directors
JEA
Jacksonville, Florida

We have audited, in accordance with auditing standards generally accepted in the United States, the accompanying schedules of debt service coverage (as specified in the respective JEA Bond Resolutions) of the JEA Electric System, the JEA Bulk Power Supply System, the JEA St. Johns River Power Park System, the JEA Water and Sewer System and the JEA District Energy System for the years ended September 30, 2018 and 2017, based on the financial statements referred to in the Report on Financial Statements as of September 30, 2018 and 2017 paragraph below.

Management's Responsibility for the Schedules

Management is responsible for the preparation and fair presentation of the schedules of debt service coverage in conformity with the respective JEA Bond Resolutions. Management also is responsible for the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of the schedules of debt service coverage that are free of material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on the schedules of debt service coverage based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the schedules of debt service coverage are free of material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the schedules of debt service coverage. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the schedules of debt service coverage, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the schedules of debt service coverage in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the schedules of debt service coverage.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the schedules referred to above present fairly, in all material respects, the debt service coverage of the JEA Electric System, the JEA Bulk Power Supply System, the JEA St. Johns River Power Park System, the JEA Water and Sewer System, and the JEA District Energy System for the years ended September 30, 2018 and 2017, in conformity with the basis specified in the respective JEA Bond Resolutions.

Contractual Basis of Accounting

The method of calculating the schedules of debt service coverage is prescribed by the applicable JEA Bond Resolutions, which require the maintenance of certain minimum debt service coverage ratios. Our opinion is not modified with respect to this matter.

Report on Financial Statements as of September 30, 2018 and 2017

We have audited, in accordance with auditing standards generally accepted in the United States, the basic financial statements of JEA as of and for the years ended September 30, 2018 and 2017, and have issued our report, with an unmodified opinion thereon, dated December 3, 2018.

Restrictions on Use

This report is intended solely for the information and use of management and the board of directors of JEA, and the bond trustees and is not intended to be and should not be used by anyone other than these specified parties.

Ernst + Young LLP

December 3, 2018

JEA Electric System

Schedule of Debt Service Coverage
(In Thousands)

	Year Ended September 30	
	2018	**2017**
Revenues		
Electric	**$ 1,229,625**	$ 1,206,919
Investment income (1)	**9,525**	5,939
Earnings from The Energy Authority	**4,074**	6,335
Other, net (2)	**22,216**	29,490
Plus: amounts paid from the rate stabilization fund into the revenue fund	**88,415**	79,216
Less: amounts paid from the revenue fund into the rate stabilization fund	**(64,901)**	(15,991)
Total revenues	**1,288,954**	1,311,908
Operating expenses (3)		
Fuel	**328,160**	253,204
Purchased power (4)	**244,478**	284,436
Other operations and maintenance	**204,982**	199,511
State utility taxes and franchise fees	**59,551**	57,951
Total operating expenses	**837,171**	795,102
Net revenues	**$ 451,783**	$ 516,806
Debt service	**$ 71,890**	$ 71,557
Less: investment income on sinking fund	**(1,436)**	(1,431)
Less: Build America Bonds subsidy	**(1,521)**	(1,516)
Debt service requirement	**$ 68,933**	$ 68,610
Senior debt service coverage (5), (min 1.20x)	**6.55 x**	7.53 x
Net revenues (from above)	**$ 451,783**	$ 516,806
Debt service requirement (from above)	**$ 68,933**	$ 68,610
Plus: aggregate subordinated debt service on outstanding subordinated bonds	**129,469**	137,892
Less: Build America Bonds subsidy	**(2,045)**	(2,070)
Total debt service requirement and aggregate subordinated debt service	**$ 196,357**	$ 204,432
Senior and subordinated debt service coverage (6), (min 1.15x)	**2.30 x**	2.53 x

(1) Excludes investment income on sinking funds.
(2) Excludes the Build America Bonds subsidy.
(3) Excludes depreciation and recognition of deferred costs and revenues, net.
(4) In accordance with the requirements of the Electric System Resolution, all the contract debt payments from the Electric System to the SJRPP and Bulk Power Supply System with respect to the use by the Electric System of the capacity and output of the SJRPP and Bulk Power Systems are reflected as a purchased power expense on these schedules. These schedules do not include revenues of the SJRPP and Bulk Power Supply System, except that the purchased power expense is net of interest income on funds maintained under the SJRPP and Bulk Power Supply System resolutions.
(5) Net revenues divided by debt service requirement. Minimum annual coverage is 1.20x.
(6) Net revenues divided by total debt service requirement and aggregate subordinated debt service. Minimum annual coverage is 1.15x

JEA Bulk Power Supply System

Schedule of Debt Service Coverage
(In Thousands)

	Year ended September 30 2018	2017
Revenues		
Operating	**$ 78,302**	$ 66,818
Investment income	**162**	150
Total revenues	**78,464**	66,968
Operating expenses (1)		
Fuel	**28,717**	36,745
Other operations and maintenance	**17,545**	14,522
Total operating expenses	**46,262**	51,267
Net revenues	**$ 32,202**	$ 15,701
Aggregate debt service	**$ 9,943**	$ 9,679
Less: Build America Bonds subsidy	**(667)**	(699)
Aggregate debt service	**$ 9,276**	$ 8,980
Debt service coverage (2)	**3.47 x**	1.75 x

(1) Excludes depreciation and recognition of deferred costs and revenues, net.

(2) Net revenues divided by aggregate debt service. Minimum annual coverage is 1.15x.

JEA St. Johns River Power Park System, Second Resolution

Schedule of Debt Service Coverage
(In Thousands)

	Year Ended September 30 2018	2017
Revenues		
Operating	**$ 34,196**	$ 14,572
Investment income	**1,339**	250
Total revenues	**35,535**	14,822
Operating expenses (1)	**15,389**	–
Net revenues	**$ 20,146**	$ 14,822
Aggregate debt service	**$ 12,925**	$ 12,950
Less: Build America Bonds subsidy	**(367)**	(389)
Aggregate debt service	**$ 12,558**	$ 12,561
Debt service coverage (2)	**1.60 x**	1.18 x

(1) Excludes depreciation and recognition of deferred costs and revenues, net.

(2) Net revenues divided by aggregate debt service. Minimum annual coverage is 1.15x.

JEA Water and Sewer System

Schedule of Debt Service Coverage
(In Thousands)

	Year Ended September 30	
	2018	**2017**
Revenues		
Water	**$ 171,216**	$ 181,313
Water capacity fees	**9,730**	8,859
Sewer	**260,606**	264,469
Sewer capacity fees	**18,268**	15,916
Investment income	**7,097**	6,793
Other (1)	**11,831**	9,560
Plus: amounts paid from the rate stabilization fund into the revenue fund	**16,128**	26,842
Less: amounts paid from the revenue fund into the rate stabilization fund	**(23,829)**	(24,276)
Total revenues	**471,047**	489,476
Operating expenses		
Operations and maintenance (2)	**160,122**	152,007
Total operating expenses	**160,122**	152,007
Net revenues	**$ 310,925**	$ 337,469
Aggregate debt service	**$ 95,818**	$ 97,699
Less: Build America Bonds subsidy	**(2,495)**	(2,500)
Aggregate debt service	**$ 93,323**	$ 95,199
Senior debt service coverage (3), (min 1.25x)	**3.33 x**	3.54 x
Net revenues (from above)	**$ 310,925**	$ 337,469
Aggregate debt service (from above)	**$ 93,323**	$ 95,199
Plus: aggregate subordinated debt service on outstanding subordinated debt	**18,084**	17,592
Total aggregate debt service and aggregate subordinated debt service	**$ 111,407**	$ 112,791
Senior and subordinated debt service coverage excluding capacity fees (4)	**2.54 x**	2.77 x
Senior and subordinated debt service coverage including capacity fees (4)	**2.79 x**	2.99 x

(1) Excludes the Build America Bonds subsidy.
(2) Excludes depreciation and recognition of deferred costs and revenues, net.
(3) Net revenues divided by aggregate debt service. Minimum annual coverage is 1.25x.
(4) Net revenues divided by total aggregate debt service and aggregate subordinated debt service. Minimum annual coverage is either 1.00x aggregate debt service and aggregate subordinated debt service (excluding capacity charges) or the sum of 1.00x aggregate debt service and 1.20x aggregate subordinated debt service (including capacity charges).

JEA District Energy System

Schedule of Debt Service Coverage
(In Thousands)

	Year Ended September 30	
	2018	2017
Revenues		
Service revenues	**$ 8,756**	$ 8,692
Investment income	**103**	45
Total revenues	**8,859**	8,737
Operating expenses (1)		
Operations and maintenance	**4,603**	4,570
Total operating expenses	**4,603**	4,570
Net revenues	**$ 4,256**	$ 4,167
Aggregate debt service (2)	**$ 3,019**	$ 3,022
Debt service coverage (3), (min 1.15x)	**1.41 x**	1.38 x

(1) Excludes depreciation.

(2) On June 19, 2013, the closing date of the District Energy System Refunding Revenue Bonds, 2013 Series A, the JEA covenanted to deposit into the 2013 Series A Bonds Subaccount from Available Water and Sewer System Revenues an amount equal to the Aggregate DES Debt Service Deficiency that exists with respect to the 2013 Series A Bonds, in the event that the amount on deposit in the Debt Service Account in the Debt Service Fund in accordance with the District Energy System Resolution is less than Accrued Aggregate Debt Service as of the last business day of the then current month.

(3) Net revenues divided by aggregate debt service. Minimum annual coverage is 1.15x.

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Building Community®

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jea.com

JEA 2018 Annual Report: Ryan Wannamaker, CFO; David Goldberg, Director Customer and Community Engagement; Writer: Marisa Carbone; Design and Art Direction: Suzanne Hendrix; Photography: Michael LeGrand and Ingrid Damiani

ANNUAL DISCLOSURE REPORT
FOR
ELECTRIC UTILITY SYSTEM
FOR
FISCAL YEAR
ENDED
SEPTEMBER 30, 2018

(Prepared pursuant to certain continuing disclosure undertakings relating to the Bonds listed in APPENDIX I hereto)

Filed with EMMA

Dated as of

May 28, 2019

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JEA
21 W. CHURCH STREET
JACKSONVILLE, FLORIDA 32202
(904) 665-7410
(http://www.jea.com)

JEA OFFICIALS

BOARD MEMBERSHIP[1]

Chair	April Green
Vice Chair	Frederick D. Newbill
Secretary	Camille J. Lee-Johnson
	John Campion
	Kelly Flanagan
	G. Alan Howard[2]

MANAGEMENT

Managing Director and Chief Executive Officer	Aaron F. Zahn
President and Chief Operating Officer	Melissa H. Dykes
Chief Administrative Officer	Herschel Vinyard
Chief Financial Officer	Ryan F. Wannemacher
Chief Innovation and Transformation Officer	Julio Romero Agüero
Chief Public and Stakeholder Affairs Officer	Michael R. Hightower
Vice President and General Manager, Energy	Caren B. Anders
Vice President and General Manager of Water and Wastewater Systems	Deryle I. Calhoun
Vice President of Energy and Water Planning	Steven G. McInall
Vice President and Chief Customer Officer	Kerri Stewart
Vice President and Chief Compliance Officer	Ted E. Hobson
Vice President, Chief Legal Officer	Lynne Rhode
Interim Chief Human Resources Officer	Jon Kendrick
Vice President and Chief Information Officer	Shawn Eads
Vice President and Chief Supply Chain Officer	John P. McCarthy
Vice President and Chief Environmental Services Officer	Paul K. Steinbrecher
Treasurer	Joseph E. Orfano

GENERAL COUNSEL

Jason R. Gabriel, Esq.
General Counsel of the City of Jacksonville
Jacksonville, Florida

(1) There is currently one vacancy on the JEA Board.
(2) Mr. Howard's term has expired, but he continues to serve until his successor has been appointed and qualified.

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* All outstanding Power Park Issue Two Bonds were defeased on January 5, 2018.

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ANNUAL DISCLOSURE REPORT
FOR
ELECTRIC UTILITY SYSTEM
FOR
FISCAL YEAR
ENDED
SEPTEMBER 30, 2018

INTRODUCTION

General

This Annual Disclosure Report for Electric Utility System for Fiscal Year Ended September 30, 2018 (together with the Schedule and the Appendices hereto, this "Annual Disclosure Report") is furnished by JEA to provide information concerning (a) JEA, (b) JEA's electric utility operations, and (c) outstanding debt of JEA relating to its electric utility operations. This Annual Disclosure Report is being filed with the Municipal Securities Rulemaking Board (the "MSRB"), through the MSRB's Electronic Municipal Market Access ("EMMA") website currently located at http://emma.msrb.org pursuant to certain continuing disclosure undertakings made by JEA in accordance with the provisions of Rule 15c2-12, as amended ("Rule 15c2-12"), promulgated by the United States Securities and Exchange Commission (the "SEC") pursuant to the Securities Exchange Act of 1934, as amended. The bonds to which such continuing disclosure undertakings relate (including the CUSIP numbers thereof) are listed in APPENDIX I hereto. As permitted by the provisions of Rule 15c2-12, this Annual Disclosure Report also is intended to be included by reference in official statements and other offering and remarketing documents prepared by JEA in connection with (a) the sale and issuance, after the date hereof, of certain securities of JEA and (b) the remarketing in the secondary market, after the date hereof, of certain securities of JEA.

JEA is a body politic and corporate organized and existing under the laws of the State of Florida and is an independent agency of the City of Jacksonville, Florida (the "City"). The City is a consolidated city-county local government for Duval County, located in Northeast Florida. The governing body of JEA (the "JEA Board") consists of seven members appointed by the Mayor of the City and confirmed by the City Council of the City (the "Council"). JEA (then known as Jacksonville Electric Authority) was established in 1968 to own and manage the electric utility which had been owned by the City since 1895 (the "Electric System"). In 1997, the Council amended the Charter of the City (the "Charter") in order to authorize JEA to own and operate additional utility functions and, effective on June 1, 1997, the City transferred to JEA the City's combined water and sewer utilities system (the "Water and Sewer System"). Effective as of October 1, 2004, JEA established a separate utility system (the "District Energy System") for its local district energy facilities, including its chilled water activities and any local district heating facilities JEA may develop in the future. JEA operates and maintains its records on the basis of a fiscal year ending on each September 30th (a "Fiscal Year").

Each of the Electric System, the Water and Sewer System and the District Energy System is owned and operated by JEA separately. For information relating to JEA's Water and Sewer System and District Energy System see the "ANNUAL DISCLOSURE REPORT FOR WATER AND SEWER SYSTEM AND DISTRICT ENERGY SYSTEM FOR FISCAL YEAR ENDED SEPTEMBER 30, 2018" (the "Water and

Sewer/DES ADR"), available from the Municipal Securities Rulemaking Board's Electronic Municipal Market Access ("EMMA") website at http://emma.msrb.org. **The revenues of each system do not constitute revenues of the other two systems, and revenues of the Electric System are not pledged to the payment of any debt issued or to be issued by JEA to finance and refinance the other two systems.** JEA may, however, satisfy its annual obligation to transfer funds to the City with funds derived from any of its utilities systems. See "OTHER FINANCIAL INFORMATION - Transfers to the City" herein.

For purposes of this Annual Disclosure Report, the Electric System, JEA's interest in the St. Johns River Power Park Units 1 and 2 (such generating station, the "Power Park" or "SJRPP") and the Scherer 4 Project (hereinafter defined) are referred to collectively as JEA's "Electric Utility Functions." SJRPP ceased commercial operation on January 5, 2018. See "ELECTRIC UTILITY FUNCTIONS – St. Johns River Power Park – Early Termination of Power Park Joint Ownership Agreement." This Annual Disclosure Report contains information regarding JEA's Electric Utility Functions. For financing purposes the debt of JEA relating to its Electric Utility Functions is payable from and secured by the revenues derived by JEA from the sale of electricity and related services (including, in the case of certain debt of JEA relating to the Power Park referred to herein as the Power Park Issue Two Bonds, revenues received by JEA from the sale of a portion of JEA's capacity (and associated energy) of the Power Park to Florida Power & Light Company ("FPL"). **Accordingly, the information contained herein relating to JEA's Electric Utility Functions is not relevant to the Water and Sewer System Bonds, the Subordinated Water and Sewer System Bonds or the District Energy System Bonds and should not be taken into account in evaluating such debt.**

The summaries of or references to the Electric System Resolution, the Subordinated Electric System Resolution, the First Power Park Resolution, the Second Power Park Resolution, and the Restated and Amended Bulk Power Supply System Resolution, and certain proposed amendments thereto, where applicable, (as such terms are hereinafter defined) and certain statutes and other ordinances and documents included in this Annual Disclosure Report do not purport to be comprehensive or definitive; and such summaries and references are qualified in their entirety by references to each such resolution, statute, ordinance, and document. Copies of the resolutions are available on the JEA website at https://www.jea.com/About/Investor_Relations/Bonds.aspx and the other documents referred to in this Annual Disclosure Report may be obtained from JEA; *provided* that a reasonable charge may be imposed for the cost of reproduction.

JEA Establishment and Organization

JEA was established in 1968 to own and manage the electric utility which had been owned by the City since 1895. The City's Charter was amended in 1997 to authorize JEA to own and operate other utility systems, including the Water and Sewer System. In 2004, the City authorized JEA to create the District Energy System. The JEA Board consists of seven members appointed by the Mayor of the City, subject to confirmation by the Council. The members serve without pay for staggered terms of four years each, with a maximum of two consecutive full terms each.

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Current members of the JEA Board, their occupations and the commencement and expiration of their terms are as follows:

MEMBER[1]	OCCUPATION	TERM
April Green Chair	Chief Financial Officer/ Chief Operating Officer Bethel Baptist Institutional Church	December 1, 2017–February 28, 2021
Frederick D. Newbill Vice Chair	Pastor First Timothy Baptist Church	January 12, 2017–February 28, 2023
Camille J. Lee-Johnson Secretary	Chief Operating Officer Lee Wesley & Associates, LLC	July 25, 2018–February 28, 2020
John Campion	Co-founder &Chairman APR Energy	July 25, 2018–February 28, 2022
Kelly Flanagan	Senior Vice President & CFO Jacksonville Jaguars, LLC	November 25, 2015–February 28, 2020
G. Alan Howard	Founder & President Milam Howard Nicandri Gillam & Renner P.A.	November 25, 2015–February 28, 2019[2]

(1) There is currently one vacancy on the JEA Board.
(2) Mr. Howard's term has expired, but he continues to serve until his successor has been appointed and qualified.

In addition, in accordance with the provisions of the interlocal agreement entered into between JEA and Nassau County, Florida in connection with JEA's acquisition of certain assets and franchises of a private water and sewer utility in Nassau County, Nassau County is entitled to appoint a non-voting representative to the JEA Board. The Nassau County representative is entitled to attend all JEA Board meetings and to participate in discussions concerning matters that affect the provision of water and sewer services within Nassau County. Nassau County has appointed Mike Mullin, a Commissioner on Nassau County's Board of County Commissioners, as its representative to the JEA Board.

The Charter authorizes JEA to construct, acquire (including acquisition by condemnation), establish, improve, extend, enlarge, maintain, repair, finance, manage, operate and promote its utilities systems (which consist of (1) the Electric System, (2) the Water and Sewer System, (3) the District Energy System and (4) any additional utilities systems which JEA may undertake in the future upon satisfaction of the conditions set forth in the Charter), and to furnish electricity, water, sanitary sewer service, natural gas and other utility services as authorized therein within and outside of the City and for said purposes to construct and maintain electric lines, pipelines, water and sewer mains, natural gas lines and related facilities along all public highways and streets within and outside of the City. The Charter also confers upon JEA the power to sue, to enter into contracts, agreements and leases, and to sell revenue bonds to finance capital improvements and to refund previously issued evidences of indebtedness of JEA.

In addition to the powers conferred upon JEA by the Charter, the Bulk Power Act authorizes JEA to acquire, own and operate as separate bulk power supply utilities or systems, electric generating plants and transmission lines within the City and within and outside of the State of Florida. JEA's interests in the Power Park and the Scherer 4 Project are separate bulk power supply systems pursuant to the Bulk Power Act. JEA may develop other separate bulk power supply systems in connection with future generation and/or transmission projects. JEA has launched several initiatives to provide revenue diversity. Included in these initiatives are natural gas sales to commercial and industrial customers (See "ELECTRIC UTILITY SYSTEM - *ELECTRIC UTILITY FUNCTIONS* – Electric System – *Natural Gas Sales*" herein), forestry management of JEA owned conservation lands, leasing of dark fiber and space on communication towers, transmission and distribution poles and partnering with the North Florida Transportation Planning Organization to encourage electrification.

Management and Employees

The Charter assigns responsibility for the management of JEA's utilities systems to the JEA Board. JEA employs a Managing Director and Chief Executive Officer as its chief executive officer. The Managing Director, executive officers, vice presidents, directors, managers, executive assistants and other appointed staff, numbering approximately 411 persons, form the management team (the "Management Team") and are not subject to the City's civil service system.

Management

On November 27, 2018, the JEA Board appointed Aaron F. Zahn as Managing Director and Chief Executive Officer of JEA. Mr. Zahn served as Interim Managing Director and Chief Executive Officer from April 17, 2018 until his appointment in November.

Information regarding the Managing Director and Chief Executive Officer of JEA and the thirteen executive officers of JEA follow:

> ***Aaron F. Zahn, Managing Director and Chief Executive Officer***. Aaron F. Zahn is Managing Director and Chief Executive Officer for JEA. In this role, Mr. Zahn oversees all operations for the eighth-largest public utility in the nation, providing electric, water and sewer services to customers across a 900-mile service territory in Northeast Florida.
>
> Prior to being appointed Interim Managing Director and Chief Executive Officer in April 2018, Mr. Zahn served as Managing Partner and Chief Executive Officer of Pascal Partners, a distributed infrastructure investment and development company. From 2009 to 2017, he was Chairman and Chief Executive Officer of BCR Environmental Corporation, a water/wastewater technology firm and public-private-partnership development and operations company. Prior to BCR, Mr. Zahn worked as an investment professional for two multi-strategy hedge funds in New York City, managing over $6 billion in equity. He was also a Senior Manager of the Capital Markets team at General Growth Properties, playing a key role in $25+ billion of acquisitions and financing activities along with providing financial oversight for $200+ million of commercial real estate development.
>
> A graduate of Yale University, Mr. Zahn is a supporter of YMCA of Jacksonville, Baptist Health System, Nemours Children's Health System and Yale University. He is a member of the Board of Directors for the Young Presidents Organization and the Bob Graham Center for Public Service at University of Florida.
>
> ***Melissa H. Dykes, President and Chief Operating Officer***. Melissa Dykes serves as JEA's President and Chief Operating Officer. She leads the operation of the utility, responsible for providing utility services to more than one million people across four counties. She manages nearly 1,800 employees in the areas of energy, water, wastewater, customer experience, human resources, environmental services, compliance and supply chain.
>
> Ms. Dykes served as JEA's Chief Financial Officer for nearly six years prior to her current role. As CFO, she provided leadership to ensure the financial health of JEA, resulting in access to capital at low cost on behalf of JEA's customers. She was responsible for all aspects of JEA's finances, including treasury, financial reporting, budgeting, supply chain management, and shared services, and had lead responsibility for ensuring compliance with all reporting, regulatory and tax requirements for JEA.

Prior to joining JEA, Ms. Dykes was CFO at a portfolio company of a large energy private equity firm and a principal in a renewable energy development company, where she was responsible for origination, commercial structuring, development and capital raising for renewable energy projects. She also was Vice President of Investment Banking at JPMorgan, where she was responsible for providing capital solutions for clients, including more than $26 billion in financings for many municipal electric and water systems across the country, risk management product delivery and mergers and acquisitions. Prior to joining JPMorgan, Ms. Dykes worked for The World Bank Group, where she researched and published on private participation in infrastructure industries in developing countries. She is a graduate of the University of Florida and holds a certificate in Advanced Management from the Tuck School of Business at Dartmouth. Ms. Dykes serves on the Boards of Directors of the United Way of Northeast Florida, the Association of Edison Illuminating Companies, the Florida Coordinating Group, and the Florida Reliability Coordinating Council (where she serves as Secretary/Treasurer and Chair of the Corporate Compliance and Finance and Audit Committee).

Herschel Vinyard, Chief Administrative Officer. Mr. Vinyard has 25 years of environmental law, business, and government experience and comes to JEA from the law firm of Foley & Lardner where he was a member of the Environmental Regulation and Government & Public Policy practices.

He also served a four-year term as Secretary of the Florida Department of Environmental Protection (DEP) during Governor Rick Scott's first term, where he was involved in environmental permitting, water rights, and real estate development. He has been a champion for the state's waterways and natural springs including restoration of the Everglades.

Under his leadership, the Florida Park Service received the National Gold Medal Award for Excellence in the management of state park systems from the National Recreation and Park Association.

Prior to serving the State of Florida, Mr. Vinyard was the director of business operations responsible for strategic planning, business development, and regulatory and government affairs for the Southeast Shipyards division of BAE Systems.

Mr. Vinyard obtained both his law and bachelor's degrees from Louisiana State University.

Ryan F. Wannemacher, Chief Financial Officer. Mr. Wannemacher serves as JEA's Chief Financial Officer. He provides leadership to ensure fiscal responsibility for the long-term financial health of JEA, resulting in access to capital at low cost for JEA's customers. He is responsible for all aspects of JEA's finances, including treasury, financial reporting, financial planning and analysis, and budgeting. He has lead responsibility for ensuring compliance with all reporting, regulatory and tax requirements for JEA. Mr. Wannemacher currently serves on the Finance and Audit Committee of The Energy Authority ("TEA").

Prior to his current role at JEA, Mr. Wannemacher served as JEA's Director of Financial Planning and Analysis from April 2015 to 2018. Prior to joining JEA, Mr. Wannemacher was Vice President of Investment Banking at JPMorgan. While at JPMorgan, Mr. Wannemacher was responsible for providing capital solutions for clients, including over $20 billion in financings for many municipal electric, water and natural gas systems across the country, risk management product delivery, and mergers and acquisitions. Mr. Wannemacher holds a B.B.A. in Financial Consulting from Southern Methodist University graduating Magna Cum Laude.

Julio Romero Agüero, Chief Innovation and Transformation Officer. Dr. Agüero provides leadership in the identification, development, evaluation, and adoption of emerging technologies, business models, services, processes, and industry leading practices to improve overall enterprise performance and sustainability, and achieve digital transformation. He has 23 years of industry experience in the areas of technology and business strategy, grid modernization, smart grid, utility of the future, distribution systems analysis, planning, and operations, and integration of distributed generation, energy storage, microgrids and electric vehicles. He has developed solutions in these areas for electric utilities and regulatory boards in the USA, Canada, Latin America, the Caribbean and Asia. He has published over 40 articles in topics pertaining to these areas and is a frequent speaker in industry events.

Before joining JEA he served as Vice President of Strategy and Business Innovation at Quanta Technology, where he led high performing teams in the development of pioneering methodologies and concepts for planning and analysis of modern and future power distribution systems, grid modernization, and distributed energy resources. He has been Adjunct Professor at University of North Carolina at Charlotte and University of Houston. He is a former Commissioner of the National Energy Commission of Honduras. He is a Senior Member of the Institute of Electrical and Electronics Engineers ("IEEE"), and has served as Chair of the IEEE Distribution Subcommittee, Chair of the IEEE Working Group on Distributed Resources Integration, Editor of IEEE Transactions on Power Delivery, and Editor of IEEE Transactions on Smart Grid. He is a member of the Advisory Committee of DistribuTECH.

He holds PhD, MBA and BSEE degrees from National University of San Juan (Argentina), North Carolina State University and National Autonomous University of Honduras, respectively.

Michael R. Hightower, Chief Public and Stakeholder Affairs Officer. Mr. Hightower joined JEA in 2015, bringing over 35 years of governmental and legislative relations experience. He also previously served 16 years on JEA's Board of Directors including two two-year terms as JEA Chair.

Mr. Hightower joined Blue Cross and Blue Shield of Florida (now Florida Blue) in 1981 as the Director of Governmental and Legislative Relations and in 1985 was named its Vice President of Governmental and Legislative Relations. He worked closely with key political leaders in the federal, state and local government and, after three decades of a successful career at Florida Blue, retired in late 2014. He then joined the international law firm of Holland & Knight LLP as a Senior Policy Advisor before joining the JEA senior leadership team.

In addition to his professional accomplishments, Mr. Hightower has dedicated his time, talents and leadership to numerous boards and commissions over the last 38 years. He is immediate past chair of the Florida Governor's Mansion Foundation and the Florida Association of Professional Lobbyists. Mr. Hightower is in his second year as Vice President, Florida House and Florida's embassy in Washington, D.C. He also serves as an active board member of the Florida State College Foundation, Florida Association of Professional Lobbyists, Florida Ounce of Prevention, and Vice Chair, Five Star Veterans Center.

Prior to joining JEA, Mr. Hightower chaired the following organizations and civic and trade associations: United States Naval Academy; Jacksonville Chamber of Commerce; Florida House, Florida's Embassy in Washington, D.C.; Associated Industries of Florida; Florida Insurance Council; Florida News Service; Florida College System Foundation; Jacksonville Library Foundation; Jacksonville Political Leadership Institute; JaxBiz; Duval County Republican Party and the Cecil Field Base Closure Commission.

Throughout the state, he is well-known for his political leadership, having served as chair or finance chair for more than 580 successful local, state, and/or federal candidates since 1972. He has assisted in raising more than $136.3 million for charitable, candidate and political party campaigns since 1981.

In 2006, Leadership Florida's leaders appointed Mr. Hightower to the Florida Energy Commission. The nine-member panel was charged with making recommendations to the Florida Legislature on ways to secure Florida's energy future.

In 2010, Florida's legislative leadership appointed Mr. Hightower to the Public Service Commission Nominating Council, charged with interviewing and recommending qualified candidates for gubernatorial appointment to the Florida Public Service Commission.

Mr. Hightower, a 1972 graduate of Jacksonville University, resides in Jacksonville. He was a third term 2003, 2005, 2007 University of Florida Graduate School adjunct instructor, "Principles of Lobbying."

Caren B. Anders, Vice President and General Manager, Energy.[(1)] Ms. Anders has lead responsibility for producing and delivering electricity to JEA's 485,000 electric customers in a safe, reliable and cost-competitive manner, and in full compliance with regulatory objectives. In this role, she and her team are responsible for planning, constructing, operating and maintaining JEA's electric system, including generation plants and the transmission, substations and distribution systems.

Ms. Anders joined JEA in January 2019 from Duke Energy. She brings operational leadership, financial acumen, strategy and innovation, and compliance and risk management to her leadership role at JEA. At both Duke and Exelon Corp., she led high-performing teams across the energy spectrum, including Generation, Transmission, Distribution, Emerging Technologies, and Shared Services. Along with her vast electric experience, she also has expertise in new technologies, strategic business performance, compliance, financial management, employee engagement and customer satisfaction.

Ms. Anders has served on the boards of PT Holding Company LLC, Peak Tower LLC, SERC Reliability Corp. and the Florida Reliability Coordination Council. She has also served her community as a board member for Junior Achievement, Central Carolinas and United Way, Greater Triangle N.C. She earned a bachelor's degree in engineering from the University of Pennsylvania and a master's degree in finance from Drexel University and is a licensed Professional Engineer in the state of Pennsylvania.

Deryle Calhoun, Vice President and General Manager of Water and Wastewater Systems.[(2)] Deryle Calhoun is responsible for leading JEA's water and wastewater operations, construction and strategy execution, and delivering exceptional service to JEA customers across a four-county area. Mr. Calhoun is currently leading a resiliency program that will improve water, wastewater and district energy system reliability during extreme weather events like hurricanes.

Mr. Calhoun began his career in water/wastewater in 1993 with the City of Jacksonville Public Utilities as a project engineer and joined JEA in 1997 when the City's water and wastewater services were transferred to JEA. Mr. Calhoun served at the director level for 20 years, first with the Distribution and Collection team and most recently with Water, Wastewater and Reuse Treatment and District Energy Services.

Mr. Calhoun holds a Bachelor of Science degree in Environmental Engineering from the University of Florida and is a registered Professional Engineer in the State of Florida.

Steven G. McInall, Vice President of Energy and Water Planning. Mr. McInall is responsible for long-term planning for JEA's energy and water sectors, overseeing the development of a more than $1 billion capital program. Mr. McInall's groups are responsible for the Integrated Resource Plans for both the electric and water systems. He is responsible for JEA's renewable energy portfolio, including landfill gas and solar photovoltaic (PV). During his tenure, JEA's solar PV portfolio has grown from 12 MW to 34 MW, with another 5 MW plant under construction and 5-50 MW facilities (250 MW) in the contract stage. He is also responsible for real estate acquisitions and sales.

(1) Michael J. Brost retired from his position of Vice President and General Manager of Electric Systems in January 2019.
(2) Brian J. Roche retired from his position of Vice President and General Manager of Water and Wastewater Systems in June 2018.

Mr. McInall has been with JEA since 2011, serving as the Director of the Electric Production Resource Planning Department, with oversight of the Electric Generation Planning, Fuels Management Services, Natural Gas Commercial Services and Byproducts Production Services areas, and as the Manager of Nuclear Generation Business.

Prior to joining JEA, Mr. McInall had a 27-year career at several regional and national engineering consulting firms, including Stone & Webster Engineering Corporation, Boston, and MACTEC Engineering and Consulting, in Tallahassee and Jacksonville. Clients included major U.S. utilities, such as Dominion Energy, Inc. and the Tennessee Valley Authority, as well as the U.S. Department of Energy and the U.S. Army Corps of Engineers.

Mr. McInall holds Bachelor and Master degrees in Nuclear Engineering from the Massachusetts Institute of Technology, and will receive a Master of Public Policy degree from Jacksonville University in April, 2019. He is a licensed Professional Engineer in Florida, Georgia, South Carolina, North Carolina, Massachusetts, New Hampshire and Vermont. He is also a Leadership in Energy and Environmental Design (LEED) Accredited Professional, in Building Design and Construction. Mr. McInall is on the Board of the North Florida Chapter of the US Green Building Council, and serves on the St Johns County Citizens Flood Mitigation Advisory Committee

Kerri Stewart, Vice President and Chief Customer Officer. Ms. Stewart joined JEA as Chief Customer Officer in 2017, bringing more than 14 years of experience to the organization. Previously, Ms. Stewart served as Chief of Staff for Jacksonville, Florida Mayor Lenny Curry, providing policy and public affairs guidance to the mayor.

Prior to returning to the City, Ms. Stewart was a Partner and Senior Vice President at Infinity Global Solutions. Drawing on her extensive experience in both the public and private sectors, she focused on assisting clients in the areas of government privatization, public infrastructure development, general management consulting and government relations. She also served as interim president of Visit Jacksonville, Local Initiative Support Corporation (LISC) and Cultural Council of Greater Jacksonville as part of her management consulting practice.

Prior to joining IGS, Ms. Stewart served as the Chief Administrative Officer for the City of Jacksonville/Duval County, Florida under Mayor John Peyton and Mayor Alvin Brown. In this role, she oversaw day-to-day government operations for the City, including directing a nearly 5,000-member workforce and managing the $1 billion municipal budget and $164 million annual capital improvement plan. During her first tenure with the City, Stewart led several successful privatization studies and implementations; and she has shared her experiences in this area at a variety of conferences and other professional venues.

During her years of public service, Ms. Stewart also served as director of the City's Housing and Neighborhoods Department, created the Office of Operational Efficiency (now known as the Inspector General's Office), and served as a policy advisor to Mayor Peyton.

Prior to joining the City, Ms. Stewart worked as a Program Manager for Alltel Information Systems in Leeds, UK and Jacksonville, Florida. She is a graduate of the University of North Florida's Coggin School of Business with a bachelor's degree in Business Administration, double-majoring in Marketing and Management.

Ted E. Hobson, Vice President and Chief Compliance Officer. Mr. Hobson joined JEA in 1973 and has overall responsibility for development, implementation and maintenance of JEA's Compliance Programs including NERC Electrical Standards, NERC Critical Infrastructure Protection ("CIP") standards, FACTA regulations and other related federal and state regulations. He is also responsible for JEA's Physical

Security department as well as Audit Services and Enterprise Risk Management. Mr. Hobson is currently on the Board of Directors of TEA and is JEA's representative on the TEA Settlement and Operating Committee. Mr. Hobson is JEA's alternate board member for the Florida Electric Reliability Coordinating Council ("FRCC") and the alternate board member for the Florida Electric Coordinating Group ("FCG"). Additionally, Mr. Hobson currently serves on the Board of Directors of the Jacksonville Museum of Science and History.

Mr. Hobson's previous position was Director of Energy Delivery, where he was responsible for all electric field activities including overhead and underground line work, system protection and controls, substation maintenance and the 24-hour operation of the JEA power system including generation commitment and dispatch, transmission operation and security and interchange services with other utilities. During his over 40 years with JEA, he has worked in the areas of distribution, engineering, trouble dispatching, system operations and system planning. Mr. Hobson has served as JEA's representative to the FRCC for over 15 years and was chair of the Operating Committee for the past six years. He also served on various North American Electric Reliability Corporation ("NERC") committees and subcommittees and is a member and past chair of the NERC Compliance and Certification Committee.

Mr. Hobson holds a BSEE from the University of Florida, and is a registered Professional Engineer in the State of Florida.

Lynne Rhode, Vice President, Chief Legal Officer. Ms. Rhode has 14 years of legal experience in the public and private sectors, primarily in environmental and natural resources law and also in administrative, civil litigation, general corporate, lobbying and government affairs, and zoning law. She has most recently practiced transactional, regulatory and corporate law with a prominent Jacksonville law firm.

Ms. Rhode is employed with the City's Office of General Counsel and is the lead attorney assigned exclusively to JEA. Pursuant to the Charter, the Office of General Counsel is responsible for providing and overseeing all legal services to JEA. The Office of General Counsel represents the City's consolidated city-county government, which includes the independent agencies, constitutional officers, City Council members, Mayor, executive branch departments and over 30 boards, commissions, and agencies. Ms. Rhode provides counsel to JEA on various legal matters and oversees JEA's outside counsel engagements.

Prior to relocating to Jacksonville, Ms. Rhode served as Senior Assistant Attorney General and Section Chief of the Environmental and Natural Resources Division of the Virginia Attorney General's Office. She led a team of eight attorneys and staff providing counsel to the environmental health, environmental and natural resources agencies of the Commonwealth of Virginia; advising on administrative, compliance, contract, enforcement, labor and employment, permitting, procurement, rulemaking, and other legislative issues.

Ms. Rhode has served as a guest professor at the William and Mary School of Law Coastal Policy Clinic and on the Virginia Department of Environmental Quality's Combustion Regulatory Advisory Panel and Small Solar Working Group.

Ms. Rhode is a member of the Florida and Virginia bars. She is a graduate of the North Carolina Fellows Leadership Program and the Sorenson Institute Political Leaders Program. She holds a Bachelor of Arts in Economics from the University of North Carolina at Chapel Hill, where she was a John Motley Morehead Scholar; a Juris Doctor degree from the University of Virginia; and a Master of Science in Regulation from the London School of Economics and Political Science.

Jon Kendrick, Interim Chief Human Resources Officer.[(1)] Mr. Kendrick joined JEA in April 2019 after previously working as a Human Resources Business Partner from 2015 – 2017 where he was instrumental in providing strategic direction for the JEA Customer Experience, Technology Services and Compliance business units.

Mr. Kendrick has more than 25 years of human resources experience that spans healthcare, financial services, transportation, utility and technology industries. He most recently served as the Human Resources Director for Yusen Logistics (Americas), Inc., in Jacksonville.

Mr. Kendrick holds certifications as a Senior Professional in Human Resources (SPHR) and as a Senior Certified Professional from the Society for Human Resource Management (SCP-SHRM). He has a bachelor's degree in Economics from the University of Florida and a Master of Divinity from New Orleans Baptist Theological Seminary

Mr. Kendrick was also a commissioned officer in the U.S. Coast Guard Reserve where he led an expeditionary unit and served in both Operation Enduring Freedom & Iraqi Freedom.

Shawn Eads, Vice President and Chief Information Officer.[(2)] Mr. Eads is Vice President and Chief Information Officer. In this role, he is responsible for JEA's information technology (IT) strategy and the computer systems required to support the organization's unique objectives and goals.

Mr. Eads has over 22 years of experience in the IT industry. Most recently, he served as Senior Director for IT at GE Appliances, where he led various responsibilities including Oracle ERP, Risk & Compliance, Predictive Analytics, Engineering Systems, Vendor Management, Enterprise Architecture, Innovation and New Product Introduction. While working in the Home Appliances industry, Mr. Eads spent time developing solutions for home energy management. One example includes integrating smart meters via the cloud with home appliances to respond to time of use pricing and demand management events. Prior to his 13-year career at GE Appliances, Mr. Eads held IT roles with Accenture and GE Aircraft Engines.

Mr. Eads holds a Bachelor of Science degree in Chemical Engineering from Rose-Hulman Institute of Technology, and earned his MBA at Xavier University.

John P. McCarthy, Vice President and Chief Supply Chain Officer. Mr. McCarthy is responsible for leading JEA's supply chain strategy and operations. His responsibilities include JEA's facilities, fleet, real estate, procurement, inventory management, investment recovery, emergency management planning and recovery and utility locates groups. The team ensures JEA's material readiness is at the highest levels and lowest cost, while ensuring corporate funds are committed under ethical standards to deliver the greatest value to JEA in compliance with state and local laws.

Mr. McCarthy joined JEA in 2002 after a successful 20-year career as a U.S. Navy Supply Officer. During his 16 years at JEA, he has served in various leadership roles within the procurement and logistics groups including an initial assignment as a Procurement Project Coordinator where he developed an aggregated sourcing model adopted by seven different utility companies. This resulted in the strategic sourcing of over $400 million over a ten-year period. Other notable roles include JEA's Chief Procurement Officer and Incident Command Logistics Section Chief where he implemented advanced contract negotiation processes and a hurricane preparedness strategy for critical storm materials, providing 100 percent on-site material availability for the restoration periods following Hurricanes Matthew and Irma. He also served as JEA's United Way Campaign Chairman.

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(1) Angelia R. Hiers retired from her position as Chief Human Resources Officer in April 2019.
(2) Paul J. Cosgrave retired from his position of Vice President and Chief Information Officer in January 2019.

Mr. McCarthy received his B.S. degree from the U.S. Naval Academy, and an M.B.A. degree from The Ohio State University. He is a member of Leadership Jacksonville, class of 2013, and holds advance certificates in executive contract negotiations and supply chain strategy and management from the Massachusetts Institute of Technology Sloan School of Management.

Paul K. Steinbrecher, Vice President and Chief Environmental Services Officer. Mr. Steinbrecher is responsible for leading JEA's Environmental Services group. Core group functions include environmental permitting and compliance assistance for JEA's numerous electric and water business facilities, environmental incident response and reporting, due diligence, waste management and remediation, wetlands and wildlife issues, industrial pretreatment and other programs in which JEA serves as an environmental regulatory agency, and full service environmental laboratory functions to support the enterprise's extensive monitoring and environmental reporting activities. In this role he leads the organization in ensuring the highest levels of environmental compliance and incorporation of sustainability into all JEA's planning activities.

Mr. Steinbrecher's career has focused on finding and advancing cost effective environmental and engineering solutions for utilities, business and industry and governments. Mr. Steinbrecher joined JEA in 2001. He is highly active on Florida environmental policy and regulatory issues, currently serving as President of the Florida Water Environment Association Utility Council and as a national board member of the WateReuse Association. He is also a long term member of the Florida Electric Power Coordinating Group Environmental Committee. Based on his prior experience, he also helps lead the utility in forward thinking water resource solutions.

Prior to joining JEA Mr. Steinbrecher was a process engineer and program manager for CH2M Hill, designing water and wastewater systems and assisting industries and municipalities with environmental projects worldwide. Mr. Steinbrecher holds BS and MS degrees in Civil Engineering from Valparaiso University and the University of Arkansas, respectively. He is a registered professional engineer in Florida and a member of the Leadership Jacksonville, class of 2015.

Employees

The employees of JEA are considered to be governmental (public) employees and, as such, have the right to organize, be represented and bargain collectively for wages, hours and terms and conditions of employment, as provided in Chapter 447, Part II, Florida Statutes. Florida state law prohibits strikes and concerted work slowdowns by governmental (public) employees. Pursuant to the Charter, JEA has full and independent authority to hire, transfer, promote, discipline, terminate and evaluate employees and, consistent with the provisions of the Charter relating to civil service, to establish employment policies relating to hiring, promotion, discipline, termination and other terms and conditions of employment, to enter into negotiations with employee organizations with respect to wages, hours and terms and conditions of employment and to take such other employment related action as needed to assure effective and efficient administration and operation of its utilities systems. The Council is the legislative body with authority to approve or not approve collective bargaining agreements and to resolve any statutory impasses that may arise from collective bargaining.

As of October 1, 2018, JEA had 2,158 budgeted employee positions (exclusive of the Power Park employees referred to below), of which 1,553 were budgeted to the Electric System, 599 were budgeted to the Water and Sewer System and six were budgeted to the District Energy System. Except for the Management Team and a minor number of contract employees, such employees have civil service status.

Approximately 1,561 employees are covered by five collective bargaining agreements. These employees are represented by the American Federation of State, County, and Municipal Employees ("AFSCME"), the International Brotherhood of Electrical Workers ("IBEW"), Local 2358 and the Northeast Florida Public Employees, Local 630, Laborers' International Union of North America ("LIUNA"), all of which are affiliated with the AFL-CIO, and by a professional employees' association (the "PEA," Professional Employees Association) and a supervisors' association (the "JSA," Jacksonville Supervisors Association) that have no AFL-CIO affiliation. JEA has collective bargaining agreements with all the collective bargaining agents, and all of the collective bargaining agreements have been ratified and approved by the legislative body, the Council, and are effective through September 30, 2019.

Pension

Substantially all of JEA's employees participate in the City's general employees pension plan ("GEPP"). Employees of the Power Park participate in a separate pension plan. See Note 12 to JEA's Financial Statements set forth in APPENDIX A to this Annual Disclosure Report for a discussion of certain information on the City's plan. The Actuarial Valuation as of October 1, 2017 for the City's GEPP (the "2017 Actuarial Valuation Report") and the Actuarial Valuation as of October 1, 2018 for the City's GEPP (the "2018 Actuarial Valuation Report") are available for viewing and downloading from the City's website link:(http://www.coj.net/departments/finance/retirement-system/gasb-and-plan-valuation-statements) and selecting the October 1, 2017 Valuation or the October 1, 2018 Valuation, respectively, under "General Employees Retirement Plan."

For the five Fiscal Years ended September 30, 2014, 2015, 2016, 2017 and 2018, JEA contributed $34,544,000, $40,179,000, $43,156,000, $48,942,000, and $35,459, 523, to the GEPP.

JEA expects that its annual contributions to GEPP will be at lower levels in the near term than it had been for Fiscal Year Ended September 30, 2017 primarily due to recognition of a pension liability surtax beginning with Fiscal Year Ended September 30, 2018 and then it expects its annual contributions to GEPP to increase over the longer-term as a result of the expected increase in the GEPP's unfunded actuarial accrued liability. JEA expects that the GEPP's unfunded actuarial accrued liability and JEA's portion of that unfunded liability will continue to increase over the near term primarily due to a delay in receipt of the revenues from the pension liability surtax.

For the Fiscal Year ended September 30, 2018, the aggregate unfunded actuarial accrued liability for the GEPP was $1,175,135,210, which represented an increase of $93,821,769 from an aggregate unfunded actuarial accrued liability for the GEPP for the Fiscal Year ended September 30, 2017 of $1,081,313,441. For the Fiscal Year ended September 30, 2017, the aggregate unfunded actuarial accrued liability for the GEPP was $1,081,313,441, which represented an increase of $56,816,369 from an aggregate unfunded actuarial accrued liability for the GEPP for the Fiscal Year ended September 30, 2016 of $1,024,497,072. JEA has been informed by the City that the actuary for the GEPP has calculated (i) JEA's allocated share of the unfunded actuarial accrued liability for the GEPP reported for Fiscal Year 2018 of $565,792,869 (an increase of $42,416,322 from JEA's allocated share for Fiscal Year 2017) of the aggregate amount of $1,175,135,210 and (ii) JEA's allocated share of the unfunded actuarial accrued liability for the GEPP reported for Fiscal Year 2017 of $523,376,547 (an increase of $28,552,073 from JEA's allocated share for Fiscal Year 2016) of the aggregate amount of $1,081,313,441. The actuarial accrued liability is an estimate by the actuary for GEPP of the present value of the amount of earned benefit payments that GEPP will pay to retirees during retirement. The unfunded actuarial accrued liability represents the amount that the actuarial accrued liability exceeds assets in GEPP available to pay those benefit payments. These figures are based on numerous assumptions, such as retirement age, mortality rates, and inflation rates, and use numerous methodologies all of which can cause the actual performance of the GEPP to differ materially from the estimates of the actuary in any actuarial valuation. However, based on the current unfunded actuarial accrued liability of the GEPP, JEA expects that its annual contributions to GEPP will be increasing over the near future to fund its portion of the unfunded amount.

JEA also provides a medical benefits plan that it makes available to its retirees.

The SJRPP Plan is a single-employer contributory defined benefit plan covering former employees of the Power Park. As of October 1, 2018, and following cessation of commercial operations of the Power Park on January 5, 2018, no employees of the Power Park were engaged in performing tasks associated with operations of the Power Park. Upon the cessation of commercial operations of the Power Park in January 2018 pursuant to the agreement entered into between JEA and FPL, JEA assumed all payment obligations and other liabilities related to any amounts due to be deposited into the SJRPP Plan. Former Power Park non-managerial employees were represented by IBEW Local 1618. In a prior collective bargaining agreement and under statutory authority, certain terms and conditions of employment were imposed, including separating the existing JEA St. Johns River Power Park System Employees' Retirement Plan ("SJRPP Plan") into two tiers of employees. Tier One employees remained in the traditional defined benefit plan, and Tier Two employees (defined as employees with fewer than 20 years' experience) participated in a modified defined benefit plan, or "cash balance" plan, with an employer match provided for any Tier Two employee who contributes to the 457 Plan. Tier One was closed to all new employees hired on or after February 25, 2013.

Closure of the plant triggered SJRPP Plan provisions resulting in accelerated eligibility for retirement at age 55 regardless of years of service. Members with at least 10 years of service on the plant closure date are eligible for a benefit starting at age 55, while all other members not meeting conditions for the immediate unreduced retirement may be eligible for a reduced benefit starting at age 55. With the exception of a small number of actively employed members who were eligible to continue membership in the plan based on employment with JEA, benefit accruals were scheduled to cease on January 5, 2018. However, interest credits for Tier 2 participants are assumed to continue after the plant shutdown until the benefit distribution at age 55.

The number of active members declined rapidly during the decommissioning process with only a very few active members remaining employed by SJRPP. One consequence to JEA of the closure of the Power Park plant is that the annual required contribution to the SJRPP Plan is expected to increase as a percentage of covered payroll as such payroll decreases year to year. Another is that contributions will be required after the retirement of the last active member. Subsequent to the closure of the plant and the elimination of nearly all active employees in the SJRPP Plan, the assumed rate of return on the plan was lowered to 6.0 percent for use in the Actuarial Valuation performed as of October 1, 2018. The SJRPP Plan's assumed rate of return is 7.0 percent for use in the Annual Actuarial Valuation performed as of October 1, 2012 through October 1, 2017.

As of October 1, 2018, the SJRPP Plan's actuarial value of assets was $150,969,730, the actuarial accrued liability entry-age normal was $174,666,326, the unfunded actuarial accrued liability was $4,001,546, the funded ratio was 86.4 percent, the covered payroll was $443,955 and the unfunded actuarial accrued liability as a percentage of covered payroll was 901.3 percent. As of October 1, 2017, the SJRPP Plan's actuarial value of assets was $152,797,764, the actuarial accrued liability entry-age normal was $169,320,985, the unfunded actuarial accrued liability was $16,523,221, the funded ratio was 90.2 percent, the covered payroll was $11,988,122 and the unfunded actuarial accrued liability as a percentage of covered payroll was 137.8 percent. As of October 1, 2016, the SJRPP Plan's actuarial value of assets was $142,285,489, the actuarial accrued liability entry-age normal was $162,028,867, the unfunded actuarial accrued liability was $19,743,378, the funded ratio was 87.8 percent, the covered payroll was $15,489,302 and the unfunded actuarial accrued liability as a percentage of covered payroll was 127.5 percent. In the current fiscal year, JEA intends to manage the SJRPP plan to maintain a funded ratio consistent with fiscal years 2016-2018. JEA made $26,408,861 in contributions during the Fiscal Year Ended September 30, 2018, satisfying its required employer contribution of $8,422,270 for the Fiscal Year Ended September 30, 2019. After applying the available credit balance of $12,585,746, its required employer contribution for the Fiscal Year Ended September 30, 2020 is $4,582,219. The increase in the required total employer contribution to $17,167,965 for the Fiscal Year Ended September 30, 2020 resulted from a combination of the Plan's prior funding policy, which included the objective of achieving a 100% funded ratio by October 1, 2019 and the change in the assumed rate of return. See "ELECTRIC UTILITY SYSTEM – *ELECTRIC UTILITY FUNCTIONS* – St. John's River Power Park – *Early Termination of Power Park Joint Ownership Agreement*" for additional information.

Upon the cessation of commercial operations of the Power Park in January 2018 pursuant to the agreement entered into between JEA and FPL, JEA assumed all payment obligations and other liabilities related to any amounts due to be deposited into the SJRPP Plan. See “ELECTRIC UTILITY SYSTEM – *ELECTRIC UTILITY FUNCTIONS* – St. John’s River Power Park – *Early Termination of Power Park Joint Ownership Agreement*” for additional information.

See Note 12, Note 13 and pages 111-118 of JEA’s Financial Statements set forth in APPENDIX A to this Annual Disclosure Report for a discussion of the pension plans, “other post-employment benefit” plan and actuarial accrued liability.

Certain Demographic Information

Under Florida law, the City and Duval County are organized as a single, consolidated government. Based upon the 2010 United States Census, the consolidated City is the most populous city in the State of Florida. The City covers 840 square miles and is one of the largest cities in area in the United States.

The Jacksonville Metropolitan Statistical Area (“MSA”) is composed of Duval, Clay, Nassau, St. Johns and Baker Counties, an area covering 3,202 square miles. The U.S. Census Bureau estimates that the Jacksonville MSA had a population of 1,534,701 as of July 1, 2018. The Jacksonville MSA is currently the fourth most populous MSA in the State of Florida. The table below shows population for the Jacksonville MSA.

Population

Year	Jacksonville MSA
1980	722,252
1990	906,727
2000(1)	1,122,750
2010	1,345,596
2018	1,534,701

Source: United States Census Bureau
(1) Baker County was included in the Jacksonville MSA starting with the 2000 United States census.

The economy of the Jacksonville MSA contains significant elements of trade and services, transportation services, manufacturing, insurance and banking and tourism. The Port of Jacksonville is one of the largest ports on the South Atlantic seaboard and in terms of tonnage ranks third in the State of Florida. A number of insurance and banking companies maintain regional offices in the City. The tourism and recreational facilities in the City include an arena, a performing arts center, a convention center, TIAA Bank Field (the home field of the National Football League’s Jacksonville Jaguars), a baseball park, numerous golf courses and resorts and various recreational facilities at the beaches. Two large United States Navy bases are located in the City.

The table below sets forth the annual, not seasonally adjusted, labor force, employment and unemployment figures for the Jacksonville MSA and comparative unemployment figures for the State of Florida and the United States for the most recent 10 years ended December 2018.

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	Jacksonville MSA Labor Force			Unemployment Rate (%)	
Year	**Civilian**	**Employment**	**Unemployment Rate (%)**	**Florida**	**U.S.**
2009	681,026	612,993	10.0	10.4	9.3
2010	697,120	622,208	10.7	11.1	9.6
2011	701,533	633,405	9.7	10.0	8.9
2012	704,090	646,370	8.2	8.5	8.1
2013	709,351	659,773	7.0	7.2	7.4
2014	715,253	670,631	6.2	6.3	6.2
2015	719,098	680,375	5.4	5.5	5.3
2016	735,832	701,636	4.6	4.8	4.9
2017	760,298	729,627	4.0	4.2	4.4
2018	773,492	747,223	3.4	3.6	3.9

Source: Florida Research and Economic Information Database Application, http://freida.labormarketinfo.com/default.asp.

The table below shows the estimated average non-agricultural wage and salary employment by sector for the Jacksonville MSA for the calendar year 2018.

	Number of Employees	Percent of Distribution
Trade, Transportation and Utilities	150,400	21.2
Professional and Business Services	108,000	15.2
Education and Health Services	107,500	15.2
Leisure and Hospitality	85,500	12.1
Government	77,000	10.9
Finance	67,000	9.5
Construction	45,400	6.4
Other Services[(1)]	36,300	5.1
Manufacturing	31,400	4.4
Total Non-Agricultural Employment (Except Domestics, Self-Employed And Unpaid Family Workers)	708,500	100.0

Source: United States Department of Labor.
(1) Consists of other services, information and natural resources and mining.

The following table lists the 10 largest non-governmental employers in the Jacksonville MSA and the approximate size of their respective work forces.

Name of Employer	Product or Service	Approximate No. of Employees
Baptist Health System	Healthcare	10,500
Bank of America / Merrill Lynch	Banking	8,000
Florida Blue	Health Insurance	7,000
Mayo Clinic	Healthcare	6,000
Southeastern Grocers	Supermarkets	5,700
St. Vincent's Healthcare	Healthcare	5,300
Citibank	Banking	4,200
JP Morgan Chase	Banking	3,900
UF Health Jacksonville	Healthcare	3,600
Wells Fargo	Banking	3,500

Source: Jacksonville Regional Chamber of Commerce Research Department employer survey, fall 2012, as partially amended through December 2018.

The following table lists the eight largest governmental employers in the Jacksonville MSA and the approximate size of their respective work forces.

Name of Employer	Type of Entity/Activity	Approximate No. of Employees
Naval Air Station, Jacksonville	United States Navy	19,800
Duval County Public Schools	Public Education	11,876[(1)]
Naval Air Station, Mayport	United States Navy	9,000
City of Jacksonville	Municipal Government	7,471[(2)]
St. Johns County School District	Public Education	5,039[(3)]
Clay County School Board	Public Education	5,000
Fleet Readiness Center	Maintenance / Repair Overhaul	3,850
United States Postal Service	United States Government	3,800

Source: Jacksonville Regional Chamber of Commerce Research Department employer survey, fall 2012, as partially amended through December 2018.

(1) Duval County Public Schools website, full-time staff (http://www.duvalschools.org/domain/5268)

(2) City of Jacksonville Annual Budget 2018-19 (http://www.coj.net/departments/finance/docs/budget/fy18-19-proposed-budget-website.aspx)

(3) St. Johns County School District website (http://www.stjohns.k12.fl.us/about/)

Indebtedness of JEA

The indebtedness of JEA relating to its Electric Utility Functions as of the date of this Annual Disclosure Report consists of Electric System Bonds, Subordinated Electric System Bonds, Power Park Issue Three Bonds, Bulk Power Supply System Bonds and borrowings outstanding under the Revolving Credit Facility (as defined herein) for the account of the Electric System. All outstanding Power Park Issue Two Bonds were defeased on January 5, 2018 in connection with the shutdown of SJRPP. See "ELECTRIC UTILITY FUNCTIONS – St. Johns River Power Park – Early Termination of Power Park Joint Ownership Agreement." See "ELECTRIC UTILITY SYSTEM - *FINANCIAL INFORMATION RELATING TO ELECTRIC UTILITY FUNCTIONS* - Debt Relating to Electric Utility Functions" herein. For information regarding the Revolving Credit Facility, see "OTHER FINANCIAL INFORMATION - Revolving Credit Facilities" herein. As described under "INTRODUCTION - General" herein, the debt of JEA relating to its Electric Utility Functions, the debt of JEA relating to the Water and Sewer System and the debt of JEA relating to the District Energy System are payable from and secured by separate revenue sources. Accordingly, the information contained in this Annual Disclosure Report relating to JEA's Electric Utility Functions is not relevant to the Water and Sewer System Bonds (as described in the Water and Sewer System/DES ADR), the Subordinated Water and Sewer System Bonds (as described in the Water and Sewer/DES ADR) or the District Energy System Bonds (as described in the Water and Sewer/DES ADR) and should not be taken into account in evaluating such debt.

The description of the debt of JEA contained herein and of the documents authorizing, securing and relating to such debt do not purport to be comprehensive or definitive. All references herein to such documents are qualified in their entirety by reference to such documents.

For a detailed description of the outstanding debt of JEA as of September 30, 2018, see Note 8 to the financial statements of JEA set forth in APPENDIX A attached hereto.

Forward-Looking Statements and Associated Risks

This Annual Disclosure Report contains forward-looking statements, including statements regarding, among other items, (a) anticipated trends in JEA's business and (b) JEA's future capital requirements and capital resources. These forward-looking statements are based on, among other things, JEA's expectations and are subject to a number of risks and uncertainties, certain of which are beyond JEA's control. Actual results could differ materially from those anticipated by these forward-looking statements. In light of these risks and uncertainties, there can be no assurance that events anticipated by the forward-looking statements contained in this Annual Disclosure Report will in fact transpire.

JEA's independent certified public accountants have not examined, compiled or otherwise applied procedures to the forward-looking statements or financial forecasts presented herein and, accordingly, do not express an opinion or any other form of assurance on such forward-looking statements or financial forecasts.

Privatization of JEA

At the JEA Board meeting on November 28, 2017, JEA Board member Tom Petway requested that the JEA Board and the City consider the financial benefits that would result from a privatization of JEA's Electric System, Water and Sewer System and District Energy System and whether the customers of JEA and the people of the City would be better served by the private marketplace.

In response to Mr. Petway's request, Alan Howard, Chair of the JEA Board, authorized JEA staff to cause the necessary work to be done for the JEA Board to be able to consider the answer to these questions.

JEA commissioned Public Financial Management ("PFM") to prepare a report to inform the JEA Board, the City and the public as to several important considerations that must be evaluated in order to make any decisions regarding JEA's future. A copy of that report, entitled "The Future of JEA: Opportunities and Considerations," dated February 14, 2018 (the "Report"), has been filed with the MSRB, through the MSRB's EMMA website currently located at http://emma.msrb.org .

JEA provided the Report to the holders of its bonds for general information purposes only. The Report does not include every item which may be of interest, nor does it purport to present full and fair disclosure with respect to any of JEA's bond programs within the meaning of the federal securities laws. PFM prepared the Report with a view to informing JEA's Board, the City and the public concerning the matters it covers, and PFM did not prepare the Report with a view to informing the holders of JEA's bonds or with a view to informing any person concerning an investment decision in JEA's bonds. Accordingly, the Report is not suitable for informing any person in the making of an investment decision in any of JEA's bonds. The Report does not purport to, and does not, inform any person concerning how any sale of JEA or any other action taken in response to the Report may impact the holders of JEA's bonds. In addition, the valuation-related statements in the Report regarding JEA are not prepared with a view to assess the value of JEA's bonds.

Any potential sale of JEA's Electric System, Water and Sewer System and District Energy System would require the approval of the Council. In early 2018, the Council appointed a special committee ("Special Committee") consisting of the 19 members of the Council to examine and understand all aspects and implications of a potential sale of JEA and to gather the relevant facts the Council should consider in any decisions related to a potential sale of JEA. The Special Committee met regularly through July 25, 2018 to ensure a transparent and open process for the citizens of the City as to the consideration of a potential sale of JEA.

On April 26, 2018, Mayor Curry stated that he will not submit any JEA privatization plan to the Council. In April 2018, the Council enacted an ordinance setting up a public straw poll ballot vote referendum as to whether the Council should call for a binding referendum approving the terms and conditions of any action to sell more than ten percent of JEA. On November 6, 2018 voters overwhelmingly approved the referendum item.

Effective December 10, 2018, the Council amended the Charter to require referendum approval of the terms and conditions of the sale of any function or operation which comprises more than ten percent of the total of the JEA utilities system to any other utility, public or private and has been approved by the Council.

At this time, JEA is unable to predict the likelihood of whether a sale will occur, whether there is any potential timetable for a sale, or how, if at all, the holders of JEA's bonds may be impacted by any actions that the Council, the City or the JEA Board may take in connection with a possible sale of JEA.

JEA also cannot determine what additional action, if any, may be taken by the JEA Board, the Council or the City relating to the privatization of JEA.

Strategic Planning

Energy sales for JEA have generally been flat to declining since 2007 and energy efficiency and solar power is expected to continue to further pressure JEA's sales. For these reasons, JEA is actively engaged in strategic planning. As part of its strategic planning process, JEA is considering various options with respect to its business which include potential rate increases and/or the redemption or defeasance of various debt obligations of JEA. Consistent with this focus, JEA has launched its Strategic Asset Realignment Plan ("STAR Plan"), a plan designed to accelerate debt repayment through 2023. In connection with the plan, JEA has proposed to utilize a combination of current and future year net revenues and available cash and investments in order to accelerate debt repayment. Due to the expected reduction in cash and investment balances, JEA has also increased the size of its Revolving Credit Facility by $200,000,000 for a total commitment equal to $500,000,000. See "OTHER FINANCIAL INFORMATION – Revolving Credit Facilities" for additional information. In February 2019, JEA retired $100,090,000 of Electric System debt as part of this effort. Future redemptions or defeasance of Electric System debt is subject to availability of funds and Board approval. Furthermore, the ultimate outcome and recommendations of the strategic planning process is unknown at this time and may have an impact on the approval and/or timing of future redemption or defeasance activity. JEA may modify this plan at any time.

ELECTRIC UTILITY SYSTEM

ELECTRIC UTILITY FUNCTIONS

General

In 2017, the latest year for which such information is available, JEA was the eighth largest municipally owned electric utility in the United States in terms of number of customers. During the Fiscal Year Ended September 30, 2018, the Electric System served an average of 466,411 customer accounts in a service area which covers virtually the entire City. JEA also sells electricity to retail customers and an electric system in neighboring counties. In addition, as described under "ELECTRIC UTILITY SYSTEM - *ELECTRIC UTILITY FUNCTIONS* - St. Johns River Power Park - *Ownership*" herein, prior to the cessation of operations of the Power Park on January 5, 2018, JEA had sold to FPL a portion of the capacity (and associated energy) of JEA's interest in the Power Park pursuant to the long-term power sales provisions of the Power Park Joint Ownership Agreement (hereinafter defined) (such sale being referred to herein as the "FPL-Power Park Sale").

JEA's total energy sales in the Fiscal Year ended September 30, 2018, net of off-system sales and the energy sold by JEA to FPL pursuant to the FPL-Power Park Sale, were approximately 12.4 billion kilowatt-hours ("kWh"). Total revenues, including investment income, for the Electric System for the Fiscal Year ended September 30, 2018, net of the revenues received by JEA from the FPL-Power Park Sale (calculated for purposes of the Electric System Schedule of Debt Service Coverage (see "ELECTRIC UTILITY SYSTEM - *FINANCIAL INFORMATION RELATING TO ELECTRIC UTILITY FUNCTIONS* - Schedules of Debt Service Coverage" herein)), were approximately $1,288,954,000.

The electric utility facilities of JEA are divided for financing purposes into the Electric System, the Power Park and the Scherer 4 Project.

The Electric System includes generation, transmission, interconnection and distribution facilities. The generating facilities, located on four plant sites in the City, currently consist of a dual residual fuel oil/gas-fired steam turbine-generator unit, four diesel-fired combustion turbine ("CT") generator units, seven dual-fueled (gas/diesel) CT generator units, one steam turbine generator unit with the steam provided by heat recovery steam generators served from two of the seven CTs (a 2-on-1 combined cycle unit), and two petroleum coke ("petcoke")- and coal-fired circulating fluidized bed ("CFB") steam turbine-generator units. As of the date of this Annual Disclosure Report, the total combined installed capacity of the Electric System's generating units is 2,573 megawatts ("MW"), net, summer and 2,906 MW, net, winter (see "ELECTRIC UTILITY SYSTEM - *ELECTRIC UTILITY FUNCTIONS* - Electric System - *Electric System Generating Facilities*" herein).

Pursuant to Chapter 80-513, Laws of Florida, Special Acts of 1980 (as amended and supplemented, the "Bulk Power Act"), JEA is authorized to acquire, own and operate as a separate bulk power supply utility or system, electric generating plants and transmission lines within the City and within and outside of the State of Florida. The Power Park and the Scherer 4 Project each have been developed as a separate bulk power supply system under the Bulk Power Act and, as such, are not included in the Electric System.

The Power Park was a coal- and petcoke-fired steam electric generating station formerly rated at 1,276 MW, net, located in the northeast section of the City. The Power Park assets are jointly owned by JEA and FPL; JEA's ownership interest in the Power Park assets is 80 percent. The Electric System was entitled to 50 percent (equal to 638 MW, net) of the capacity of the Power Park and was required to pay for such capacity on a "take-or-pay" basis (that is, whether or not the Power Park is operable or operating and notwithstanding the suspension, interruption, interference, reduction or curtailment of the output of the Power Park for any reason) by making deposits into certain funds and accounts established pursuant to the First Power Park Resolution and the Second Power Park Resolution. Pursuant to the FPL-Power Park Sale, JEA was to sell to FPL 37.5 percent of the net generating capacity of JEA's interest in the Power Park until the Power Park Joint Ownership Agreement expired, which was expected to have been in 2022, subject to the limitation that FPL would not receive in excess of 25 percent of the product of (a) the nameplate capacity of JEA's 80 percent ownership interest in the Power Park and (b) the number of years from the date FPL first took energy pursuant to such sale until the latest maturity date of the Power Park Issue Two Bonds defined and referred to herein. After expiration of the Power Park Joint Ownership Agreement, JEA was to receive 80 percent of the Power Park's capacity and related energy output.

In May 2017, JEA entered into an agreement with FPL for an early termination of the Power Park Joint Ownership Agreement and cessation of commercial operations in January 2018 with decommissioning of the plant to occur thereafter. The termination agreement ends the obligation of the 37.5 percent sales of JEA's 80 percent to FPL. The costs of decommissioning will be split between JEA 80 percent and FPL 20 percent. See "ELECTRIC UTILITY SYSTEM – *ELECTRIC UTILITY FUNCTIONS* – St. John's River Power Park – *Early Termination of Power Park Joint Ownership Agreement*" for additional information.

JEA owns a 23.64 percent interest in Unit 4 of the Robert W. Scherer Electric Generating Plant ("Scherer Unit 4"), a coal-fired steam electric generating unit currently rated at 846 MW, net, located near Forsyth, Georgia and a proportionate ownership interest in associated common facilities and an associated coal stockpile (such ownership interests are referred to herein as the "Scherer 4 Project"). The Scherer 4 Project entitles JEA to 200 MW, net, of the capacity of Scherer Unit 4. The Electric System is entitled to the capacity of the Scherer 4 Project and is required to pay for such capacity on a "take-or-pay" basis by making deposits into certain funds and accounts established pursuant to the Restated and Amended Bulk Power Supply System Resolution.

JEA is permitted under the resolution of JEA adopted on March 30, 1982, authorizing JEA's Electric System Revenue Bonds (as heretofore amended, restated and supplemented, the "Electric System Resolution") to construct or acquire and own and/or operate other electric generating utilities or systems for the purpose of furnishing and supplying electric energy and to issue debt obligations to finance the cost of separate electric generating utilities as separate systems. The Power Park and the Scherer 4 Project constitute the only two such separate systems undertaken by JEA as of the date of this Annual Disclosure Report.

Pursuant to the Electric System Resolution, JEA's obligation to make payments from the Electric System with respect to the Power Park is a Contract Debt payable as a Cost of Operation and Maintenance of the Electric System. Additionally, all costs of operating and maintaining the Scherer 4 Project are Contract Debts of the Electric System, payable as part of the Electric System's Cost of Operation and Maintenance. See "ELECTRIC UTILITY SYSTEM - *FINANCIAL INFORMATION RELATING TO ELECTRIC UTILITY FUNCTIONS* - Debt Relating to Electric Utility Functions - *Electric System Contract Debts*" herein.

JEA currently has no ownership interest in any nuclear power plant; however, it does have a purchase power agreement with Municipal Electric Authority of Georgia ("MEAG Power") for electric energy to be produced from two under construction nuclear generating units (see "ELECTRIC UTILITY SYSTEM - *ELECTRIC UTILITY FUNCTIONS* - Electric System - *Power Purchase Contracts*" herein). JEA also has an option to purchase an ownership interest in a to-be-constructed nuclear power plant (see "ELECTRIC UTILITY SYSTEM - *ELECTRIC UTILITY FUNCTIONS* - Resource Requirements - *Option to Purchase Interest in Lee Nuclear Station*" herein) although plans to build such plant have been suspended.

Electric System

Power and Energy Resources

Electric power and energy sold by JEA to its customers is provided from the following sources: JEA's interest in Scherer Unit 4 (see "ELECTRIC UTILITY SYSTEM - *ELECTRIC UTILITY FUNCTIONS* - Scherer 4" herein); the generating facilities owned by JEA as part of the Electric System (see subsection "*Electric System Generating Facilities*" below in this section); and various power purchase arrangements (see subsection "*Power Purchase Contracts*" below in this section). JEA's interests in the Scherer Unit 4, the generating facilities of the Electric System and JEA's various firm purchase power arrangements are committed and dispatched on an economic basis as necessary to serve JEA's load. In addition, economy energy is purchased for JEA, by the joint power marketing alliance described below, from time to time when such energy is available at a lower cost than energy produced from JEA's generating facilities. See subsection *"Participation in The Energy Authority"* below in this section.

Electric System Generating Facilities

General. The generating facilities of the Electric System are located at four plant sites - the J. Dillon Kennedy Generating Station ("Kennedy"), the Northside Generating Station ("Northside"), the Brandy Branch Generating Station ("Brandy Branch") and the Greenland Energy Center ("GEC"). See "ELECTRIC UTILITY SYSTEM - *ELECTRIC UTILITY FUNCTIONS* - Resource Requirements - *Capacity*" herein.

JEA's Northside Unit 3, a steam unit, presently burns residual fuel oil and natural gas, while four CTs at Northside burn diesel. The Kennedy CTs 7 and 8, Brandy Branch CTs 1, 2 and 3 and GEC CTs 1 and 2 burn natural gas as the primary fuel. The Kennedy and Brandy Branch units are dual-fueled with diesel as backup and the GEC CT units are also capable of having diesel as backup. Brandy Branch STM 4 is a steam turbine generator that is part of a combined cycle unit that uses waste heat from Brandy Branch CTs 2 and 3. In addition, natural gas is used at times to supplement the solid fuel in Northside Units 1 and 2. Northside Units 1 and 2 burn petcoke and coal. Northside Unit 3 was originally scheduled to be placed into reserve storage on April 1, 2016, approximately three years ahead of the unit's scheduled retirement. Due to the early retirement of Power Park, Northside Unit 3 is expected to continue in operation at least through the current planning period which ends with the Fiscal Year ending September 30, 2023.

The pertinent statistics concerning the generating facilities of the Electric System as of the date of this Annual Disclosure Report are as follows:

Station	Unit	Type(1)	First Placed in Service	Fuel(2)	Installed Net Capacity (MW) Summer	Winter
Kennedy	7(3)	CT	6/00	G/LO	150	191
	8(3)	CT	6/09	G/LO	150	191
					300	382
Northside	1	ST	5/03(4)	Petcoke/Coal	293	293
	2	ST	4/03(4)	Petcoke/Coal	293	293
	3	ST	7/77	G/HO	524	524
	3	CT	2/75	LO	53	62
	4	CT	1/75	LO	53	62
	5	CT	12/74	LO	53	62
	6	CT	12/74	LO	53	62
					1,322	1,356
Brandy Branch	1(3)	CT	5/01	G/LO	150	191
	2(2)	CT	5/01	G/LO	150	186
	3(2)	CT	10/01	G/LO	150	186
	STM 4	ST	1/05	WH	201	223
					651	786
GEC	1(3)	CT	6/11	G/LO	150	191
	2(3)	CT	6/11	G/LO	150	191
					300	382
System Total					2,573	2,906

(1) CT - Combustion Turbine
ST - Steam Turbine
IC - Internal Combustion Engine

(2) G - Natural Gas
LO - Light Oil (diesel)
HO - Heavy Oil (residual fuel oil)
WH - Waste Heat

(3) Net capacity for the summer is based on natural gas and for the winter is based on diesel.

(4) Northside Unit 1 was originally placed in service in November 1966, and Northside Unit 2 was originally placed in service in March 1972. Both units have been re-powered with CFB boilers, and their turbine generators and other ancillary equipment have been refurbished. The dates indicated in the table are the respective dates on which each was released for normal dispatch operation. Northside Units 1 and 2 each have gross capacities of 310 MW.

Planned Additional Capacity. In the spring of 2019 there is a planned capacity increase on the Brandy Branch combined cycle plant of approximately 80 MW summer rating, or nominally 40 MW per gas turbine. This will be done by installing Advanced Gas Path turbine and compressor rotors on Units 2 and 3. This uprate is being performed by the original equipment manufacturer.

Fuel Mix

JEA has undertaken a fuel diversification strategy that improves its competitive position in the electric services industry. JEA has the ability to use natural gas as the primary fuel source with diesel as backup for generation in Greenland Energy Center ("GEC") CT1 and CT2, Kennedy CT7 and CT8, and Brandy Branch Units 1, 2 and 3. The exhaust heat from Brandy Branch Units 2 and 3 is utilized in Brandy Branch STM 4. This combined cycle configuration provides additional energy without additional fuel consumption. Northside

Unit 3 uses natural gas as a fuel source for generation with residual fuel oil as backup. JEA's 1970's vintage CTs provide less than one percent of JEA's total energy requirements and are powered by diesel.

JEA uses circulating fluidized bed technology in Northside Units 1 and 2. This technology allows JEA to use a blend of bituminous coal, petroleum coke and natural gas in these units. In addition, firm, solid fuel-based capacity and energy has been provided by the Power Park and Scherer Unit 4. Scherer Unit 4 burns sub-bituminous coal from the Powder River Basin, providing further fuel diversification. JEA adjusts its use of solid fuel-based generation depending on its cost relative to competing resources, such as natural gas.

The following table sets forth JEA's fuel mix for the Fiscal Years ended September 30, 2014 through 2018 and JEA's projected fuel mix for the Fiscal Years ending September 30, 2019 through 2023. The information in the following table does not take into account the energy sold to FPL pursuant to the FPL-Power Park Sale (see "ELECTRIC UTILITY SYSTEM - ELECTRIC UTILITY FUNCTIONS - St. Johns River Power Park - Ownership" herein).

PERCENT FUEL MIX(1)

Fiscal Year Ending September 30,	Oil	Gas	Power Park(2) (Coal)	Northside (Coal/ Petcoke)(3)	Scherer Unit 4 (Coal)	MEAG Vogtle 3 & 4 Nuclear Purchase	Economy Purchases From Other Sources	Total MWh Sales(4)
Actual								
2014	0.1	32.2	28.2	24.5	9.6	0.0	5.3	12,308,331
2015	0.0	37.8	22.7	21.3	10.3	0.0	7.9	12,517,575
2016	0.1	36.4	16.2	26.8	8.1	0.0	12.2	12,730,288
2017	0.0	44.0	20.2	11.6	11.0	0.0	13.2	12,200,770
2018	0.3	48.9	4.2	19.3	8.7	0.0	18.5	12,399,769
Projected(5)								
2019	0.0	48.4	0.0	20.2	11.4	0.0	20.0	12,235,248
2020	0.0	48.8	0.0	23.6	8.5	0.0	19.0	12,317,521
2021	0.2	49.3	0.0	24.1	8.1	0.0	18.3	12,279,040
2022	0.1	50.5	0.0	23.2	7.2	5.7	13.3	12,282,117
2023	0.1	49.0	0.0	22.4	6.2	12.3	10.0	12,321,432

(1) Percentages may not add to 100 percent due to rounding.
(2) Commercial operations at the Power Park ceased in January 2018. See "ELECTRIC UTILITY SYSTEM – *ELECTRIC UTILITY FUNCTIONS* – St. Johns River Power Park – *Early Termination of Power Park Joint Ownership Agreement*".
(3) The projected fuel mix for Northside Units 1 and 2 is 54 percent petcoke, 36 percent coal and 10 percent natural gas.
(4) Actual megawatt-hour ("MWh") sales include non-firm off-system sales, which totaled 136,342 MWh in the Fiscal Year ended September 30, 2014, 83,367 MWh in the Fiscal Year ended September 30, 2015, 169,037 MWh in the Fiscal Year ended September 30, 2016, 150,635 MWh in the Fiscal Year ended September 30, 2017 and 35,429 MWh in the Fiscal Year ended September 30, 2018. Projections include aggregate non-firm off-system sales of 508,490 MWh during the Fiscal Years ending September 30, 2019 through 2023.
(5) The projected figures contained herein are forward-looking statements and are subject to change without notice. These figures are based on current conditions and assumptions, including JEA's growth assumptions, environmental regulations, fuel prices, fuel availability and other factors in effect as of the date hereof and are subject to significant regulatory, business, economic and environmental uncertainties and contingencies. Events may occur and circumstances may change subsequent to the date hereof that would have a material impact on the projections presented herein. The achievement of certain results contained in such forward-looking statements involves known and unknown risks, uncertainties and other factors that may cause actual results to differ materially from those stated in the forward-looking statements. JEA does not commit to issue any updates or revisions to those forward-looking statements if or when its expectations change, or events, conditions or circumstances on which such statements are based occur or fail to occur.

Fuel Contracts

JEA has solid fuel storage at Northside for a maximum of approximately 25 days of operating inventory. JEA purchases spot volumes to supply the fuel needs of Northside Units 1 and 2, which operate on a blend of petroleum coke (petcoke), coal, and natural gas. For Northside Units 1 and 2 during the Fiscal Year ended September 30, 2018, JEA purchased approximately 57 percent of its petcoke requirements from TCP Petcoke Corporation, approximately 31 percent from KOMSA Sarl (Koch Minerals SA), and approximately 12 percent from Tricon International LTD. For Northside Units 1 and 2 during the Fiscal Year ended September 30, 2018, JEA supplied approximately 77 percent of its coal requirements by transferring approximately 333,000 tons of coal remaining at SJRPP to the Northside units and purchased approximately 23 percent from Coal Marketing Company. JEA has commitments to purchase approximately 88 percent of the expected coal requirements for JEA's ownership share of Scherer Unit 4 in 2019. Contract terms for solid fuel specify minimum purchase commitments at certain prices subject to adjustments for price level changes according to the contract. In addition, JEA has remarketing rights for the majority of its solid fuel supply.

JEA maintains diesel inventory at Brandy Branch, Kennedy, Greenland, and Northside. Additional diesel supply is purchased from time to time in the open market as needed.

JEA has a 20-year agreement for natural gas with Shell Energy North America L.P. ("Shell Energy") that ends in 2021. The agreement with Shell Energy supplied 39 percent of JEA's natural gas needs for Fiscal Year 2018 at prices that were, at the time the agreement was entered into, and are, as of the date of publication of this Annual Disclosure Report, below delivered competing gas supply options (including both commodity and transportation components). The balance of JEA's gas requirements are purchased on the spot market. Under the Shell Energy agreement, contract terms for the natural gas specify minimum annual purchase commitments. JEA has the option to remarket any excess natural gas purchases. JEA also has long-term contracts with Florida Gas Transmission Company ("FGT") for firm gas transportation capacity to allow delivery of additional gas volumes. To support additional future gas requirements, JEA has contracted with TECO Peoples Gas System ("Peoples") for a release of firm gas transportation capacity through Southern Natural Gas Company's system and FGT's system that began in June 2010. In addition, JEA has contracted with Southern Natural Gas Company for firm natural gas transportation.

TEA has managed a portion of JEA's natural gas supply since 2001. See "*Participation in The Energy Authority*" below.

JEA and Peoples jointly own pipelines that serve Northside and Brandy Branch. Peoples owns the pipeline that serves Kennedy and JEA's Buckman Street wastewater treatment plant. Peoples may interrupt delivery of a portion of gas to JEA under certain emergency circumstances.

JEA owns the GEC lateral pipeline (the "Greenland Lateral") which is used to deliver gas to GEC. In 2008, JEA signed an agreement with SeaCoast Gas Transmission, LLC for firm intrastate gas transportation service to the Greenland Lateral.

JEA has developed and implemented a program intended to hedge its exposure to changes in fuel prices. Pursuant to this program, futures, options and swaps contracts may be entered into from time to time to help manage market price fluctuations. Realized gains and losses resulting from this program are reflected in JEA's fuel expense. See subsection "*Fuel Mix*" above in this section. For a discussion of JEA's fuel management program, see Note 10 and Note 11 to the financial statements of JEA set forth in APPENDIX A attached hereto.

As of September 30, 2018, JEA had 11 commodity swap transactions with an aggregate notional quantity of 47,510,000 MMBtu in place with two counterparties to hedge JEA's exposure to natural gas prices. Based on information provided by the counterparties, those swaps had a total mark-to market value of approximately $2.5 million at that date. As of March 31, 2019, JEA had 11 commodity swap transactions with an aggregate notional quantity of 52,410,000 MMBtu with two counterparties in place having a mark-to-market value of approximately $4.4 million.

JEA has entered into three contracts to purchase prepaid natural gas supplies at specified volumes per day. The delivery period began on April 1, 2019 and will supply an average of 12,000 MMBtu/day of prepaid gas from locations that JEA has access to with firm natural gas transportation. Those prepayments expire at various dates in 2039, 2048 and 2049. JEA's financial obligations under the gas supply agreements are based on index prices for monthly deliveries at the delivery point and are on a "take and pay" basis whereby JEA is only obligated to pay for gas that is delivered.

For a discussion of JEA's fuel procurement arrangement for the Scherer 4 Project, see "ELECTRIC UTILITY SYSTEM - *ELECTRIC UTILITY FUNCTIONS* - Scherer 4 - *Fuel Supply*" herein.

Natural Gas Sales

In March 2015, JEA made the decision to market natural gas to commercial and industrial customers within its service area as allowed under Article 21 of the Charter and JEA's Fuel Management Services Procurement Directive. JEA supplies natural gas under TECO Peoples Gas Natural Choice Program, which gives commercial and industrial customers the option to choose their gas supplier. JEA receives a number of benefits from its participation in the Natural Choice program. Natural gas sales generate marginal net revenues, reported as "other revenues" under the Electric Enterprise Fund. JEA will become a complete energy provider within its service territory for businesses that select JEA to be their natural gas supplier. Through Fiscal Year 2018, this program has signed approximately 150 customers, including The Hyatt, Jacksonville Zoo, YMCA, Jacksonville Housing Authority, First Baptist Church of Jacksonville, Dresser Equipment, a division of GE, and several restaurants.

Power Purchase Contracts

Overview

As a result of an earlier 2008 Board policy establishing a 10 percent of total energy from nuclear energy goal, JEA entered into a power purchase agreement (as amended, the "Additional Vogtle Units PPA") with the Municipal Electric Authority of Georgia ("MEAG") for 206 MW of capacity and related energy from MEAG's interest in two additional nuclear generating units (the "Additional Vogtle Units" or "Plant Vogtle Units 3 and 4") under construction at the Alvin W. Vogtle Nuclear Plant in Burke County, Georgia. The owners of the Additional Vogtle Units include Georgia Power Company ("Georgia Power"), Oglethorpe Power Corporation ("Oglethorpe"), MEAG and the City of Dalton, Georgia (collectively, the "Owners" or "Vogtle Co-Owners"). The energy received under the Additional Vogtle Units PPA is projected to represent approximately 13 percent of JEA's total energy requirements in the year 2023.

The Additional Vogtle Units PPA requires JEA to pay MEAG for the capacity and energy at the full cost of production (including debt service on the bonds issued and to be issued by MEAG and on the loans made and to be made by the Project J Entity referred to below, in each case, to finance the portion of the capacity to be sold to JEA from the Additional Vogtle Units) plus a margin over the term of the Additional Vogtle Units PPA. Under the Additional Vogtle Units PPA, JEA is entitled to 103 MW of capacity and related energy from each of the Additional Vogtle Units for a 20-year term commencing on each Additional Vogtle Unit's commercial operation date and is required to pay for such capacity and energy on a "take-or-pay" basis (that is, whether or not either Additional Vogtle Unit is completed or is operating or operable, and whether or not its output is suspended, reduced or the like or terminated in whole or in part), except that JEA is not obligated to pay the "margin" referred to above during such periods in which the output of either Additional Vogtle Unit is suspended or terminated.

On September 11, 2018, MEAG filed a complaint in the United States District Court for the Northern District of Georgia seeking a declaratory judgement that the Additional Vogtle Units PPA is lawful and enforceable, breach of contract for JEA's alleged failure to adhere to the Additional Vogtle Units PPA's cooperation clause, and ordering specific performance from JEA with the terms of the Additional Vogtle Units PPA. On the same day, JEA and the City, as co-plaintiffs, filed a complaint in the Fourth Judicial Circuit Court of Florida seeking a declaratory judgment that the Additional Vogtle Units PPA violates the Florida Constitution, the Charter, and the laws and public policy of the state of Florida and is therefore ultra vires, void ab initio, and unenforceable. For additional information about such litigation, see "ELECTRIC UTILITY SYSTEM - *ELECTRIC UTILITY FUNCTIONS* – Electric System - *Litigation and Regulatory Proceedings"* herein and see "LITIGATION herein.

Financing and In-Service Costs

MEAG created three separate "projects" (the "Vogtle Units 3 and 4 Project Entities") for the purpose of owning and financing its 22.7 percent undivided ownership interest in the Additional Vogtle Units (representing approximately 500.308 MW of capacity and related energy based upon the nominal rating of the Units). The project corresponding to the portion of MEAG's ownership interest, which will provide the capacity and energy to be purchased by JEA under the Additional Vogtle Units PPA, is referred to herein as "Project J." MEAG currently estimates that the total in-service cost for its entire undivided ownership interest in the Additional Vogtle Units will be approximately $6.485 billion, including construction costs, financing costs through the estimated in-service dates, contingencies, initial fuel load costs, and switchyard and transmission costs. MEAG has additionally provided that its total financing needs for its share of the Additional Vogtle Units, including reserve funds and other fund deposits required under the financing documents, are approximately $6.975 billion. Based on information provided by MEAG, (i) the portion of the total in-service cost for Plant Vogtle Units 3 and 4 allocable to Project J is approximately $2.715 billion and (ii) the portion of additional in-service costs relating to reserve funds and other fund deposits is approximately $203 million resulting in total financing needs of approximately $2.918 billion.

Financing for Project J – In order to finance a portion of its acquisition and construction of Project J and to refund bond anticipation notes previously issued by MEAG, MEAG issued approximately $1.248 billion of its Plant Vogtle Units 3 and 4 Project J Bonds (the "2010 PPA Bonds") on March 11, 2010. Of the total 2010 PPA Bonds, approximately $1.224 billion were issued as Federally Taxable – Issuer Subsidy – Build America Bonds where MEAG expects to receive a cash subsidy payment from the United States Treasury for 35 percent of the related interest, subject to reduction due to sequestration. At this time, a portion of the interest subsidy payments with respect to the Build America Bonds is not being paid as a result of the federal government sequestration process and the Bipartisan Budget Act of 2018 for the current fiscal year through fiscal year 2027. The exact amount of such reduction is determined on or about the beginning of the federal government's fiscal year, or October 1, and is subject to adjustment thereafter. The current reduction amount of 6.2 percent became effective on October 1, 2018. MEAG issued approximately $185.2 million of additional Project J tax-exempt bonds on September 9, 2015 (together with the 2010 PPA bonds, the "Project J Bonds").

On June 24, 2015, in order to obtain certain loan guarantees from the United States Department of Energy ("DOE") for further funding of Plant Vogtle Units 3 and 4, MEAG divided its undivided ownership interest in Plant Vogtle Units 3 and 4 into three separate undivided interests and transferred such interests to the Vogtle Units 3 and 4 Project Entities. MEAG transferred approximately 41.175 percent of its ownership interest, representing 206 MW of nominally rated generating capacity (which is the portion of MEAG's ownership interest attributable to Project J), to MEAG Power SPVJ, LLC (the "Project J Entity").

The Project J Entity entered into a loan guarantee agreement with the DOE in 2015, subsequently amended in 2016 and 2017, under which the Project J Entity is permitted to borrow from the Federal Financing Bank ("FFB") an aggregate amount of approximately $577.7 million. To date, the Project J Entity has received proceeds from borrowings under the loan guarantee agreement in an aggregate principal amount of approximately $553.2 million. Exclusive of the $24.5 million set aside for the payment of capitalized interest on borrowings, there is no additional borrowing capacity under the Project J Entity's existing DOE-guaranteed loan. On September 28, 2017, DOE, MEAG, and the Vogtle Units 3 and 4 Project Entities entered into a conditional commitment for additional DOE loan guarantees in the aggregate amount of $414.7 million. On September 17, 2018, the DOE extended the expiration date of such conditional commitment to March 31, 2019. On March 22, 2019, MEAG announced that it had closed on the additional DOE loan guarantees in the aggregate amount of $414.7 million. The Project J Entity's portion of the $414.7 million in additional DOE loan guarantees is $111.5 million and this amount currently remains undrawn. While MEAG expects that the total financing needs for Project J will exceed the aggregate of the Project J Entity's FFB lending commitments and the balance will be financed in the capital markets, in the event that the JEA litigation challenging its obligations under the Additional Vogtle Units PPA materially impedes access to capital markets for MEAG, Georgia Power has agreed to provide certain funding as described below under Note 10 to the financial statements of JEA set forth in APPENDIX A attached hereto.

Based on information provided by MEAG Power, JEA's portion of the debt service to maturity on the outstanding Project J debt as of September 30, 2018 is summarized as follows:[1]

Debt Service
(000's omitted)

Fiscal Year Ending September 30,	**Principal**	**Interest**	**Annual Debt Service**	**Build America Bonds Subsidy**	**Capitalized Interest**	**Net Debt Service**
2019	$ 12,750	$ 98,800	$ 111,550	$ (27,612)	$ (71,188)	$ 12,750
2020	16,183	97,995	114,178	(27,392)	(70,603)	16,183
2021	19,952	97,058	117,010	(27,100)	(69,958)	19,952
2022	20,706	95,983	116,689	(26,790)	(33,262)	56,637
2023	22,100	94,842	116,942	(26,466)	(4,207)	86,269
2024	22,967	93,642	116,609	(26,129)	–	90,480
2025	23,819	92,385	116,204	(25,776)	–	90,428
2026	24,685	91,079	115,764	(25,409)	–	90,355
2027	25,570	89,721	115,291	(25,026)	–	90,265
2028	26,538	88,311	114,849	(24,626)	–	90,223
2029	27,511	86,844	114,355	(24,209)	–	90,146
2030	28,528	85,318	113,846	(23,774)	–	90,072
2031	29,586	83,733	113,319	(23,320)	–	89,999
2032	30,661	82,084	112,745	(22,847)	–	89,898
2033	31,842	80,370	112,212	(22,353)	–	89,859
2034	33,035	78,587	111,622	(21,838)	–	89,784
2035	34,272	76,733	111,005	(21,301)	–	89,704
2036	28,275	74,805	103,080	(20,740)	–	82,340
2037	16,223	72,799	89,022	(20,155)	–	68,867
2038	10,905	70,713	81,618	(19,545)	–	62,073
2039	6,973	68,543	75,516	(18,909)	–	56,607
2040	1,424	66,250	67,674	(18,246)	–	49,428
2041	–	63,866	63,866	(17,553)	–	46,313
2042	–	31,076	31,076	(9,217)	–	21,859
2043	–	4,058	4,058	(1,249)	–	2,809
Total	$494,505	$1,965,595	$2,460,100	$(547,582)	$(249,218)	$1,663,300

(1) At this time, a portion of the interest subsidy payments with respect to the Build America Bonds is not being paid as a result of the federal government sequestration process for the current fiscal year and reductions may continue in subsequent fiscal years. The exact amount of such reduction is determined on or about the beginning of the federal government's fiscal year, or October 1, and is subject to adjustment thereafter. The current reduction amount of 6.2 percent became effective on October 1, 2018.

Construction Arrangements for the Additional Vogtle Units

As a result of the bankruptcy of the original contractor for the Additional Vogtle Units and increases in the construction costs, the Vogtle Co-Owners have restructured the construction arrangements for the Additional Vogtle Units. Under the restructured construction arrangements:

- Bechtel Power Corporation ("Bechtel") will serve as the prime construction contractor for the remaining construction activities for Plant Vogtle Units 3 and 4 under a Construction Agreement entered into between Bechtel and Georgia Power, acting for itself and as agent for the other Vogtle Co-Owners (the "Construction Agreement"), which is a cost reimbursable plus fee arrangement, which means that the Construction Agreement does not require Bechtel to absorb any increases in construction costs.

- The Vogtle Co-Owners recently approved amendments to their joint ownership agreements for Plant Vogtle Units 3 and 4 (as amended, the "Vogtle Joint Ownership Agreements") that limit the circumstances under which the holders of at least 90 percent of the ownership interests in Plant Vogtle Units 3 and 4 are required to approve the continuance of the construction of the Additional Vogtle Units to a few events, including a delay of one year or more over the most recently approved project schedule. Such events do not include increases in the construction budget.

- Under the Vogtle Joint Ownership Agreements, Georgia Power has the right to cancel the project at any time in its discretion.

The estimated construction costs to complete Project J's share of the Additional Vogtle Units have significantly increased from the original project budget of approximately $1.4 billion to the current estimate of approximately $2.9 billion. In addition, significant delays in the project's construction schedule have resulted in the original placed in service dates for Vogtle Unit 3 of April 2016 and for Vogtle Unit 4 of April 2017 being revised to the current projected placed in service dates for Vogtle Unit 3 and for Vogtle Unit 4 of November 2021 and November 2022, respectively.

JEA is not a party to the Construction Agreement or to the Vogtle Joint Ownership Agreements and does not have the right under the Additional Vogtle Units PPA to cause a termination of the Construction Agreement, to cancel the project or to approve increases in construction costs or delays in the construction schedule of the project. Accordingly, JEA can provide no assurance that construction costs for the Additional Vogtle Units will not significantly increase or that the schedule of the project will not be significantly delayed.

Increases in construction costs for Plant Vogtle Units 3 and 4 result in increases in the payment obligations of JEA for capacity and energy under the Additional Vogtle Units PPA. See "Overview" and "Financing and In-Service Costs" above and "Litigation and Regulatory Proceedings" below for a further description of JEA's obligations under the Additional Vogtle Units PPA and for a description of the complaint filed by JEA and the City challenging the enforceability of the Additional Vogtle Units PPA.

See Note 10 to the financial statements of JEA set forth in APPENDIX A attached hereto for a more detailed description of the history of and the construction arrangements for the Additional Vogtle Units.

Litigation and Regulatory Proceedings

Litigation – As noted under "ELECTRIC UTILITY SYSTEM - *ELECTRIC UTILITY FUNCTIONS* – Electric System - *Overview"* herein and under "LITIGATION" herein, on September 11, 2018, MEAG filed suit against JEA in the Northern District of Georgia alleging claims for (i) a declaratory judgment that the Additional Vogtle Units PPA is enforceable against JEA, (ii) breach of contract for JEA's alleged failure to adhere to the Additional Vogtle Units PPA's cooperation clause, and (iii) specific performance requiring JEA to continue to comply with the Additional Vogtle Units PPA. The same day, JEA and the City of Jacksonville filed suit against MEAG in the Circuit Court, Fourth Judicial Circuit, Duval County, Florida, seeking a declaratory judgment that the Additional Vogtle Units PPA is invalid and unenforceable against JEA. MEAG removed JEA's and the City's suit to the Middle District of Florida. On April 9, 2019, the district court for the Northern District of Georgia entered an order granting JEA's motion to dismiss and dismissing MEAG's complaint. MEAG has filed a notice of appeal of the dismissal to the Eleventh Circuit Court of Appeals. The parties are presently engaged in procedural litigation over the forum in which the substantive issues will be tried. JEA will vigorously defend and prosecute these actions, but provides no assurances regarding the outcome or consequences of the litigation.

Settlement Negotiations – JEA and MEAG have commenced negotiations in an attempt to arrive at a mutually beneficial commercial resolution of their dispute. The ultimate outcome of this matter cannot be determined at this time.

Regulatory Proceedings – On September 17, 2018, JEA filed a petition with the Federal Energy Regulatory Commission ("FERC") seeking a determination that FERC has exclusive jurisdiction pursuant to the Federal Power Act ("FPA") over the Additional Vogtle Units PPA (FERC Petition).

Numerous entities, including MEAG, public utilities, municipalities, and trade groups, filed comments with FERC challenging the theories of law and arguments raised in the FERC Petition. On February 21, 2019, FERC issued an order denying the FERC Petition and disclaimed jurisdiction over the Additional Vogtle Units PPA. JEA will not be seeking FERC's reconsideration of the order.

Other Renewable Sources. JEA entered into a 20-year agreement (the "Wind Generation Agreement") with Nebraska Public Power District ("NPPD") in 2004 to participate in a wind generation project located in Ainsworth, Nebraska. JEA's participation in NPPD's wind generation project allowed JEA to receive environmental credits ("Green Tags") associated with this Green Power alternative. Under the Wind Generation Agreement, JEA agreed to purchase over a 20-year period 10 MW of capacity from NPPD's wind generation facility for an estimated net cost of $2,280,958. In turn, NPPD buys back the energy at specified on/off peak charges. JEA makes all environmental attributes from this facility available to sell in order to lower rates for our customers. JEA has sold environmental credits for specified periods from this project thereby reducing but not eliminating JEA's net cost for this resource for that period.

With the expansion of JEA's renewable portfolio within the State of Florida, additional landfill gas generation and new solar facilities, JEA exercised its right to terminate this contract. JEA and NPPD have agreed to terminate the agreement effective December 31, 2019.

JEA signed a Power Purchase Agreement with Trail Ridge Energy, LLC ("TRE") in 2006 to purchase energy and environmental attributes from a 9.6 MW landfill gas-to-energy facility at the City's Trail Ridge Landfill (the "Phase One Purchase"). The facility is one of the largest landfill gas-to-energy facilities in the Southeast. It achieved commercial operation in December 2008 for the Phase One Purchase. JEA and TRE executed an amendment to the Power Purchase Agreement in 2011 to purchase up to an additional 9.6 MW through TRE. Six MW of this additional 9.6 MW is being supplied to JEA from a landfill gas-to-energy facility in Sarasota, Florida. Cost to JEA is the same as negotiated for Trail Ridge. JEA makes all environmental attributes from this facility available to sell in order to lower rates for our customers.

JEA signed a power purchase contract with Jacksonville Solar LLC in 2009 for the purchase for 30 years of all of the electricity and renewable energy credits generated by a 12.6 MW solar power facility which became fully operational on September 28, 2010. JEA makes all environmental attributes from this facility available to sell in order to lower rates for our customers.

In December 2014, a Solar Policy was approved by the JEA Board, setting forth the goal of an additional 38 MW of solar photovoltaic ("PV") power (via power purchase contracts) by the end of 2016. In 2015, JEA awarded a total of 31.5 MW of solar PV power purchase contracts with terms of 20 to 25 years to various vendors. Power purchase agreements ("PPAs") have been finalized for a total of 27 MW, as follows: 7 MW with Northwest Jacksonville Solar Partners, LLC (groSolar); 4 MW with Hecate Energy, LLC; 5 MW and 2 MW with Inman Solar Incorporated; 3 MW with Old Plank Road Solar Farm LLC (Cox Communications/VeloSolar); Imeson Solar Farm, LLC (National Solar) for 5 MW; and Mirasol Fafco

Solar, Inc. for 1 MW solar PV. Another PPA for 5 MW on land owned by the U.S. Navy was awarded to Hecate Energy, LLC in 2016; however, JEA and the Navy were unable to agree to lease terms and that project has been canceled. A 4.5 MW award to SunEdison Utility Solutions, LLC was cancelled due to failure of the contractor to secure site control.

In 2015, JEA entered into a 25-year PPA with Northwest Jacksonville Solar Partners, LLC for the produced energy, as well as the associated environmental attributes from a solar farm which has been constructed in JEA's service territory. The 7 MWAC facility, which consists of 28,000 single-axis tracking photovoltaic panels on a vendor-leased site, is owned by American Electric Power (AEP). JEA pays only for the energy produced. The facility became operational on May 30, 2017.

In 2015, JEA entered into a 20-year PPA with Old Plank Road Solar Farm, LLC for the produced energy, as well as the associated environmental attributes from a 3-MWAC solar farm, Old Plank Road Solar, which has been constructed in JEA's service territory. The facility, which consists of 12,800 single-axis tracking photovoltaic panels on a vendor-leased 40-acre site, is owned by Southeast Solar Farm Fund, a partnership between PEC Velo & Cox Communications. JEA pays only for the energy produced. The site attained commercial operation on October 13, 2017.

In 2015, JEA entered into a 20-year PPA with C2 Starrat Solar, LLC for the produced energy, as well as the associated environmental attributes from a 5-MWAC solar farm, Starrat Solar, which has been constructed in JEA's service territory. The facility, on a vendor-leased site, is owned by C2 Starrat Solar, LLC, and was constructed by Inman Solar, Incorporated. JEA pays only for the energy produced. The site attained commercial operation on December 20, 2017.

In 2015, JEA entered into a 20-year PPA with Inman Solar Holdings 2, LLC for the produced energy, as well as the associated environmental attributes from a 2-MWAC solar farm, Simmons Solar, which has been constructed in JEA's service territory. The facility, on a vendor-leased site, is owned by Inman Solar Holdings 2, LLC, and was constructed by Inman Solar, Incorporated. JEA pays only for the energy produced. The site attained commercial operation on January 17, 2018.

In 2015, JEA entered into a 20-year PPA with Hecate Energy Blair Road, LLC for the produced energy, as well as the associated environmental attributes from a 4-MWAC solar farm, Blair Road Solar, which has been constructed in JEA's service territory. The facility, on a vendor-leased site, is owned by Hecate Energy Blair Road, LLC, and was constructed by Hecate Energy, LLC. JEA pays only for the energy produced. The site attained commercial operation on January 23, 2018.

In 2015, JEA entered into a 20-year PPA with Jax Solar, LLC for the produced energy, as well as the associated environmental attributes from a 1-MWAC solar farm, Old Kings Road Solar, which has been constructed in JEA's service territory. The facility, on a vendor-leased site, is owned by Jax Solar, LLC and was constructed by Mirasol Fafco Inc. JEA pays only for the energy produced. The site attained commercial operation on October 15, 2018.

In October 2017, the JEA Board approved a further solar expansion consisting of five 50 MWAC solar facilities to be constructed on JEA-owned property. These projects, totaling 250 MWAC, are structured as PPAs. JEA awarded the contracts to EDF - Distributed Solutions ("EDF-DS") on April 26, 2018, and the five PPAs were executed on February 8, 2019. EDF-DS will lease the land from JEA, and JEA will pay only for the energy produced. It is expected the first 50 MW facility will be completed in late 2019 – early 2020. The remaining facilities will be completed by 2022.

In 2009, JEA implemented a net metering program, which provided for full retail rate offset for customer-owned and generated solar power. At that time the cost of utility-scale solar power was higher than the retail rate. In 2016, JEA began to re-evaluate the fairness, reasonableness, and sustainability of JEA's then-current rate structure that offset excess solar power at the full retail rate. After carefully considering and studying all the factors, engaging in stakeholder meetings and workshops, and holding public meetings, JEA amended its net metering program in October 2017, with an effective date of April 1, 2018. JEA's amended net metering program is now contained within the JEA Distributed Generation Policy. Under the amended net metering program, a solar customer's excess solar power offsets energy consumption at JEA's fuel rate (i.e., the cost of electric generation saved by the solar customer's excess power generation). This offset more accurately and fairly compensates the solar customer for his or her solar power generation without discriminating against non-solar power customers. In 2018, Community Power Network Corporation (d/b/a Solar United Neighbors) and the League of Women Voters of Florida, Inc. filed an action for declaratory judgment and injunctive relief challenging the legality of JEA's amended net metering policy.

Participation in The Energy Authority

In May 1997, JEA, MEAG Power and South Carolina Public Service Authority (Santee Cooper) entered into a joint power marketing alliance through the formation of a nonprofit corporation in which such three parties constituted all of the members. The corporation is TEA, a Georgia nonprofit corporation. Subsequently, five additional publicly-owned utilities, NPPD, the City of Gainesville, Florida, doing business as Gainesville Regional Utilities ("GRU"), City Utilities of the City of Springfield, Missouri, Public Utility District No.1 of Cowlitz County, Washington ("Cowlitz") and American Municipal Power, Inc. became members of TEA. Effective December 31, 2018, Cowlitz transitioned from ownership status (member) to contact services status (partner). The main office of TEA is in the City. TEA's board of directors consists of 10 directors. The board, all of whom are elected by the members, is composed of one director from each member and two non-voting directors who serve as the respective chairs of two standing committees.

TEA commenced operations in August 1997 and is engaged in buying and selling wholesale power and promoting the efficient use of the generation assets of its members to maximize the efficient use of electrical energy resources, reduce operating costs and increase operating revenues of the members. TEA is expected to accomplish the foregoing without impacting the safety and reliability of the electric system of each member. TEA transacts energy transactions among the members and external markets including arranging for any transmission services required to accommodate such transactions. TEA is the exclusive purchaser of short-term surplus energy from its members. Each member is responsible for having adequate firm generating capacity to serve its native load requirement plus operating reserve requirements. TEA has not engaged in the construction or ownership of generation or transmission assets. Additionally, the members have not engaged in other activities that are found in some power pools such as reserve sharing or dedication of all resources to serve the combined load.

TEA has managed a portion of JEA's natural gas supply since 2001. See "*Fuel Contracts*" above.

Pursuant to an Electric Advance Agreement and a Natural Gas Advance Agreement among TEA and its members and a Member Advance Agreement between JEA and TEA, JEA supports TEA's trading activities by the issuance of JEA guaranties and/or provision of cash advances as determined by TEA within the limits contained in such advance agreements. As of January 1, 2019, JEA is obligated to guaranty, directly or indirectly, certain of TEA's electric trading activities in an amount up to $28,929,000 and certain of TEA's natural gas procurement and trading activities up to $34,600,000, in either case, plus reasonable attorney's fees that any party claiming and prevailing under the guaranty might incur and be entitled to recover under its contract with TEA. The JEA Board has approved guaranties of up to $34,286,000 for TEA's electric trading activities, up to $60,000,000 (plus attorney's fees) for TEA's natural gas procurement and trading activities and up to $50,000,000 for TEA's electric and natural gas activities solely for JEA's benefit (since 2014 none of this latter type of trading activity is being engaged in by TEA). The JEA Board can from time to time increase or (subject to certain limits) decrease the amount of its advances to TEA. For a discussion of JEA's investment in TEA and its commitments to TEA as of September 30, 2018, see Note 7 to the financial statements of JEA set forth in APPENDIX A attached hereto.

Order No. 889 of the Federal Energy Regulatory Commission ("FERC") established certain standards of conduct for utilities that offer open access transmission services. The effect of these standards would have been to require JEA to establish a wholesale marketing organization separate and apart from its operating group that controls operations of its generation and transmission facilities. JEA believes that the establishment of TEA satisfied that requirement at a cost to JEA that is substantially less than the cost that JEA would have incurred if it acted alone in establishing a wholesale marketing organization.

Mutual Aid Alliance

JEA has entered into an agreement with six other electric utilities located in Florida and Georgia (the "Participating Utilities") to provide mutual aid in the form of energy and price commitments in the event of an extended outage of certain designated baseload generating units of the Participating Utilities. Under this agreement, each Participating Utility agrees to make available, from its own capacity and only to the extent it has capacity available in excess of its native load and firm sales commitments, energy to replace energy unavailable due to unplanned outages of the designated units in excess of 60 days ("Replacement Power"). Each Participating Utility is obligated to provide such Replacement Power for up to 365 days from the outage event. The Participating Utilities will provide such Replacement Power at a cost derived through a formula based upon natural gas prices. This agreement has a term ending in September 2022 and is automatically renewed for an additional five-year period unless a party thereto provides timely notice of its intent not to renew its participation.

Interconnections

JEA is interconnected with the Georgia Integrated Transmission System through two 500 kV lines. These lines are jointly owned by JEA and FPL. The lines are located in the western section of the Electric System's service area and extend north to the interconnect point with Georgia Integrated Transmission System at the Florida-Georgia state line.

JEA is a member of the Florida Reliability Coordinating Council ("FRCC"), which is one of eight Regional Entities of the North American Electric Reliability Corporation. Under a Delegation Agreement with NERC, the FRCC acts as JEA's Compliance Enforcement authority for FERC Approved Electric Reliability Standards. This Compliance Enforcement responsibility is transferring to SERC effective July 1, 2019, or when approved by FERC. Additionally, FRCC members coordinate their planning and system operations through the FRCC Member services division to share spinning reserves; establish policies and procedures for dealing with scheduled and inadvertent interchanges and emergencies; coordinate maintenance schedules; establish and administer guidelines for utilizing under-frequency relays; maintain voice, facsimile and internet communications facilities; and evaluate and resolve system disturbances.

JEA is subject to standards enacted by the North American Electric Reliability Corporation and enforced by FERC regarding protection of the physical and cyber security of critical infrastructure assets required for operating North America's bulk electric system. JEA is also subject to regulations set by the Nuclear Regulatory Commission regarding the protection of digital computer and communication systems and networks required for the operation of nuclear power plants. While JEA believes it is in compliance with such standards and regulations, JEA has from time to time been, and may in the future be, found to be in violation of such standards and regulations. In addition, compliance with or changes in the applicable standards and regulations may subject JEA to higher operating costs and/or increased capital expenditures as well as substantial fines for non-compliance.

Power Sales and Transmission Contracts

JEA has a contract to supply the Beaches Energy Services with non-firm generation and transmission backup service. In accordance with a 36-month contract notice provision, the contract will terminate on November 30, 2019 unless renewed prior to its expiration. JEA does not receive a significant amount of revenue from this contract.

In January 1990, JEA entered into a contract with Cedar Bay Generating Company, L.P. ("Cedar Bay"), the owner of a cogeneration facility within JEA's service territory. Pursuant to the contract, Cedar Bay is receiving transmission service for 260 MW of capacity and associated energy for delivery to FPL through JEA's transmission system. Cedar Bay began using JEA's transmission service in January 1994. FPL acquired the Cedar Bay Generating Plant effective September 1, 2015 and officially retired the plant in December 2016. The transmission service under the agreement has been converted to JEA's Open Access Transmission service, which is a JEA Board approved tariff (Open Access Transmission) that allows transmission customers to use JEA's transmission system to move energy across the JEA system and is consistent with FERC Order No. 888. All other provisions under the agreement are enforceable under the agreement, which expires December 31, 2024.

Transmission and Distribution System

JEA's transmission system consists of all JEA-owned bulk power transmission facilities operating at 69 kV or higher, which includes all transmission lines and associated substation facilities that end at the substation's termination structure at four voltage levels: 69 kV, 138 kV, 230 kV and 500 kV.

JEA owns a total of 744 Circuit miles of transmission lines, of which 691 are overhead miles and 53 are underground. The following table shows the breakdown of miles per kV level:

Voltage (kV)	Overhead (Miles)	Underground (Miles)	Total (Miles)
69	113	46	159
138	204	3	207
230	299	4	303
500	75	0	75
Total	691	53	744

The 159 miles of 69 kV transmission lines are located in the dense interior section of the Electric System's service area, in the vicinity of the urban core. The 207 miles of 138 kV lines interconnect substations in most of JEA's high load and growth areas. The 304 miles of 230 kV lines form a semicircular loop around the City with transformation from the transmission system to the distribution system performed at numerous JEA facilities, which also serve the high load and growth areas. There currently are 90 substations in the JEA service territory. JEA also owns two 500 kV lines jointly with FPL. These lines are connected between the FPL Duval Substation and the GPC system at the Florida state line.

In the southeast portion of JEA's service territory, new load growth is occurring as a result of new large residential and commercial developments. JEA is currently designing a new nine-mile overhead 230kV transmission line to connect two existing JEA substations, Greenland Energy Center and Bartram Substation, to better serve this area. In fall 2020, the new transmission line will be broken and looped into the new 26.4kV Nocatee load serving substation. The Nocatee substation will be located adjacent to the new 230kV line.

JEA's tie line interconnections with neighboring utilities within FRCC are:

JEA Station	Neighboring Utility Station	Voltage (kV)
Steelbald	Duval (FPL) Circuit 3	230
Brandy Branch	Duval (FPL) Circuit 1	230
Brandy Branch	Duval (FPL) Circuit 2	230
Jax Heights	Duval (FPL) Circuit 4	230
Neptune	JB Penman (BES)	138
Switzerland	Sampson (BES)	230
Jax Heights	Black Creek (Seminole)[(1)]	230
Nassau	Step Down (FPU) in-service 2018	138
Nassau	O'Neil (FPL) in-service 2018	138

(1) Seminole Electric Cooperative, Inc. ("Seminole")

The distribution system covers approximately 6,831 circuit miles and is composed of three voltage levels depending upon the area served. The central business district is served by a 13.2 kV underground secondary network. Surrounding residential and commercial areas are served primarily at 26.4 kV, with some 4.16 kV and 13.2 kV interspersed. Most older areas are served from overhead distribution lines. However, the majority of all new developments, subdivisions, shopping centers and apartment complexes constructed since 1968 are served by underground 26.4 kV distribution.

The transmission and distribution system is under the control of system operators through a supervisory control and data acquisition system. The control of the generation facilities and the balance of power flow over interconnection transmission facilities is managed by an automatic generation control application with system operator oversight and input as needed.

Area Served

The Electric System serves approximately 900 square miles, which includes virtually the entire City (Duval County), with the exception of Jacksonville Beach and Neptune Beach. The Electric System also provides retail service in portions of the northern sections of St. Johns and Clay Counties, which are located southeast and southwest of the City, respectively. The Electric System also furnished power for resale to Florida Public Utilities Company ("FPU") for use in the City of Fernandina Beach in Nassau County, north of the City. JEA's contract with FPU expired without renewal on December 31, 2017.

Customers and Sales

In the Fiscal Year ended September 30, 2018, the Electric System served an average of 466,411 customer accounts. The following table sets forth electric revenues, the sales of the Electric System and the average number of Electric System accounts, all by customer classification, for Fiscal Years ended September 30, 2014 through 2018.

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	Fiscal Year Ended September 30,				
	2018	2017	2016	2015	2014
Electric Revenues (000's omitted):					
Residential	$ 618,171	$ 584,663	$ 599,009	$ 619,897	$ 608,983
Commercial and industrial	594,395	587,972	596,802	627,547	632,121
Public street lighting	12,873	13,069	13,488	11,982	13,943
Sales for resale	5,474	21,813	32,204	32,424	34,700
FPL saleback	30,767	128,737	130,053	128,475	159,747
TOTAL	$1,261,680	$1,336,254	$1,371,556	$1,420,325	$1,449,494
Sales (MWh):					
Residential	5,414,721	5,108,945	5,328,245	5,243,002	5,086,866
Commercial and industrial	6,851,803	6,725,201	6,834,601	6,767,836	6,636,445
Public street lighting	59,176	65,721	80,108	89,376	111,325
Sales for resale:					
Territorial	38,640	150,268	318,297	333,994	337,353
Off-system	35,429	150,635	169,037	83,367	136,342
FPL saleback	332,467	1,693,082	1,856,198	1,862,122	2,003,682
TOTAL	12,732,236	13,893,852	14,586,486	14,379,697	14,312,013
Average Number of Accounts:					
Residential	410,060	403,164	396,664	389,287	382,438
Commercial and industrial	52,573	52,060	51,472	50,867	48,999
Public street lighting	3,777	3,727	3,649	3,549	3,477
Sales for resale(1)	1	2	3	2	3
TOTAL	466,411	458,953	451,788	443,705	434,917

(1) Includes FPL but does not include the average number of off-system non-firm sales customers.

Largest Customers

The 10 largest customer accounts served by the Electric System (other than FPL pursuant to the FPL-Power Park Sale) composed 14.2 percent of the total MWh purchases derived from the operation of the Electric System for the Fiscal Year ended September 30, 2018. The following table sets forth the 10 largest Electric System accounts (other than sales to FPL pursuant to the FPL-Power Park Sale) by MWh purchases, during the Fiscal Year ended September 30, 2018.

Customer Accounts	MWh Purchases	Percentage of Total
United States Navy	327,704	2.7
CMC Steel (formerly Gerdau Ameristeel)	321,224	2.6
WestRock	231,702	1.9
City of Jacksonville	190,163	1.5
Duval County Public Schools	156,320	1.3
Anheuser Busch	135,251	1.1
Southern Baptist Hospital	102,633	0.8
Publix Supermarkets	100,481	0.8
Johnson & Johnson Vision Care	95,568	0.8
Winn-Dixie Stores, Inc.	91,994	0.7
TOTAL	1,753,040	14.2

Customer Billing Procedures

Customers are billed on a cycle basis approximately once per month. If the customer has not paid a bill within 42 days after the initial bill date, JEA may discontinue service to that customer. New commercial accounts are generally assessed a deposit. Residential customers who meet JEA's credit criteria are not assessed a deposit. Customers who do not meet JEA's credit criteria or do not maintain a good payment record may be assessed a deposit, which may vary with consumption. A late payment fee of 1.5 percent is assessed to customers for past due balances in excess of 27 days. The amount of uncollectible accounts is budgeted to be approximately 0.15 percent of estimated gross Electric System revenues for the Fiscal Year ending September 30, 2019. Actual uncollectible accounts were 0.14 percent of gross Electric System revenues for the Fiscal Year ended September 30, 2018.

Rates

JEA has sole discretion to set rate levels and revenue requirements for the Electric System, including its interest in Scherer Unit 4. JEA sets its retail rates after a public hearing. The JEA Board has the authority to change wholesale rates without a public hearing. The PSC has the authority to review rate structures for municipal utilities in Florida, including JEA (see subsection "Regulation" of this section, below).

Each of JEA's various rates for electric service consists of "base rate" components and a "fuel and purchased power rate" component. The base rate is evaluated and adjusted as required to fund projected revenue requirements for each Fiscal Year. A comprehensive class cost of service study will be performed at a minimum of every five years to support the rates charged are based on cost. The rate for the fuel and purchased power component can adjust upward or downward as of October 1 of each year to reflect the cost of fuel and purchased power. If during the course of a Fiscal Year, such costs vary by more than 10 percent from JEA's budget, an adjustment in the fuel and purchased power component of the rate may be made, subject to the approval of the JEA Board.

In June 2011, the JEA Board approved the conversion of the $2.90 per 1,000 kWh fuel recovery charge to base energy charges. The conversion became effective January 1, 2012.

On June 19, 2012, the JEA Board approved a decrease of the fuel and purchased power rate by $4.14 per 1,000 kWh that became effective on July 1, 2012.

On January 19, 2016, the JEA Board approved a decrease of the fuel and purchased power rate by $6.85 per 1,000 kWh that became effective on February 1, 2016.

On November 15, 2016, the JEA Board approved an increase to base rates of 4.4 percent on average across multiple rate classes and a decrease of the fuel and purchased power rate by $4.25 per 1,000 kWh effective on December 1, 2016. This rate restructuring was designed to lower overall bills for residential and commercial customers, improve the alignment of rates with the cost of service, enable additional early pay down of currently outstanding debt and eliminate the need for future base rate increases through Fiscal Year 2022.

Since environmental regulatory constraints and the cost of environmental compliance are anticipated to increase in the future, the JEA Board enacted an Environmental Charge of $0.62 per 1,000 kWh, which was applied to all rate classes as of October 1, 2007. See "ELECTRIC UTILITY SYSTEM - ELECTRIC UTILITY FUNCTIONS - Environmental Matters" and "ELECTRIC UTILITY SYSTEM - ELECTRIC UTILITY FUNCTIONS - Factors Affecting the Electric Utility Industry - Future Legislation" herein.

In order to fund JEA's comprehensive conservation and demand reduction programs (which are designed to reduce electric consumption and, at the same time, reduce the need for acquiring or constructing additional generating capacity), the JEA Board enacted a Conservation Charge, which was applied to residential electric accounts effective as of October 1, 2007, in the amount of $0.01 per kWh for usage above 2,750 kWh in a single month.

A comparison of residential rates in selected major regional cities, including fuel adjustments and franchise fees, as of January 2019, is shown in the following table, arranged by price of 1,000 kWh:

City (Utility)	500 kWh	1,000 kWh	1,250 kWh	2,000 kWh
Pensacola (Gulf Power Company)	$73.61	$128.00	$155.20	$236.80
Gainesville (GRU)	66.86	122.87	154.87	250.88
St. Petersburg (Duke Energy Florida)	64.81	120.78	154.84	257.01
Ocala (Electric Dept.)	66.10	119.20	145.75	225.40
JACKSONVILLE (JEA)	**58.72**	**111.76**	**138.29**	**217.85**
Atlanta (GPC)	63.29	110.36	132.86	200.32
Tallahassee (Electric Dept.)	58.43	109.07	134.40	210.37
Orlando (Orlando Utilities Commission)	58.00	106.00	135.00	222.00
Tampa (Tampa Electric)	59.23	102.41	129.27	209.85
Lakeland (Utilities Dept.)	55.42	101.35	120.84	201.62
Miami (FPL)	54.04	99.92	128.02	212.27
Key West (Keys Energy Services)	49.50	99.00	123.75	198.00

Source: JEA's "Quarterly Residential Rate Comparison (January 2019).

A comparison of non-residential rates in selected major regional cities for certain classifications of service for January 2019 (excluding all taxes) is shown in the following table, arranged by price of non-demand 1,500 kWh service:

City (Utility)	Non-Demand 1,500 kWh	Demand 150 kW 60,000 kWh	Demand 500 kW 200,000 kWh
Atlanta (GPC)	$281.21	$5,916.15	$21,270.70
Gainesville (GRU)	220.90	7,327.00	23,774.70
St. Petersburg (Duke Energy Florida)	196.65	5,818.38	18,729.46
Pensacola (Gulf Power Company)	184.72	5,342.82	18,395.80
Ocala (Electric Dept.)	175.85	5,775.10	19,436.00
Orlando (OUC)	163.96	5,042.00	16,718.00
JACKSONVILLE (JEA)	**155.64**	**5,345.20**	**17,619.00**
Lakeland (Utilities Dept.)	149.52	4,913.39	16,553.98
Tampa (Tampa Electric Company)	149.10	4,563.24	15,140.24
Miami (FPL)	147.69	4,716.44	15,953.98
Tallahassee (Electric Dept.)	140.00	5,233.38	17,154.78

Source: For all Florida cities, Florida Municipal Electric Association, Inc.'s "Commercial/Industrial Comparison of Electric Rates" (January 2019); for Atlanta, GPC (January 2019).

In June 2011, the JEA Board approved a 10 year Incremental Economic Development Program (IEDP) designed to provide an incentive for large industrial customers to increase electric consumption. IEDP discounts on incremental consumption in excess of a predetermined consumption baseline are described in the following table:

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Fiscal Year Ending September 30,	Base Charges Discount	Fuel Charges Discount	Baseline Load
2012	100%	10%	lesser of **Fiscal Year 2008** through **Fiscal Year 2010**
2013	100%	10%	
2014	75%	7.5%	
2015	50%	5%	
2016	25%	2.5%	
2017	100%	0%	greater of **Fiscal Year 2008** through **Fiscal Year 2016**
2018	100%	0%	
2019	75%	0%	
2020	50%	0%	
2021	25%	0%	
2022 and thereafter	0%	0%	

In August 2013, the JEA Board approved an Economic Development Program (the "EDP") designed to provide a financial incentive for new and existing commercial or industrial customers who, upon meeting certain eligibility criteria, expand their business and add jobs within the JEA service area. In January 2015 the JEA Board amended the EDP to create an increased level of incentive for customers expanding their business and adding jobs within designated areas where JEA has underutilized existing transmission and distribution capacity (Load Density Improvement areas). In August 2018, the JEA Board approved an extension of the EDP program application date to September 30, 2021. The EDP discount schedule is described in the following table:

Year	Base Charges Discount	Discount in Load Density Improvement Areas
Year 1	30%	35%
Year 2	25%	30%
Year 3	20%	25%
Year 4	15%	20%
Year 5	10%	15%
Year 6	5%	10%
Year 7	0%	0%

On November 15, 2016, the JEA Board approved an Economic Stimulus Rider designed to provide a financial incentive for new commercial or industrial customers to locate within the JEA service area. This rate rider would allow JEA to negotiate rates in certain controlled circumstances, given the following:

(i) Legal attestation by the customer (through an affidavit signed by an authorized representative of the customer) to the effect that, but for the application of the rider, the new load would not be served by JEA; and

(ii) Documentation demonstrating to JEA's satisfaction that there is a viable lower cost alternative to the customers taking electric service from JEA.

Regulation

Municipal electric utilities in the State of Florida, including JEA, are not subject to state regulation except for certain environmental matters, power plant and large transmission line siting, rate structures, certain conservation activities, certain safety standards and certain provisions of the Grid Power Bill. Section 366.04(5), Florida Statutes, a part of the Grid Power Bill, states that the PSC "shall further have jurisdiction over the planning, development, and maintenance of a coordinated electric power grid throughout Florida to assure an adequate and reliable source of energy for operational and emergency purposes in Florida and the avoidance of further uneconomic duplication of generation, transmission, and distribution facilities." In 1974, the Florida legislature enacted a statute which confers jurisdiction on the PSC to regulate "rate structures" of all utilities, including municipal utilities. In 1975, the PSC ruled that the statute does not confer ratemaking jurisdiction over municipal electric systems by distinguishing between "rates," as relating to determination of the revenues required by the utility, and "rate structures," as relating to the method by which revenues are generated.

The Florida legislature, in 1986, amended Section 366.04, Florida Statutes, which authorizes the PSC to prescribe and enforce safety standards for transmission and distribution facilities owned and operated by investor-owned electric utilities ("IOU's") and municipal- and cooperatively-owned electric utilities within the State of Florida. The PSC has adopted the National Electric Safety Code as its standard in this regard, and JEA believes it is currently in full compliance.

The Florida Electric Power Plant Siting Act, administered by the Florida Department of Environmental Protection (the "FDEP"), gives the PSC exclusive authority to determine the need for electric power plants. The Florida Transmission Line Siting Act, also administered by the FDEP, gives the PSC exclusive authority to determine the need for all transmission lines with voltages of 230 kV or greater which cross county lines. The Florida Department of Transportation ("FDOT") regulates the construction of new transmission and distribution lines which cross FDOT rights-of-way. The FDEP must approve the construction of transmission and distribution lines across FDEP-protected lands. Transmission and distribution lines which cross navigable waters are regulated by the Army Corps of Engineers, the FDEP and the SJRWMD.

Existing and proposed interconnection agreements with IOU's are subject to review and approval by FERC. The Energy Policy Act of 1992 conferred on FERC the power to order any "transmitting utility" to perform wheeling services. The term "transmitting utility" is defined to include municipal utilities, such as JEA. In addition, "transmitting utilities" are subject to FERC reporting requirements.

Capital Program

The Electric System's capital program consists of (a) capital requirements for improvements to existing generating facilities that are determined to be necessary as a result of JEA's annual resource planning process and (b) JEA's remaining capital requirements for transmission and distribution facilities and other capital items. The projected total amount of the capital program for the five-year period ending September 30, 2023 is shown in the following table.

Electric System Capital Program
(000's omitted)

Fiscal Year Ending September 30,	Amount
2019	$275,000
2020	236,000
2021	146,000
2022	118,000
2023	122,000
Total	$897,000

The total amount of the capital program for the five-year period ending September 30, 2023 is estimated to be approximately $897 million. JEA expects the total amount required for the capital program will be derived from revenues and other available funds of the Electric System. The projected total amount of the capital program may be affected by future environmental legislation and regulation. See "ELECTRIC UTILITY SYSTEM - *ELECTRIC UTILITY FUNCTIONS* - Environmental Matters" and "ELECTRIC

UTILITY SYSTEM - *ELECTRIC UTILITY FUNCTIONS* - Factors Affecting the Electric Utility Industry" herein.

St. Johns River Power Park

General Description

The St. Johns River Power Park, a coal- and petcoke-fired steam electric generating station, is located on an approximately 1,900-acre site in the northeast section of the City and consists of two units, each having a current average net capability of 638 MW. The two units are essentially identical in design and share certain common facilities, including fuel handling and storage facilities, four on-site water wells, a demineralized water treatment system, a wastewater treatment facility, switchyards and miscellaneous buildings.

The term "Power Park" is used in this Annual Disclosure Report to mean the Joint Facilities, as that term is defined in the "Agreement for Joint Ownership, Construction and Operation of the St. Johns River Power Park Coal Units #1 and #2" dated as of April 2, 1982, as amended (the "Power Park Joint Ownership Agreement"), between JEA and FPL. The Joint Facilities are defined in the Power Park Joint Ownership Agreement to mean a coal-fired, steam electric generating facility consisting of two units, together with their associated improvements.

Ownership

The Power Park is owned and operated by JEA and FPL pursuant to the provisions of the Power Park Joint Ownership Agreement. A summary of certain provisions of the Power Park Joint Ownership Agreement is attached hereto as APPENDIX G. JEA owns an undivided 80 percent interest in the Power Park, and FPL owns the other 20 percent. JEA and FPL share the decommissioning costs according to ownership.

Early Termination of Power Park Joint Ownership Agreement

On March 21, 2017, JEA's Board was informed by staff of an agreement in principle with FPL for an early termination of the Power Park Joint Ownership Agreement and cessation of commercial operations in January 2018 with decommissioning of the Power Park to occur thereafter. The agreement in principle between JEA and FPL was subject to negotiation, execution and delivery of mutually satisfactory definitive agreements between JEA and FPL and final approval from JEA's Board, FPL's governing body and regulatory agencies. JEA and FPL executed a term sheet on March 21, 2017 in connection with the proposed transaction.

JEA and FPL obtained all required approvals, including those of the JEA Board, FPL's Board, and the Florida PSC, and definitive agreements for cessation of commercial operations and decommissioning of the Power Park were executed, including an Asset Transfer and Contract Termination Agreement dated as of May 17, 2017. FPL obtained Florida PSC Final Order approval on October 16, 2017. All required conditions were met prior to the shutdown on January 5, 2018.

JEA completed Regulated Material Study and Environmental Site Assessments on August 25, 2017. The JEA Procurement Awards Committee approved a Demolition and Soil Remediation contract on November 16, 2017.

Upon the ceasing of commercial operation of the Power Park (the "Closing"), FPL made a payment to JEA in consideration of the early termination of the Power Park Joint Ownership Agreement. Upon completion of the dismantlement of the Power Park, FPL will assign its right, title and interest in and to the land upon which the Power Park is situated to JEA. On January 5, 2018, FPL and JEA deposited amounts, which together with funds on deposit in the debt service reserve fund, were sufficient to defease all outstanding debt issued under the First Power Park Resolution. As required by the terms of the Power Park Joint Ownership Agreement, FPL will pay its share of the costs of retirement and dismantlement of the Power Park; provided, however, FPL will not contribute to the costs of remediation associated with any portions of the Power Park that JEA preserves for its beneficial use. Debt issued under the Second Power Park Resolution currently remains outstanding and was not defeased in connection with the Closing.

JEA's obligation to make payments from the Electric System to provide revenues to pay JEA's portion of the Power Park operating and maintenance expenses, debt service on the Power Park Issue Two Bonds and renewal and replacement costs relating to the Power Park and all other costs associated with the Power Park, as well as all debt service on the Power Park Issue Three Bonds, is a Contract Debt payable as a Cost of Operation and Maintenance of the Electric System pursuant to the Electric System Resolution. The Contract Debt payments with respect to the Power Park will be a Cost of Operation and Maintenance of the Electric System whether or not the Power Park is operating or operable and are required to be made in accordance with the terms of the Second Power Park Resolution.

The current estimate for decommissioning St. Johns River Power Park is $68 million. JEA will pay 80 percent of the decommissioning cost for a total of $54.4 million. The Demolition and Soil Remediation contract is for $17,737,420. The contractor retains the salvage value for process equipment which is estimated to be $18,000,000.

The total demolition is scheduled to be completed by December 31, 2019. The soil and groundwater remediation is scheduled to be complete by April 30, 2020. At that time final closing will occur and all land and real property assets will be transferred to JEA.

Management

The Power Park is managed by two functional committees. Each of these committees consists of two persons appointed respectively by the managements of JEA and FPL. Each committee member has an equal vote. In case of disagreement, the appeal path involves the Executive Committee, JEA and FPL managements, and finally, with the written consent of both JEA and FPL, an independent arbitrator. In all cases, the JEA member of each committee is the lead manager in executing the functions of that committee. JEA provides all management and staffing below the committee level, unless otherwise agreed to by JEA and FPL. Since the date that JEA and FPL entered into the Power Park Joint Ownership Agreement, there has been only one case of disagreement, which subsequently was resolved. JEA is lead on the decommissioning of the Power Park. FPL and JEA executed a Service Management Agreement for any specific requirements for managing the decommissioning.

Operation

The following table shows the total plant capacity factors for the Power Park since 2014. The capacity factor is a measure of the actual output as a percentage of the theoretical maximum output of a generating plant, or an individual unit, as the case may be.

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Fiscal Year Ended September 30,	Power Park Capacity Factor		
	Unit 1 (%)	Unit 2 (%)	Total (%)
2014(1)	71.3	55.9	63.6
2015(2)	50.5	59.2	54.9
2016(3)	46.0	44.6	45.3
2017(4)	42.4	54.9	48.7
2018(5)	45.7	29.8	37.8

(1) During this period, Unit 2 underwent a 12-week planned outage.
(2) During this period, Unit 1 underwent a 10-week planned outage.
(3) During this period, Unit 2 underwent a five-week planned outage.
(4) During this period, Unit 1 underwent a five-week planned outage.
(5) During this period, Unit 1 and 2 were permanently shut down on January 5, 2018.

Transmission Arrangements

The Power Park is interconnected with the Electric System's transmission system at the 230 kV level. The transmission lines delivered power from the Power Park site to substations in the Jacksonville area. Pursuant to the Power Park Joint Ownership Agreement, FPL paid to the Electric System a charge for providing transmission service through the Electric System's transmission grid.

Fuel Supply and Transportation

JEA has satisfied all existing coal supply contracts for delivery to Power Park.

The Power Park includes a fuel storage facility that allows for storage of a maximum 90-day supply at normal plant output; JEA customarily maintained a 35- to 45-day inventory. In anticipation of retirement in January 2018, the last shipment of coal was received on November 11, 2017. Approximately 333,000 tons of stockpiled coal remained at shutdown. The remaining supply was transferred to the Northside Generating Station.

JEA's agreement with CSX Transportation for rail transportation services to the Power Park expired on December 31, 2016. In 2015, JEA utilized CSX Transportation to deliver approximately 385,000 tons of coal to the Power Park. This volume was under the annual requirement established in JEA's 2011 contract with CSX Transportation for transportation services during 2012-2016. The 2016 volume was also under the annual requirement. Both the 2015 volume and the 2016 volume were under the annual requirement due to unforeseen changes in environmental regulations. In January 2018, JEA and FPL, reached a confidential settlement with CSX through the contractual dispute resolution process.

Necessary maintenance and repairs must be performed on the 350 leased aluminum rotary railcars before they are returned to the lessor. At this time, 240 of the 350 have been returned, and repairs are in progress on the remaining railcars.

Capital Program

As a result of the cessation of commercial operations of the Power Park in January 2018, JEA does not project any additional expenditures relating to the capital program.

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Scherer 4

General Description

Scherer Unit 4 is one of four coal-fired steam units located at the Robert W. Scherer Electric Generating Plant ("Plant Scherer") on a 12,000-acre site near the Ocmulgee River approximately three miles east of Forsyth, Georgia. Scherer Unit 4 has a current net maximum output of 846 MW and was placed in service in February 1989. Pursuant to the Plant Robert W. Scherer Unit Number Four Amended and Restated Purchase and Ownership Participation Agreement, dated as of December 31, 1990, as amended, among GPC, FPL and JEA (the "Scherer Unit 4 Purchase Agreement"), JEA purchased an aggregate of 23.64 percent of Scherer Unit 4, and FPL purchased an aggregate of 76.36 percent of Scherer Unit 4. In addition to the purchase of undivided ownership interests in Scherer Unit 4, under the Scherer Unit 4 Purchase Agreement, JEA and FPL also purchased proportionate undivided ownership interests in (i) certain common facilities shared by Units 3 and 4 at Plant Scherer, (ii) certain common facilities shared by Units 1, 2, 3 and 4 at Plant Scherer and (iii) an associated coal stockpile. Under a separate agreement, JEA also purchased a proportionate undivided ownership interest in substation and switchyard facilities. A summary of certain provisions of the Scherer Unit 4 Purchase Agreement and certain related agreements is attached hereto as APPENDIX H.

Ownership

As stated above, JEA and FPL are the owners of Scherer Unit 4 with undivided ownership interests of 23.64 percent and 76.36 percent, respectively; and JEA and FPL have proportionate ownership interests in the common facilities associated with all four units located at Plant Scherer. Oglethorpe, MEAG Power, GPC and the City of Dalton, Georgia ("Dalton"), as co-owners of Scherer Units 1 and 2, and Gulf Power Company ("Gulf Power") and GPC, as co-owners of Scherer Unit 3, also have proportionate undivided ownership interests in such common facilities. FPL and JEA also have proportionate undivided ownership interests in the common facilities shared by Scherer Units 3 and 4. GPC and Gulf Power, as co-owners of Scherer Unit 3, also have proportionate ownership interests in such common facilities (see "SUMMARY OF CERTAIN PROVISIONS OF AGREEMENTS RELATING TO SCHERER UNIT 4 - Scherer Unit 4 Purchase Agreement" in APPENDIX H attached hereto).

Oglethorpe, MEAG Power, Dalton, Gulf Power, GPC, FPL and JEA have entered into the Plant Scherer Managing Board Agreement which, among other things, established a managing board to coordinate the implementation and administration of various ownership agreements relating to Plant Scherer, including the establishment of standards, rules and policies for fuel procurement and the method of voting on issues affecting the various components of Plant Scherer in which all co-owners have an interest.

Operation

The following table shows the total plant availability factors and capacity factors for Scherer Unit 4 since 2014.

	Scherer Unit 4	
Calendar Year	Availability Factor (%)	Capacity Factor (%)
2014(1)	75.5	57.7
2015	99.0	76.9
2016(2)	84.6	64.9
2017	96.3	62.1
2018(3)	76.6	52.5

(1) During this period, Scherer Unit 4 underwent an 11-week planned outage.
(2) During this period, Scherer Unit 4 underwent a four-week planned outage.
(3) During this period, Scherer Unit 4 underwent an 11-week planned outage.

Transmission Arrangements

As a part of the purchase by JEA of its interest in Scherer Unit 4, GPC and Southern Company Services, Inc. provide JEA with firm transmission service through the GPC system to the Florida/Georgia border for delivery of the output of JEA's ownership interest in Scherer Unit 4 for the life of the unit. Transmission rates are computed by formulae contained within the agreement and are filed with, and under the jurisdiction of, FERC.

Fuel Supply

GPC, under JEA's direction, purchases coal for JEA's use of its ownership interest in Scherer Unit 4. JEA has the option to procure its own coal. In 1994, Scherer 4 began burning sub-bituminous coal from the Powder River Basin ("PRB") located in the western region of the United States. JEA owns 214 aluminum railcars to deliver the PRB coal for use at Plant Scherer. Plant Scherer has in place a Btu accounting system to allocate fuel costs among the owners.

To provide for transportation of coal for Scherer Unit 4, GPC negotiated two agreements with rail carriers during Fiscal Years ended September 30, 2002 and September 30, 2003. The term of the agreement with Burlington Northern and Santa Fe Railway Company ("BNSF") has been extended through calendar year 2028. The current agreement with Norfolk Southern Railway Company extends through December 2019.

Capital Program

JEA's share of the Scherer 4 Project's projected capital program per year for the five-year period ending September 30, 2023 is summarized below.

Scherer 4 Project Capital Program
(000's omitted)

Fiscal Year Ending September 30,	Amount
2019	$10,000
2020	10,000
2021	5,000
2022	9,000
2023	5,000
Total	$39,000

The total amount of the capital program for the five-year period is estimated to be approximately $39 million. JEA expects that the total amount required to fund the capital program will be provided from available funds of the Bulk Power Supply System. The projected total amount of the capital program may be affected by future environmental legislation and regulation. See "ELECTRIC UTILITY SYSTEM - *ELECTRIC UTILITY FUNCTIONS* - Environmental Matters" and "ELECTRIC UTILITY SYSTEM - *ELECTRIC UTILITY FUNCTIONS* - Factors Affecting the Electric Utility Industry" herein.

Resource Requirements

Capacity

JEA must have sufficient resources to serve expected firm customer demands in the future. The capacity required consists of forecasted annual peak demands (net of interruptible demands) and a reserve margin necessary to allow for routine and emergency equipment outages and demand forecast variances. The installed capacity consists of existing Electric System generating units and JEA's interest in Scherer Unit 4.

The difference between firm capacity required (including the reserve margin) and installed capacity is the net capacity surplus or deficit.

JEA applies the general rule that reserve capacity should be at least 15 percent of the projected seasonal firm peak demand. This reserve amount is added to projected firm peak demand to determine the seasonal capacity required. This approach is considered reasonable and prudent, particularly in light of JEA's strong transmission ties with FPL and Southern. After allowing for the transmission capacity necessary to import its capacity from Scherer Unit 4, JEA owns approximately 1028 MW of additional transmission import capacity. The remainder is made available for economy purchases by JEA or is made available to others for transmission service under FERC Order No. 888.

As part of its strategic planning process, JEA re-evaluates its resource needs annually. The results of JEA's 2018 resource requirements study are shown below in the table entitled "PROJECTED AVAILABLE CAPACITY AND REQUIREMENTS." JEA's 2018 resource requirements study reflected JEA's most recent peak demand and energy forecast, which continued to identify JEA as a winter-peaking utility. The study also reflected the use of interruptible and curtailable rates. JEA's resource plan is expected to satisfy JEA's need for capacity through the listed operating period.

In 2010, the JEA Board established a target of up to 30 percent of JEA's energy requirements to be met with nuclear energy by 2030. This policy was amended and restated in October 2017 to establish a target of up to 30 percent of JEA's energy requirements to be met with carbon-free, or carbon-neutral energy by 2030. This modification allows energy from solar, wind, biomass, landfill gas and other renewable sources, as well as nuclear, to meet the target.

JEA is in the process of performing an Integrated Resource Plan ("IRP") analysis. The purpose of the IRP is to comprehensively evaluate the performance and economic impacts of multiple classes of resource options for meeting future capacity needs resulting from load growth and/or from the potential retirement of the JEA Northside Unit 3 generating unit. The IRP will analyze the cost, benefit and present worth value of all potential resource options with and without the retirement of Northside Unit 3. The conventional resource capacity options under evaluation include natural-gas fired spark ignition reciprocating internal combustion engines (RICE), aeroderivate combustion turbine engine-generators (Aero CT), F-class and advanced-class large frame simple-cycle combustion turbines (SCCTs), large-frame F-class and advanced-class combined-cycle combustion turbines (CCCTs) and conversion of (2) existing GE 7FA.03 assets (GEC CT1 and CT2) to 2x1 7FA.05 combined-cycle configuration. The addition of renewable generation including solar PV and battery storage is also being evaluated. Sensitivities to the base case include retirement of Northside Unit 3, retirement of Northside CTs, high and low load growth, high and low natural gas prices and high resource capital costs. Three alternate scenarios will be evaluated to assess the robustness of the base load resource plan in cases of extreme disruption. These alternate scenarios include a Load Erosion case with decreasing energy sales due to customer-side solar PV, an Increased Electrification case with high penetration of plug-in electric vehicles (PEVs), and a Green Economy case with high PEV penetration, high demand-side management, high customer-side solar, CO_2 cost and 100% solid fuel retirement by 2030. Preliminary IRP results were presented in late March 2019, with final draft expected in the summer of 2019.

Option to Purchase Interest in Lee Nuclear Station

On February 1, 2011 JEA entered into an option agreement with Duke Energy Carolinas, LLC ("Duke Carolinas"), a wholly-owned subsidiary of Duke Energy Corporation, pursuant to which JEA has the option (but not the obligation) to purchase an undivided ownership interest of not less than five percent and not more than 20 percent of the proposed two-unit nuclear station currently known as William States Lee III Nuclear Station, Units 1 & 2 to be constructed at a site in Cherokee County, South Carolina (the "Lee Project"). The Lee Project is currently planned to have 2,234 MW of electric generating capacity with a projected on-line date of 2026 with respect to Unit 1 and 2028 with respect to Unit 2. The total cost of the option was $7.5

million. JEA obtained this option in furtherance of its 2010 policy target to acquire up to 30 percent of JEA's energy requirements from nuclear sources by 2030.

The option agreement requires that JEA and Duke Carolinas complete negotiation of an ownership agreement and an operation and maintenance agreement for the Lee Project prior to JEA's exercising the option. The option exercise period will be opened by Duke Carolinas after it (i) receives NRC approval of the combined construction and operating license for the Lee Project (such approval was obtained on December 21, 2016) and (ii) executes an engineering, procurement and construction agreement for the Lee Project. In August 2017, Duke Carolinas filed with the North Carolina Utilities Commission and the South Carolina Public Service Commission to cancel the plant. This cancellation allows Duke Carolinas to seek cost recovery for the expenditures on licensing the plant, however the NRC license remains active and the cancellation is not permanent. There is currently no schedule for negotiating an EPC agreement.

After JEA exercises the option (should it elect to do so) and various regulatory approvals are obtained, JEA must pay Duke Carolinas the exercise price for the option. Such price is generally JEA's pro rata share, based on its percentage ownership interest in the Lee Project, of the development and pre-construction cost for the Lee Project incurred by Duke Carolinas from the beginning of the Lee Project through the closing date of the option exercise. JEA is undecided as to the financing structure it would employ to finance its interest in the Lee Project, should it elect to exercise its option.

Under certain circumstances should the Lee Project be terminated by Duke Carolinas, Duke may be obligated to provide JEA with options for alternative resources (but not necessarily from nuclear resources) to replace JEA's optionable portion of the projected Lee Project capacity. Such alternative resources are to be available to JEA in a substantially similar timeframe (i.e., within two years of the projected on-line date) as currently planned for the Lee Project. No alternative resource for the Lee Project has yet been proposed by Duke Carolinas.

System Load

From 2014 to 2018, the peak demand for power on JEA's Electric System increased at a compound annual rate of 2.2 percent per year. From 2014 to 2018, energy output increased at a compound annual rate of 0.5 percent per year. JEA experienced its highest instantaneous peak of 3,250 MW on January 11, 2010. The yearly recorded values were as follows:

Fiscal Year	System Peak Demand (MW)[1]	Percent Change From Previous Year	Annual Net Energy For Load (GWh)[2]	Percent Change From Previous Year
2014	2,823	8.7	12,572	2.0
2015	2,863	1.4	12,866	2.3
2016	2,763	(3.5)	13,053	1.5
2017	2,682	(2.9)	12,482	(4.4)
2018	3,080	14.8	12,807	2.6

(1) The highest 60-minute net integrated peak demand for that year.
(2) Does not include the FPL-Power Park Sale or other off-system sales.

JEA's peak load forecast, which is based on weather-normalized load and energy data, together with JEA's projections for available generation and firm power purchases, is shown in the following tables.

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PROJECTED AVAILABLE CAPACITY AND REQUIREMENTS[1]
(MW)

Fiscal Year	Firm Winter Peak Demand[2]	Capacity Reserves	Firm Winter Peak Demand Plus Capacity Reserves[3]	Electric System Capacity[4]	Firm Power Purchases[5]	Scherer Unit 4	Installed Capacity and Net Firm Power Purchases[3]	Available Capacity Surplus[3]
2019	2,715	407	3,122	2,907	215	198	3,320	197
2020	2,736	410	3,146	2,940	40	198	3,178	31
2021	2,752	413	3,165	2,940	40	198	3,178	13
2022	2,769	415	3,184	2,940	115	198	3,258	68
2023	2,787	418	3,205	2,940	215	198	3,353	148

Fiscal Year	Firm Summer Peak Demand[2]	Capacity Reserves	Firm Summer Peak Demand Plus Capacity Reserves[3]	Electric System Capacity[4]	Firm Power Purchases[5]	Scherer Unit 4	Installed Capacity and Net Firm Power Purchases[3]	Available Capacity Surplus[3]
2019	2,555	383	2,939	2,657	215	198	3,070	132
2020	2,566	385	2,951	2,657	115	198	2,970	19
2021	2,576	386	2,963	2,657	115	198	2,970	7
2022	2,587	388	2,976	2,657	140	198	2,995	20
2023	2,599	390	2,988	2,657	215	198	3,070	82

(1) The projected figures contained herein are forward-looking statements and are subject to change without notice. These figures are based on current conditions and assumptions, including JEA's growth assumptions, environmental regulations, fuel prices, fuel availability and other factors in effect as of the date hereof and are subject to significant regulatory, business, economic and environmental uncertainties and contingencies. Events may occur and circumstances may change subsequent to the date hereof that would have a material impact on the projections presented herein. The achievement of certain results contained in such forward-looking statements involves known and unknown risks, uncertainties and other factors that may cause actual results to differ materially from those stated in the forward-looking statements. JEA does not commit to issue any updates or revisions to those forward-looking statements if or when its expectations change, or events, conditions or circumstances on which such statements are based occur or fail to occur.

(2) Peak demand:
- (a) does not include serving expected interruptible loads.
- (b) includes Demand-Side Management.
- (c) includes Plug-In Electric Vehicle (PEV) penetration.

(3) Totals may not add due to rounding.

(4) Figures include the following considerations:
- (a) No capacity additions occur in the planning horizon.
- (b) Diesel capacity rating in winter, gas capacity rating in summer for Kennedy CTs 7 & 8 and Brandy Branch CTs 1-3.
- (c) Gas capacity ratings in winter and summer for Greenland CTs.

(5) Firm Power Purchases include:
- (a) TRE Phase I: 9 net MW clean power purchase starting winter 2008 and expires December 2026.
- (b) TRE Phase II: 6 net MW clean power purchase starting winter 2026.
- (c) Annual Firm Purchased Power Agreement for Natural Gas Combined Cycle capacity and energy January 2018-2019 (200 MW).
- (d) Seasonal market purchases needed summers 2020-2022 (25-100 MW) and winters 2020-2021 (25 MW).
- (e) Vogtle Units 3 and 4: 100 MW each unit delivered from MEAG November 2021 and November 2022.

Environmental Matters

JEA is subject to numerous federal, state, and local environmental regulations resulting in environmental liabilities due to compliance costs associated with new regulatory initiatives, enforcement actions, legal actions and contaminated site assessment and remediation. Based on analysis of the cost of remediation and other identified environmental contingencies, as of September 30, 2018, JEA had accrued liabilities of approximately $20,726,000 related to environmental matters, of which approximately $15,795,000 is associated with the expected cost of remediating the former wood-preserving facility at the Kennedy Generating Station. There are other environmental matters that could have an impact on JEA; however, the resolution of these matters is uncertain, and no accurate prediction of range of loss is possible at this time. For a further discussion of certain pending litigation relating to environmental matters, see the discussion under the captions "Pollution Remediation Obligations" and "Northside Generating Station

Byproduct" in Note 15 to the financial statements of JEA set forth in APPENDIX A of this Annual Disclosure Report. See also "ELECTRIC UTILITY SYSTEM - ELECTRIC UTILITY FUNCTIONS - Environmental Matters - Other Environmental" herein.

While the final outcome of the proceedings referred to above cannot be predicted with certainty, JEA does not believe that its potential liabilities arising from such proceedings, either individually or in the aggregate, will have a material adverse effect upon its financial position, results of operations or liquidity.

Global Climate Change

Over the past 25 years, environmental concerns of the public, the scientific community and Congress have resulted in legislation that has had, and is expected to continue to have, a significant impact on the electric utility industry. Based on the increasing intensity of national and international attention to climate change, federal and state legislative and/or regulatory actions/discussions have been ongoing in this area.

Specific regulations with significant impact to JEA are described below.

In 1990, legislation was enacted (the "1990 Amendments") that substantially revised the Federal Clean Air Act (the "Clean Air Act"). A main feature of the 1990 Amendments is the reduction of sulfur dioxide ("SO_2") and nitrogen oxide ("NOx") emissions caused by electric utility power plants, particularly those fueled by oil and coal. The SO_2 reduction was to be achieved in two phases. Phase I addressed specific high sulfur emitting generating units named in the 1990 Amendments and was effective on January 1, 1995.

In Phase II, which became effective on January 1, 2000, total U.S. SO_2 emissions are capped at 8,900,000 tons per year. The 1990 Amendments contained provisions for allocating emission allowances to power plants based on historical or calculated levels. An allowance is defined as the authorization to emit one ton of SO_2. An "Affected Unit" is defined as a unit that is subject to emission reduction requirements or limitations under the United States Environmental Protection Agency ("EPA") Acid Rain Program.

In 2009, the EPA issued final rules that require mandatory reporting of greenhouse gases ("GHG") emissions from all sectors of the economy. The rules require reporting by fossil fuel suppliers and industrial gas suppliers, direct GHG emitters and manufacturers of heavy-duty and off-road vehicles and engines. Electric generating units ("EGUs") subject to the Clean Air Act's Acid Rain Program would continue to measure CO_2 emissions as presently performed and report based on those measurements. Annual reports are due by March 31 each year.

Under the structure of the Clean Air Act, permits are required for all sectors of the economy that have activities that meet the definition of a "major source" of GHG emissions under the Clean Air Act. Covered entities will immediately be subject to Prevention of Significant Deterioration ("PSD") and Title V permitting regimes, including requirements that construction of new sources or modifications to existing sources that will significantly increase GHG emissions install Best Available Control Technology ("BACT") to limit those emissions.

EPA final PSD and Title V Greenhouse Gas Tailoring Rule (the "Tailoring Rule"), which provided a three-stage phase-in of Clean Air Act PSD and Title V operating permit requirements for GHGs from stationary sources, became applicable to GHG emissions on January 2, 2011.

Under the first phase, PSD and Title V requirements only apply to GHGs at sources that are already subject to these programs as a result of their non-GHG emissions. In the second and third phases, PSD and Title V requirements can apply to sources on the basis of GHG emissions alone, even if non-GHG emissions are not high enough to trigger current PSD and Title V requirements. The second and third phase of the Tailoring Rule and any related assessments were rendered irrelevant by a U.S. Supreme Court ruling in 2014.

EPA's Tailoring Rule was initially upheld by the U.S. Court of Appeals for the District of Columbia Circuit, but, on June 23, 2014, the U.S. Supreme Court reversed in part and affirmed in part. The Supreme Court held that the Clean Air Act neither compels nor permits EPA to require compliance with PSD or Title V requirements solely on the basis of GHG emissions but that EPA reasonably interpreted the Act to require a source that must obtain a PSD permit based on its emission of non-GHG emissions to also comply with BACT requirements for GHGs. On remand from the Supreme Court, the U.S. Court of Appeals for the District of Columbia Circuit issued an amended judgment on April 10, 2015 that held that the Tailoring Rule was vacated to the extent it required sources to obtain PSD or Title V permits solely on the basis of GHG emissions and directed EPA to take steps to rescind or revise applicable regulations to reflect the Court's judgment. EPA has issued guidance indicating that it will no longer seek to apply the second or third phase of the Tailoring Rule but will continue to implement the first phase and will undertake additional future rulemaking. In early October 2016, EPA proposed revisions in response to the June 2014 U.S. Supreme Court's decision that invalidated GHG-only PSD permitting under EPA's Tailoring Rule. The proposal revised a variety of provisions to comply with the Court's ruling, and established a significant emissions rate threshold for GHGs of 75,000 tons per year CO_2, which would determine whether a source that triggers PSD for conventional pollutants is required to conduct a BACT analysis for GHGs. EPA accepted comments on the revisions until December 16, 2016. Consistent with the ruling, the EPA is no longer requiring PSD permitting based on GHG emissions. JEA cannot determine the impact of this rule or any future related regulatory actions on its facilities at this time.

On August 3, 2015, the Environmental Protection Agency (EPA) issued concurrently three separate rules pertaining to emissions of carbon dioxide (CO_2) fossil fuel-fired electric generating units (EGUs):

- The Final Clean Power Plan (CPP), applicable to existing fossil fuel-fired electric EGUs.

- The Final Carbon Pollution Standards Rule (CPS), applicable to new, modified and reconstructed fossil fuel-fired EGUs.

- The Proposed Federal Plan applicable to states that fail to submit an approvable plan that achieves CPP goals.

On February 9, 2016, the United States Supreme Court (SCOTUS) issued an order staying implementation of the CPP. The SCOTUS granted the applications of numerous parties to stay the CPP pending judicial review of the rule. EPA subsequently petitioned the court to pause the litigation indefinitely while EPA promulgates new rules.

On October 16, 2017, EPA issued an Advanced Notice of Proposed Rulemaking to repeal the CPP in its entirety due to the Administration's different interpretation of the authority for CO_2 regulation under the Clean Air Act. On August 31, 2018, EPA issued a proposed rule to replace the CPP, which is entitled the Affordable Clean Energy ("ACE") rule. The proposed ACE rule requires states to set CO_2 performance standards for each individual affected generating unit based on heat rate improvements that can be made at each specific unit. In addition, the ACE proposal would adopt reforms to the New Source Review ("NSR") program that are designed to remove the current regulatory barriers to implementing efficiency measures as well as other reliability, maintenance and safety projects at existing power plants. The compliance requirements of the proposed ACE rule are significantly less stringent than those of the CPP. JEA anticipates the ability to comply with ACE without significant new investment. EPA accepted written comments on the proposed ACE rule until October 31, 2018. EPA plans to issue a final ACE rule in Spring 2019. The D.C. Circuit court continues to hold the CPP litigation in abeyance while EPA moves forward to repeal and replace the CPP. The CPP becomes repealed essentially when the ACE becomes "final".

On December 6, 2018, EPA issued a proposed rule to replace the CPS by revising the new source performance standards ("NSPS") for CO_2 emissions from new, reconstructed, and modified power plants. The proposed rule revises the CO_2 performance standards for new coal-fired power plants, replacing the current standard based on carbon capture and storage with a more achievable standard based on high-efficiency generating technologies in combination with best operating practices. EPA's current plan is to finalize the rule by June of 2019. Similar to the ACE, the proposed NSPS for CO_2 emissions is significantly less stringent than the CPS. Correspondingly, JEA anticipates the ability to comply with the proposed NSPS for CO_2 emissions without significant incremental investment should it ever decide to construct a new EGU or modify an existing one.

National Ambient Air Quality Standards

National Ambient Air Quality Standard ("NAAQS") are established to protect human health or public welfare. The EPA is required to review the NAAQS every five years and make such revisions in such criteria and standards and promulgate such new standards as may be appropriate in accordance with provisions of the Clean Air Act. If the EPA determines that a state's air quality is not in compliance with a NAAQS, that state is required to establish plans to reduce emissions to demonstrate attainment with that NAAQS.

Specific NAAQS that have recently been revised or are currently proposed for revision are as follows:

Ozone NAAQS. On October 1, 2015, the EPA revised its NAAQS for ground-level ozone to 70 parts per billion ("ppb"), which is more stringent than the 75 ppb standard set in 2008. The Clean Air Act mandates that EPA publish initial area designations within two years of the promulgation of a new standard (i.e., by October 2017), but allows for a one-year extension if the Administrator determines he "has insufficient information to promulgate the designations." On November 16, 2017, EPA published a final rule establishing initial area designations for the 2015 NAAQS for ozone EPA, designating 2,646 counties (including all counties in Florida) as "attainment/unclassifiable." EPA is designating areas as "attainment/unclassifiable" where one or more monitors in the county are attaining the 2015 ozone NAAQS, or where EPA does not have reason to believe the county is violating the 2015 ozone NAAQS or contributing to a violation of the 2015 ozone NAAQS in another county. States with nonattainment areas will have up to three years following designation to submit a revised state implementation plan ("SIP") outlining strategy and emission control measures to achieve compliance. In November, 2017, Duval County was deemed unclassifiable pending acceptable monitoring results expected at the end of 2018. Duval County is projected to be in attainment of the revised standard. In the event that Duval County was to become a non-attainment area, JEA's power plants (e.g., Northside and Brandy Branch) could be required to comply with additional emission control requirements (e.g., increased usage of ammonia in their Selective catalytic reduction/Selective non-catalytic reduction ("SCR/SNCR")) for nitrogen oxides and volatile organic compounds which are precursors to ozone formation. The nature and consequences of a non-attainment designation cannot be predicted at this time.

Particulate Matter NAAQS. The EPA finalized the NAAQS Fine Particulate Matter ("$PM_{2.5}$") standards in September 2006. Since then, the EPA established a more stringent 24-hour average $PM_{2.5}$ standard and kept the annual average $PM_{2.5}$ standard and the 24-hour coarse particulate matter standard unchanged. The EPA issued a final $PM_{2.5}$ rule on December 14, 2012, that reduced the annual $PM_{2.5}$ standard from 15 $\mu g/m^3$ to 12 $\mu g/m^3$. The rule left the 24-hour $PM_{2.5}$ standard of 35 $\mu g/m^3$ unchanged. The change in the $PM_{2.5}$ has not resulted in non-attainment designation for Duval County and has not had a material adverse effect on the operations of JEA's generating facilities.

SO_2 and NO_2 NAAQS. During 2010, the EPA finalized new one-hour NAAQS for both SO_2 and nitrogen dioxide ("NO_2"). In 2013, the EPA published in the Federal Register its proposed nonattainment designations based on monitoring data for the 2010 one hour primary SO_2 NAAQS. Parts of two Florida counties, including Nassau County, which is adjacent to JEA's service territory, were initially designated as being nonattainment areas. Duval County was not designated at this time. On August 10, 2015, EPA issued a final rule directing states to provide data to characterize current air

quality in areas with large sources of sulfur dioxide SO_2 emissions to identify maximum one-hour SO_2 concentrations in ambient air. The air quality data developed by the states in accordance with the final rule will be used by EPA in future rounds of area designations for the 2010 one-hour SO_2 NAAQS. A March 2015 court order requires EPA to complete designations of all areas by the end of 2020. The FDEP conducted dispersion modeling studies of several large SO_2-emitting sources in the State of Florida (including JEA's NGS and SJRPP boilers), and found that the one-hour SO_2 NAAQS is being met in Duval County using either allowable emission rates or actual emission rates (for the past three years). EPA completed its review and issued a final rule on February 25, 2019 to maintain the one-hour standard at 75 ppb.

State Implementation Plans. The Clean Air Act requires states to develop a general plan to attain and maintain the NAAQS in all areas of the country and a specific plan to attain the standards for each area designated nonattainment for a NAAQS. These plans, known as State Implementation Plans or SIPs, are developed by state and local air quality management agencies and submitted to EPA for approval.

On June 12, 2015, EPA published a final rule concerning how provisions in EPA-approved SIPs treat excess emissions during periods of startup, shutdown or malfunction ("SSM").

The final rule updates EPA's SSM Policy as it applies to SIP provisions and clarifies, restates, and revises EPA's guidance concerning its interpretation of the Clean Air Act requirements with respect to treatment in SIPs of excess emissions that occur during periods of SSM. The EPA issued a "SIP call" for Florida and 35 other states requiring them to submit corrective SIP revisions by November 22, 2016. Florida submitted its SSM SIP revision on November 22, 2016. It is expected that most of existing SSM permit conditions for JEA's sources will not be affected, but a few permit modifications could be required with additional work practice standards during SSM events.

MATS

On February 16, 2012, the EPA issued a final rule intended to reduce emissions of toxic air pollutants from power plants. The Mercury and Air Toxics Standards ("MATS") Rule is intended to regulate four categories of hazardous air pollutants ("HAPs") emitted by coal- or oil-fired EGUs with a capacity of 25 MW or greater, namely mercury, HAP metals, acid gases and organic HAP.

Affected sources had until April 2015 to be in compliance, subject to a one-year extension. In June 2015, the U.S. Supreme Court determined that EPA's rule did not properly consider costs in developing MATS and directed EPA to address costs. On December 1, 2015, the EPA published a proposed supplemental finding and request for comment regarding the costs of the MATS rule, in response to the Supreme Court's decision. On December 15, 2015, the D.C. Circuit remanded MATS back to the EPA without vacatur, leaving MATS in effect and giving the EPA to opportunity to properly complete "supplemental findings" associated with the MATS rulemaking. In April, 2016, EPA's supplemental findings determined that it is still "appropriate and necessary" to regulate hazardous air pollutants ("HAPs") from coal-fired power plants.

Reports indicate that EPA will issue a proposed rule that may obviate the appropriate and necessary finding (obviating the need for the MATS rule) as well as the residual risk and technology review that EPA must complete in order to determine whether a tightening of the current MATS emission limits is necessary. The proposed rule package was sent to the U.S. Office of Management and Budget in October 2018 for interagency review. EPA published its MATS proposal on February 7, 2019 in the *Federal Register*. The proposal states that regulation of HAPS is not appropriate or necessary after reconsidering costs but that coal- and oil-fired EGUs would not be delisted from regulation under Section 112 of the Clean Air Act, and the 2012 MATS rule would remain in place. The comment period ended on April 17, 2019. EPA is in the process of reviewing the submitted comments and it is expected that EPA will issue a final rule at some time in the future.

Because of the controls already installed at JEA's EGUs, JEA did not need to install any new or additional control equipment in order to comply with the MATS rule, as dependent on fuel type. JEA does not anticipate a need for any new costs in order to comply with MATS regardless of whether it stays in place or if it is determined to not be appropriate and necessary.

CCRs

In April 2015, EPA finalized its rule to regulate the disposal and management of coal combustion residuals ("CCRs"), meaning fly ash, bottom ash, boiler slag and flue gas desulfurization materials, destined for disposal from coal-fired power plants. The new rule became effective on October 19, 2015, and established technical requirements for surface impoundments and landfills. The rule requires protective controls, such as liners and groundwater monitoring, at landfills and surface impoundments that store CCRs. The rule, as adopted by EPA, was to be enforced only by citizen-initiated lawsuits, rather than by EPA. However, on December 16, 2016, the President signed the Water Infrastructure Improvements for the Nation Act (the "WIIN Act"), which contains coal ash provisions that enable states to implement and enforce the requirements of the final CCR rule. The WIIN Act provides for the establishment of state and EPA permit programs for coal combustion residuals (coal ash), flexibility for states to incorporate the EPA final rule for coal combustion residuals or develop other criteria that are at least as protective as the final rule and requires EPA to approve state permit programs within 180 days of a state submitting a program for approval.

The rule applies to CCR management practices at the Power Park and Plant Scherer. The rule does not apply to management of CCRs at Northside Generating Station as long as it continues to burn a fuel mix with less than 50 percent coal. The currently operating cell within Area B of SJRPP must be closed in accordance with performance standards specified in the CCR rule but does not have to be retrofitted with a bottom liner. During closure, the top of the cell must be covered with an impermeable liner. The facility must continue to comply with the operating and monitoring requirements of the rule even after the plant decommissioning is completed, in accordance with the post-closure plan and corrective action plans that are developed for groundwater. The Power Park's two closed byproduct storage areas (Areas I and II) are not affected by this rule. The Power Park has no regulated surface impoundments. Existing surface impoundments, like that at Plant Scherer, are required to meet increased and more restrictive technical and operating criteria or to close. GPC has decided to close the surface impoundment at Plant Scherer instead of pursuing a retrofit, and it will no longer be in operation after 2019.

EPA left in place an amendment to the Federal Resource Conservation and Recovery Act known as the Bevill exemption for beneficial uses of CCRs in which CCRs are recycled as components of products instead of being placed in impoundments or landfills. Large quantities of CCRs are used today in concrete, cement, wallboard and other contained or encapsulated applications.

Cross-State Air Pollution Rule and Clean Air Interstate Rule

On July 6, 2011 EPA finalized the Cross-State Air Pollution Rule ("CSAPR") to regulate interstate impacts of SO_2 and NOx. The final rule replaced the EPA's 2005 Clean Air Interstate Rule ("CAIR"). On April 29, 2014, the U.S. Supreme Court reversed a D.C. Circuit decision and upheld the CSAPR rule. CSAPR requires a total of 28 states, plus the District of Columbia, to reduce annual SO_2 emissions, annual NOx emissions and/or ozone season NOx emissions to assist in attaining the 1997 ozone and fine particle and 2006 fine particle NAAQS. CSAPR became effective on January 1, 2015 for SO_2 and annual NOx, and May 1, 2015 with respect to seasonal NOx requirements. The State of Florida currently is subject only to seasonal NOx requirements (May 1 through September 30) under CSAPR rule.

On December 3, 2015, EPA proposed an updated rule (known as the "transport rule"), which incorporated the 2008 ozone standard into EPA's cross-state air pollution analysis. The proposal indicates that Florida's emissions do not cause non-compliance with the 2008 ozone standard in any downwind states. The rule was finalized on September 7, 2016, and Florida is no longer subject to CSAPR and has been removed from CSAPR beginning in 2017. Additional modeling will also be conducted with respect to the 2015 ozone standard, and Florida could again be linked to one or more downwind states, resulting in being subject to the CSAPR ozone season program again.

JEA's power plants will be able to comply with any additional NOx emission reduction requirements through increased usage of ammonia in their SCR/SNCR during the ozone season under CSAPR. JEA also has the option of purchasing NOx allowance credits in the market.

See also "ELECTRIC UTILITY SYSTEM - *ELECTRIC UTILITY FUNCTIONS* - St. Johns River Power Park - *Fuel Supply and Transportation*" herein.

Regional Haze

The EPA issued final regulations for a Regional Haze Program in June 1999. The purpose of the regulations is to improve visibility in the form of reducing regional haze in 156 national parks and wilderness areas ("Class I areas") across the country. Haze is formed, in part, from emissions of SO_2 and NOx. Because these pollutants can be transported over long distances, all 50 states, including those that do not have Class I areas, are required to participate in planning, analysis, and in many cases, emission control programs under the regional haze rule. Northside Unit 3 is subject to Best Available Retrofit Technology requirements under the EPA Regional Haze rules. Northside Unit 3 applied for and received an exemption under the Regional Haze Rule due to this unit's having minimal impacts on visibility in the Class I areas from particulate emissions as demonstrated by ambient air modeling.

Water

On May 14, 2014, EPA promulgated a draft rule to set technology standards for cooling water intake systems for existing facilities under Section 316(b) of the Federal Clean Water Act. Section 316(b) requires that standards for the location, design, construction and capacity of cooling water intake systems reflect the best technology available for minimizing adverse environmental impacts. Under the rule, existing facilities that withdraw very large amounts of water are required to conduct studies to help their respective permitting authorities determine whether and what site-specific controls, if any, would be required to reduce the number of aquatic organisms that are captured in cooling water intake systems. The final rule was published in the Federal Register on August 15, 2014 and became effective October 14, 2014.

The new standards in the final rule do not affect any of its facilities other than Northside. Northside is one of more than 1,260 existing facilities that use large volumes of cooling water from lakes, rivers, estuaries or oceans to cool their plants. It is possible that new standards may prospectively require upgrades to the system, varying from establishment of existing facilities as the Best Technology Available ("BTA"), to improvements to the existing screening facilities to the installation of other cooling technologies. A full two-year study is required to evaluate site specific conditions and form a basis for assessing BTA. JEA initiated these studies in 2018. Accordingly, costs have not been determined for Northside and are not currently included in JEA's capital program for the Electric System.

Effluent Limitation Guidelines

EPA issued the final Steam Electric Effluent Limitations Guidelines ("ELG") on September 30, 2015, and they became final on January 4, 2016. Under the final rule, new requirements for existing power plants would be phased in between 2018 and 2023. Requirements under the rule are waste-stream specific within a generating facility. JEA has evaluated compliance strategies that are being planned for NGS since SJRPP began the decommissioning process in January 2018. The investments to ensure compliance are not material.

Options for compliance at Plant Scherer are being developed by all co-owners and will be phased in from 2017 to 2023.

Other Environmental

On May 27, 2015, EPA and the U.S. Army Corps of Engineers ("USACE") released the prepublication version of the final "Clean Water Rule: Definition of 'Waters of the United States,'" ("WOTUS") redefining the extent of Clean Water Act jurisdiction and which was published in the Federal Register on July 29, 2015. This rule contains many specific exemptions for connecting surface water features that are portions of the City's existing stormwater management system permitted under the National Pollutant Discharge Elimination System ("NPDES") Municipal Separate Stormwater Sewer System ("MS4") permits. Also, this rule specifically exempts JEA's permitted NPDES wastewater treatment ponds and potentially exempts identified NPDES Stormwater ponds from being considered as waters of the U.S., although discharges from such ponds would continue to be regulated.

The rule was stayed nationwide on October 9, 2015 and is the subject of ongoing legal challenges. On February 2, 2018, EPA and the USACE finalized a proposed rule that would postpone the effective date of the 2015 WOTUS rule for a period of two years. During the two-year period, the agencies were directed to proceed with a repeal and replace rulemaking process and eventually promulgate a new WOTUS definition and rule. On December 11, 2018, EPA and the USACE issued a proposed rule that would be consistent with the opinion of Justice Antonin Scalia as directed by President Trump in his February 28, 2017, Executive Order. JEA and other affected parties have begun to evaluate the proposed rule in regards to potential additional wetland mitigation requirements for future infrastructure projects.

JEA's electric utility operations are subject to continuing environmental regulation. Federal, state, regional and local standards and procedures which regulate the environmental impact of JEA's system are subject to change. These changes may arise from continuing legislative, regulatory and judicial action regarding such standards and procedures. Consequently, there is no assurance that the units in operation, under construction or contemplated will remain subject to the regulations currently in effect, will always be in compliance with future regulations or will always be able to obtain all required operating permits. An inability to comply with environmental standards could result in increased costs of operating units, reduced operating levels or the complete shutdown of individual electric generating units not in compliance.

JEA cannot predict at this time whether any additional legislation or rules will be enacted which will affect JEA's operations, and if such laws or rules are enacted, what the costs to JEA might be in the future because of such action.

Factors Affecting the Electric Utility Industry

General

The electric utility industry has been, and in the future may be, affected by a number of factors which could have an impact on the financial condition of an electric utility such as the Electric System. These factors likely would affect individual utilities in different ways. Such factors include, among others: (i) effects of compliance with changing environmental, licensing and regulatory requirements, (ii) regulatory changes and changes that might result from a national energy policy, (iii) uncertain access to low cost capital for replacement of aging fixed assets, (iv) increases in operating costs, (v) effects of competition from other suppliers of electricity and (vi) issues relating to the reliability of electric transmission systems and grids. In addition, municipal electric utilities may face competition from companies in other industries looking to diversify into the energy sector. Examples of developing competitive areas include retail sale of electricity, distributed battery and electric storage resources, renewable distributed generation, customer installation of fuel cells, third-party electric vehicle charging, home or business automation that enables greater customer participation in energy markets, and third-party provision of energy management software and solutions. These factors, and others, are discussed in more detail below in relation to how they affect JEA.

The future financial condition of the Electric System could be adversely affected by, among other things, legislation, environmental and other regulatory actions promulgated by applicable federal, state and local governmental agencies. Future changes to new and existing regulations may substantially increase the cost of electric service by requiring changes in the design or operation of existing or new facilities. JEA cannot predict future policies such agencies may adopt.

Future Legislation

From time to time, additional federal or state legislation or regulations affecting the electric utility industry may be enacted. Such legislation can radically change the regulatory context in which JEA operates and can require increased capital or operating expenditures, or reduced operations, at existing and/or new generating facilities. Any such legislative changes are inherently impossible to predict with any certainty, particularly in the way they might apply to specific organizations or facilities, such as JEA. JEA, through its consultants and participation in state and national advocacy groups, maintains awareness of legislative issues that may impact operations, participating in advocacy roles as warranted.

Compliance with any future GHG emission reduction requirements could require JEA, at significant cost, to purchase allowances or offsets, change the type of boiler fuel JEA uses, retire high-emitting generation facilities and replace them with lower-emitting generation facilities, or implement carbon capture and sequestration technology. The estimation of costs of compliance with GHG legislation or with EPA rules is subject to significant uncertainties because it is based on several interrelated assumptions and variables, including timing of the implementation of rules, required levels of reductions, allocation requirements, the maturation and commercialization of carbon capture and sequestration technology and associated regulations, and JEA's selected compliance alternatives.

Any new state or federal legislation or changes to existing legislation or regulations could affect JEA's operations. JEA cannot predict whether any additional legislation or regulations will be enacted which will affect JEA's operations and if such laws are enacted, what the costs to JEA might be in the future.

FINANCIAL INFORMATION RELATING TO ELECTRIC UTILITY FUNCTIONS

Debt Relating to Electric Utility Functions

Electric System Bonds

As of September 30, 2018, $1,089,315 in aggregate principal amount of bonds issued pursuant to the Electric System Resolution (the "Electric System Bonds") was outstanding. As of the date of this Annual Disclosure Report, there is $1,017,685,000 in aggregate principal amount of Electric System Bonds outstanding under the Electric System Resolution, consisting of (a) $458,530,000 in aggregate principal amount of variable rate Electric System Bonds and (b) $559,155,000 in aggregate principal amount of fixed rate Electric System Bonds.

Electric System Bonds may be issued to finance any lawful purpose of JEA relating to the Electric System (other than for the purpose of financing the generating facilities of the Electric System). See "SUMMARY OF CERTAIN PROVISIONS OF THE ELECTRIC SYSTEM RESOLUTION - Issuance of Additional Electric System Bonds" in APPENDIX B attached hereto.

From time to time, JEA requests Council approval of the issuance of Electric System Bonds and Subordinated Electric System Bonds. Pursuant to previous Council approvals, JEA currently is authorized to issue additional Electric System Bonds and/or Subordinated Electric System Bonds for the purpose of financing the costs of additions, extensions and improvements to the Electric System in such principal amount as shall provide JEA with "net proceeds" (defined as principal amount, less original issue discount, less underwriters' discount, less costs of issuance) of approximately $465,160,992. JEA expects that such current authorization will be adequate to enable JEA to maintain its Electric System capital improvement program as projected through the Fiscal Year ending September 30, 2023. See "ELECTRIC UTILITY SYSTEM - *ELECTRIC UTILITY FUNCTIONS* - Electric System - *Capital Program*" herein.

JEA also has received approvals from the Council for the issuance of Electric System Bonds and/or Subordinated Electric System Bonds for the purpose of refunding outstanding Electric System Bonds and Subordinated Electric System Bonds. JEA may issue additional Electric System Bonds or Subordinated Electric System Bonds to refund outstanding Electric System Bonds and/or Subordinated Electric System Bonds from time to time as it deems economical or advantageous.

In the future, JEA will continue to seek authorization as needed from the Council to issue additional Electric System Bonds and/or Subordinated Electric System Bonds in order to enable it to finance its Electric System capital program.

A summary of certain provisions of the Electric System Resolution, including a description of the proposed amendments thereto described below, is attached to this Annual Disclosure Report as APPENDIX B.

Liquidity support in connection with tenders for purchase of JEA's Variable Rate Electric System Revenue Bonds, Series Three 2008A, Series Three 2008B-2, Series Three 2008B-3, Series Three 2008C-1, Series Three 2008C-2 and Series Three 2008C-3 (collectively, the "Senior Liquidity Supported Electric System Bonds") currently is provided by certain banks pursuant to standby bond purchase agreements between JEA and each such bank. Any Senior Liquidity Supported Electric Bond that is purchased by the applicable bank pursuant to its standby bond purchase agreement between JEA and such bank and is not remarketed is required to be repaid as to principal in equal semiannual installments over a period of approximately five years from the date so purchased. In addition, any Senior Liquidity Supported Electric Bond that is purchased by the applicable bank pursuant to its standby bond purchase agreement may be tendered or deemed tendered to JEA for payment upon the occurrence of certain "events of default" on the part of JEA under such standby bond purchase agreement. Upon any such tender or deemed tender for purchase, the Senior Liquidity Supported Electric Bond so tendered or deemed tendered will be due and payable immediately. For a discussion of certain "ratings triggers" contained in such standby bond purchase agreements giving rise to such an event of default, see "OTHER FINANCIAL INFORMATION - Effect of JEA Credit Rating Changes" herein. As of the date of this Annual Disclosure Report, no Senior Liquidity Supported Electric Bonds are held by the banks providing such standby bond purchase agreements. The standby bond purchase agreements are subject to periodic renewal at the discretion of the respective bank. The current expiration dates for the standby bond purchase agreements range from May 8, 2020 to August 22, 2022.

On July 27, 2010, the bank previously providing liquidity support for JEA Variable Rate Electric System Revenue Bonds, Series Three 2008B-1 and Series Three 2008D-1 and on October 22, 2012, the bank previously providing credit and liquidity support for JEA's Variable Rate Electric System Revenue Bonds, Series Three 2008B-4 (such Series Three 2008B-1, 2008D-1 and 2008B-4 Bonds are referred to herein collectively as the "Bank Purchased Bonds") purchased the applicable Bank Purchased Bonds pursuant to three substantially similar direct purchase agreements. The Bank Purchased Bonds are, as of the date of this Annual Disclosure Report, outstanding in the principal amounts of $59,620,000, $106,275,000 and $49,010,000, respectively. Upon such purchases, the letter of credit and standby bond purchase agreement previously in effect for the respective Bank Purchased Bonds terminated. Except as described below, the bank does not have the option to tender the respective Bank Purchased Bonds for purchase for a period specified in the respective direct purchase agreements, which period would be subject to renewal under certain conditions. The three direct purchase agreements were amended effective September 17, 2015, and December 11, 2018 and the current expiration date of each is December 10, 2021. At the end of the period specified, which period is subject to extension under certain conditions, the Bank Purchased Bonds are subject to mandatory tender for purchase. Any Bank Purchased Bond that is not remarketed and purchased from such bank on the mandatory tender date that occurred upon the expiration of such period would be required to be repaid as to principal in equal semiannual installments over a period of approximately five years from such mandatory tender date. Such bank has no option to tender the Bank Purchased Bonds for payment by JEA during the holding period except upon the occurrence of certain "events of default" on the part of JEA under the respective direct purchase agreements and the occurrence of certain other conditions. Upon any such tender for payment, the Bank Purchased Bond so tendered would be due and payable immediately.

Proposed Amendments to the Electric System Resolution

In May 1998, JEA adopted a resolution (as amended, the "May 1998 Amending Resolution") for the purpose of making certain material amendments to the Electric System Resolution. In addition to certain amendments to the Electric System Resolution that heretofore have become effective, the May 1998 Amending Resolution provides for the amendment of certain provisions of the Electric System Resolution relating to the priority of payments from the Electric System with respect to the Power Park (the "Power Park Amendment"), in a manner requiring (i) the consent of FPL, (ii) the consent of the holders of 60 percent or more in principal amount of the Power Park Issue Two Bonds outstanding and (iii) the consent of the holders of a majority in principal amount of the Power Park Issue Three Bonds outstanding. As of the date of this Annual Disclosure Report, JEA has not solicited any consents to the Power Park Amendment and has no intention of soliciting any such consents in the future.

If the Power Park Amendment ever were to become effective, it would amend the provisions of the Electric System Resolution relating to the priority of payments with respect to the Power Park to provide that payments with respect to (i) debt service on obligations issued by JEA with respect to the Power Park (including the Power Park Issue Two Bonds and the Power Park Issue Three Bonds) and any additional amounts relating to "debt service coverage" with respect thereto and (ii) deposits into any renewal and replacement or similar fund with respect to the Power Park will no longer constitute a portion of the Cost of Operation and Maintenance (as defined in the Electric System Resolution), but will be payable on a parity with Subordinated Bonds (as defined in the Electric System Resolution) that may be issued in accordance with the provisions of the Electric System Resolution, including the Subordinated Electric System Bonds.

The amendments to the Electric System Resolution contained in the May 1998 Amending Resolution also would have amended the provisions of the Electric System Resolution relating to the priority of payments with respect to the Scherer 4 Project (and any other project that may be financed under the Restated and Amended Bulk Power Supply System Resolution) in a manner similar to that described above with respect to the Power Park, but the amendments relating to the Scherer 4 Project (and any other project that may be financed under the Restated and Amended Bulk Power Supply System Resolution) were rescinded by JEA in conjunction with the adoption of the Restated and Amended Bulk Power Supply System Resolution.

Subordinated Electric System Bonds

On August 16, 1988, JEA adopted a resolution (as amended, restated and supplemented, the "Subordinated Electric System Resolution") authorizing the issuance of obligations of JEA (the "Subordinated Electric System Bonds") that are junior and subordinate in all respects to the Electric System Bonds as to lien on, and source and security for payment from, the revenues of the Electric System. As of September 30, 2018, $960,005,000 in aggregate principal amount of Subordinated Electric System Bonds was outstanding. As of the date of this Annual Disclosure Report, there is $806,565,000 in aggregate principal amount of Subordinated Electric System Bonds outstanding under the Subordinated Electric System Resolution, consisting of

(a) $132,420,000 in aggregate principal amount of variable rate Subordinated Electric System Bonds and (b) $674,145,000 in aggregate principal amount of fixed rate Subordinated Electric System Bonds.

The Subordinated Electric System Bonds may be issued for the purpose of financing the cost of acquisition and construction of additions, extensions and improvements to the Electric System, or any other lawful purpose of JEA relating to the Electric System, or to refund any of the Electric System Bonds or the Subordinated Electric System Bonds.

Pursuant to the Subordinated Electric System Resolution and the laws of the State of Florida, and in accordance with the Electric System Resolution, the amount of Subordinated Electric System Bonds that may be issued by JEA is not limited and is subject only to approval by the Council and satisfaction of the conditions set forth in the Subordinated Electric System Resolution. For a discussion of the Council authorization currently in effect for the issuance of Electric System Bonds and/or Subordinated Electric System Bonds, see subsection "*Electric System Bonds*" above in this section.

A summary of certain provisions of the Subordinated Electric System Resolution, including a description of the proposed amendments thereto described below, is attached to this Annual Disclosure Report as APPENDIX C. See "SUMMARY OF CERTAIN PROVISIONS OF THE SUBORDINATED ELECTRIC SYSTEM RESOLUTION - Additional Subordinated Bonds; Conditions to Issuance" in APPENDIX C attached hereto.

Liquidity support in connection with tenders for purchase of the Variable Rate Electric System Subordinated Revenue Bonds, 2000 Series A, 2000 Series F-1, 2000 Series F-2 and 2008 Series D (collectively, the "Subordinated Liquidity Supported Electric System Bonds") currently is provided by certain banks pursuant to standby bond purchase agreements between JEA and each such bank. Any Subordinated Liquidity Supported Electric Bond that is purchased by the applicable bank pursuant to its standby bond purchase agreement between JEA and such bank and is not remarketed is required to be repaid as to principal in equal semiannual installments over a period of approximately five years from the date so purchased. In addition, any Subordinated Liquidity Supported Electric Bond that is purchased by the applicable bank pursuant to its standby bond purchase agreement will constitute an "Option Subordinated Bond" within the meaning of the Subordinated Electric System Resolution and, as such, may be tendered or deemed tendered to JEA for payment upon the occurrence of certain "events of default" on the part of JEA under such standby bond purchase agreement. Upon any such tender or deemed tender for purchase, the Subordinated Liquidity Supported Electric Bond so tendered or deemed tendered will be due and payable immediately. For a discussion of certain "ratings triggers" contained in such standby bond purchase agreements giving rise to such an event of default, see "OTHER FINANCIAL INFORMATION - Effect of JEA Credit Rating Changes" herein. As of the date of this Annual Disclosure Report, no Subordinated Liquidity Supported Electric Bonds are held by the banks providing such standby bond purchase agreements. Such standby bond purchase agreements are subject to periodic renewal. The current expiration dates of the standby bond purchase agreements range from October 2, 2020 to August 20, 2021.

Power Park Issue Two Bonds

As of September 30, 2018, no aggregate principal amount of bonds (the "Power Park Issue Two Bonds") issued pursuant to a resolution adopted by JEA on March 30, 1982 entitled "St. Johns River Power Park System Revenue Bond Resolution" (as amended and supplemented, the "First Power Park Resolution") were outstanding.

All outstanding Power Park Issue Two Bonds were defeased on January 5, 2018 in connection with the cessation of commercial operations of the Power Park. See "ELECTRIC UTILITY SYSTEM – *ELECTRIC UTILITY FUNCTIONS* – St. John's River Power Park – *Early Termination of Power Park Joint Ownership*

Agreement" for additional information. The First Power Park Resolution was discharged and satisfied in accordance with its terms on March 21, 2018.

The First Power Park Resolution provided for the issuance of additional bonds (a) to finance the completion of construction of the initial facilities of the Power Park, (b) to finance the Cost of Acquisition and Construction of any Additional Facilities (as such terms are defined in the First Power Park Resolution) of the Power Park and (c) to refund Power Park Issue Two Bonds. See "SUMMARY OF CERTAIN PROVISIONS OF THE FIRST POWER PARK RESOLUTION - Additional Power Park Bonds" in APPENDIX D attached hereto. JEA will not issue additional bonds under the First Power Park Resolution.

The First Power Park Resolution required that JEA allocate to the Electric System a portion of the output and capacity of its ownership interest in the Power Park and that JEA make payments from the Electric System therefor on a "take-or-pay" basis. Pursuant to the Electric System Resolution, JEA's obligation to make payments from the Electric System with respect to the Power Park, including its share of debt service on the Power Park Issue Two Bonds, was a Contract Debt payable as a Cost of Operation and Maintenance of the Electric System. Such payments were payable from the revenues of the Electric System prior to any payments from such revenues for indebtedness not constituting Contract Debts issued for the Electric System, including the Electric System Bonds and the Subordinated Electric System Bonds. See the subsection "*Electric System Contract Debts*" below in this section.

Pursuant to the Power Park Joint Ownership Agreement, JEA and FPL entered into the FPL-Power Park Sale, pursuant to which JEA has agreed to sell, and FPL agreed to purchase, on a "take-or-pay" basis, 37.5 percent of JEA's 80 percent share of the generating capacity of the Power Park and related energy until the Power Park Joint Ownership Agreement expires, which was expected to have been in 2022, subject to the limitation that FPL's right to receive such capacity and related energy would have been suspended if and when the receipt by FPL of any additional amount of energy from such sale would have resulted in FPL having received energy from such sale in excess of 25 percent of the product of (a) the nameplate capacity of JEA's 80 percent ownership interest in the Power Park, without any reduction for reserves or other unutilized capacity, and (b) the number of years (including fractions) from the date FPL first took energy pursuant to such sale until the latest maturity date of the bonds issued pursuant to the First Power Park Resolution. FPL's right to receive such capacity and related energy terminated with the cessation of Power Park commercial operations on January 5, 2018.

Pursuant to the Power Park Joint Ownership Agreement, both JEA and FPL were obligated to make payments for the output, capacity, use and services of JEA's interest in the Power Park which payments were due on such dates and in such aggregate amounts as shall be sufficient to provide Revenues (as defined in the First Power Park Resolution) in each year sufficient to allow JEA to pay or provide for the payment of all amounts payable out of such Revenues, including debt service on the bonds issued pursuant to the First Power Park Resolution; *provided, however*, that during any suspension of FPL's right to receive the capacity and related energy being sold to it pursuant to the FPL-Power Park Sale, as described in the preceding paragraph, FPL was obligated only to pay its share of the debt service on the bonds issued pursuant to the First Power Park Resolution and the administrative fees and expenses incurred under the First Power Park Resolution.

A summary of certain provisions of the First Power Park Resolution is attached to this Annual Disclosure Report as APPENDIX D. In addition, a summary of certain provisions of the Power Park Joint Ownership Agreement is attached to this Annual Disclosure Report as APPENDIX G.

Power Park Issue Three Bonds

On February 20, 2007, the JEA Board adopted a resolution entitled "St. Johns River Power Park System Second Revenue Bond Resolution" (as supplemented, the "Second Power Park Resolution"). Bonds issued under the Second Power Park Resolution are referred to herein as the "Power Park Issue Three Bonds."

As of September 30, 2018, $280,605,000 of Power Park Issue Three Bonds was outstanding under the Second Power Park Resolution. As of the date of this Annual Disclosure Report, $278,885,000 in aggregate principal amount of Power Park Issue Three Bonds is outstanding under the Second Power Park Resolution.

The Second Power Park Resolution provides for the issuance of Power Park Issue Three Bonds in order to pay the costs of JEA's ownership interest in certain additional facilities of the Power Park. See the subsection "*Power Park Issue Two Bonds*" above in this section for a discussion of JEA's interest in the Power Park and certain obligations of FPL by reason of FPL's ownership interest in the Power Park. Pursuant to the Electric System Resolution, JEA's obligation to make debt service payments on the Power Park Issue Three Bonds is a Contract Debt payable as a Cost of Operation and Maintenance of the Electric System regardless of whether the Power Park is operational. Such payments are payable from the revenues of the Electric System prior to any payments from such revenues for indebtedness not constituting Contract Debts issued for the Electric System, including the Electric System Bonds and the Subordinated Electric System Bonds. See the subsection "*Electric System Contract Debts*" below in this section. FPL has no obligation for debt service in respect of the Power Park Issue Three Bonds.

A summary of certain provisions of the Second Power Park Resolution, including a description of the amendments thereto described below, is attached to this Annual Disclosure Report as APPENDIX E.

Bulk Power Supply System Bonds

JEA financed the acquisition of a portion of its ownership in the Scherer 4 Project through the issuance of its bonds (the "Original Bulk Power Supply System Bonds") issued pursuant to a resolution of JEA adopted on February 5, 1991, as amended and supplemented (the "Original Bulk Power Supply System Resolution"). Pursuant to the Original Bulk Power Supply System Resolution, the Electric System was entitled to the entire capacity of the Scherer 4 Project and was required to pay for such capacity on a "take-or-pay" basis. During its Fiscal Year ended September 30, 1999, JEA caused all the remaining Original Bulk Power Supply System Bonds to be retired in advance of the scheduled due dates from certain available funds of the Electric System accumulated for that purpose. As a result, all of the covenants, agreements and other obligations of JEA under the Original Bulk Power Supply System Resolution were discharged and satisfied. However, JEA continued to make the output of the Scherer 4 Project available to the Electric System, and all costs of operating and maintaining the Scherer 4 Project continued to be paid as a Contract Debt of the Electric System, payable as part of the Electric System's Cost of Operation and Maintenance. See subsection "*Electric System Contract Debts*" below in this section.

On September 18, 2007, the JEA Board adopted a resolution that readopted, amended and restated the Original Bulk Power Supply System Resolution (the Original Bulk Power Supply System Resolution, as so readopted, amended and restated, is referred to herein as the "Restated and Amended Bulk Power Supply System Resolution"). The Restated and Amended Bulk Power Supply System Resolution permits JEA to issue one or more series of bonds thereunder ("Additional Bulk Power Supply System Bonds") for any lawful purpose of JEA related to the Scherer 4 Project (and any other projects that may be financed thereunder). The Restated and Amended Bulk Power Supply System Resolution also permits JEA to issue refunding Additional Bulk Power Supply System Bonds to refund any outstanding Additional Bulk Power Supply System Bonds from time to time as it deems economical or advantageous. As of September 30, 2018, $100,720,000 in aggregate principal amount of bonds was outstanding under the Restated and Amended Bulk Power Supply System Resolution. As of the date of this Annual Disclosure Report, $95,010,000 in aggregate principal amount of bonds is outstanding under the Restated and Amended Bulk Power Supply System Resolution. See "OTHER FINANCIAL INFORMATION - Revolving Credit Facilities" herein. JEA intends to issue Additional Bulk Power Supply System Bonds to finance its costs of capital improvements to the Scherer 4 Project. See "ELECTRIC UTILITY SYSTEM - *ELECTRIC UTILITY FUNCTIONS* - Scherer 4 - *Capital Program*" herein.

A summary of certain provisions of the Restated and Amended Bulk Power Supply System Resolution is attached to this Annual Disclosure Report as APPENDIX F.

Electric System Contract Debts

Contract Debts, a component of the Electric System's Cost of Operation and Maintenance, is defined by the Electric System Resolution to mean any obligations of JEA under any contract, lease, installment sale agreement, bulk electric purchase power agreement or otherwise to make payments out of the revenues of the Electric System for property, services or commodities whether or not the same are made available, furnished or received, but shall not include (a) payments required to be made in respect of (i) debt service on any obligations incurred by JEA in connection with the financing of any separate bulk power supply utility or system undertaken by JEA and any additional amounts relating to "debt service coverage" with respect thereto and (ii) deposits into any renewal and replacement or other similar fund or account established with respect to any such separate bulk power supply utility or system (in each such case, other than the Power Park and the Bulk Power Supply System Projects (as defined in the Electric System Resolution and which includes additional electric generating plants)) and (b) payments required to be made in respect of any other arrangement(s) for the supply of power and/or energy to the Electric System for resale entered into after February 29, 2000 as may be determined by JEA to be payable on a parity with the payment of Subordinated Bonds (as defined in the Electric System Resolution), including the Subordinated Electric System Bonds. See "SUMMARY OF CERTAIN PROVISIONS OF THE ELECTRIC SYSTEM RESOLUTION" in APPENDIX B attached hereto. For a discussion of certain proposed amendments to the Electric System Resolution that amend the provisions thereof with respect to the priority of payment of JEA's obligations with respect to the Power Park, see subsection "*Proposed Amendments to the Electric System Resolution*" above in this section and therein the caption "May 1998 Amending Resolution" and "SUMMARY OF CERTAIN PROVISIONS OF THE ELECTRIC SYSTEM RESOLUTION - Proposed Amendments to the Electric System Resolution - *May 1998 Amending Resolution*" in APPENDIX B attached hereto.

JEA's obligation to make payments from the Electric System to provide revenues to pay JEA's portion of the Power Park operating and maintenance expenses, debt service on the Power Park Issue Two Bonds and renewal and replacement costs relating to the Power Park and all other costs associated with the Power Park, as well as all debt service on the Power Park Issue Three Bonds, is a Contract Debt payable as a Cost of Operation and Maintenance of the Electric System pursuant to the Electric System Resolution. The Contract Debt payments with respect to the Power Park will be a Cost of Operation and Maintenance of the Electric System whether or not the Power Park is operating or operable and are required to be made in accordance with the terms of the Second Power Park Resolution.

Pursuant to the Restated and Amended Bulk Power Supply System Resolution, JEA is obligated to make the output and capacity of the Scherer 4 Project (and any other projects that may be financed under the Restated and Amended Bulk Power Supply System Resolution) available to the Electric System and is obligated to make payments from the Electric System on a "take-or-pay" basis to provide revenues to pay operating and maintenance expenses of the Scherer 4 Project (and such other projects), debt service on the Additional Bulk Power Supply System Bonds, renewal and replacement costs relating to the Scherer 4 Project (and such other projects) and all other costs relating to the Scherer 4 Project (and such other projects), and such payments constitute a Contract Debt of the Electric System, payable as a Cost of Operation and Maintenance of the Electric System.

See also "ELECTRIC UTILITY SYSTEM - *ELECTRIC UTILITY FUNCTIONS* - Electric System - *Purchase Power Contracts*" herein for a description of JEA's obligations pursuant to certain purchase power contracts, which obligations also constitute Contract Debts payable as a Cost of Operation and Maintenance of the Electric System pursuant to the Electric System Resolution.

JEA is authorized under the Electric System Resolution to construct or acquire and own and/or operate other electric generating utilities or systems for the purpose of furnishing and supplying electric energy and to issue debt obligations to finance the costs of any such separate electric generating utilities or systems, which obligations shall be payable on a parity with the payment of Subordinated Bonds (as defined in the Electric System Resolution), including the Subordinated Electric System Bonds. None of the revenues derived by JEA from the operation of the Power Park under the First Power Park Resolution or the Second Power Park Resolution, from the operation of the Scherer 4 Project under the Restated and Amended Bulk Power Supply System Resolution (and any other projects that may be financed thereunder), or from the operation of any other separate bulk power supply utility or system undertaken by JEA shall be deemed under the First Power Park Resolution, the Second Power Park Resolution, the Restated and Amended Bulk Power Supply System Resolution or the Electric System Resolution to be revenues of the Electric System. ***For a discussion of certain proposed amendments to the Electric System Resolution that amend the provisions thereof with respect to the priority of payment of JEA's obligations with respect to the Power Park, see subsection "Proposed Amendments to the Electric System Resolution – May 1998 Amending Resolution" above in this section and "SUMMARY OF CERTAIN PROVISIONS OF THE ELECTRIC SYSTEM RESOLUTION - Proposed Amendments to the Electric System Resolution – May 1998 Amending Resolution" in APPENDIX B attached hereto.***

Schedules of Debt Service Coverage

The following table shows the Electric System Schedules of Debt Service Coverage for the years ended September 30, 2018 and September 30, 2017, respectively. Such Schedules of Debt Service Coverage were derived from supplemental information included with JEA's 2018 Financial Statements and certain other information available to JEA. Such Schedules of Debt Service Coverage should be read in conjunction with such financial statements and the notes thereto. Set forth in APPENDIX A to this Annual Disclosure Report are Schedules of Debt Service Coverage for JEA's interest in the Power Park and the Bulk Power Supply System for the years ended September 30, 2018 and September 30, 2017.

In accordance with the requirements of the Electric System Resolution, all the Contract Debt payments from the Electric System to the Power Park and the Bulk Power Supply System with respect to the use by the Electric System of the capacity and output of JEA's interest in the Power Park and the Bulk Power Supply System are reflected as a purchased power expense on the Electric System Schedules of Debt Service Coverage. The Electric System Schedules of Debt Service Coverage do not include revenues of the Power Park or the Bulk Power Supply System, except that the purchased power expense described in the preceding sentence is net of interest income on funds maintained under the First Power Park Resolution, the Second Power Park Resolution and the Restated and Amended Bulk Power Supply System Resolution. In addition, the Electric System Schedules of Debt Service Coverage do not include revenues received by JEA pursuant to the FPL-Power Park Sale.

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JEA Electric System Schedules of Debt Service Coverage
(In Thousands)

	Fiscal Year Ended September 30, 2018	Fiscal Year Ended September 30, 2017
Revenues:		
Electric	$1,229,625	$1,206,919
Investment income [(1)]	9,525	5,939
Earnings from The Energy Authority	4,074	6,335
Other, net [(2)]	22,216	29,490
Plus: amount paid from the Rate Stabilization Fund into the Revenue Fund	88,415	79,216
Less: amount paid from the Revenue Fund into the Rate Stabilization Fund	(64,901)	(15,991)
Total revenues	1,288,954	1,311,908
Operating expenses [(3)]		
Fuel	328,160	253,204
Purchased power [(4)]	244,478	284,436
Other operation and maintenance	204,982	199,511
Utility taxes and franchise fees	59,551	57,951
Total operating expenses	837,171	795,102
Net revenues	$ 451,783	$ 516,806
Debt service on Electric System Bonds	$ 71,890	$ 71,557
Less: investment income on sinking fund	(1,436)	(1,431)
Less: Build America Bonds subsidy	(1,521)	(1,516)
Debt service requirement on Electric System Bonds	$ 68,933	$ 68,610
Debt service coverage on Electric System Bonds [(5)]	6.55x	7.53x
Net revenues (from above)	$ 451,783	$ 516,806
Debt service requirement on Electric System Bonds (from above)	$ 68,933	$ 68,610
Plus: aggregate subordinated debt service on Subordinated Electric System Bonds	129,469	137,892
Less: Build America Bonds subsidy	(2,045)	(2,070)
Debt service requirement on Subordinated Electric System Bonds	127,424	135,822
Debt service requirement on Electric System Bonds and Subordinated Electric System Bonds	$ 196,357	$ 204,432
Debt service coverage on Electric System Bonds and Subordinated Electric System Bonds [(6)]	2.30x	2.53x

(1) Excludes investment income on sinking funds.
(2) Excludes the Build America Bonds subsidy.
(3) Excludes depreciation and recognition of deferred costs and revenues, net.
(4) In accordance with the requirements of the Electric System Resolution, all the contract debt payments from the Electric System to the Power Park and Bulk Power Supply System with respect to the use by the Electric System of the capacity and output of the Power Park and Bulk Power Supply System are reflected as a purchased power expense on these schedules. These schedules do not include revenues of the Power Park and Bulk Power Supply System, except that the purchased power expense is net of interest income on funds maintained under the Power Park and Bulk Power Supply System resolutions.
(5) Net revenues divided by debt service requirement on Electric System Bonds. Minimum annual coverage 1.20x.
(6) Net revenues divided by debt service requirement on Electric System Bonds and Subordinated Electric System Bonds. Minimum annual coverage is 1.15x.

Management's Discussion of Electric System Operations

Electric System Schedules of Debt Service Coverage

***Revenues*.** Total revenues decreased $23.0 million, or 1.8 percent, for the Fiscal Year ended September 30, 2018 as compared to the Fiscal Year ended September 30, 2017, primarily related to an increase in amounts paid from the revenue fund into the rate stabilization fund offset, in part, by higher electric revenues.

Total MWh sales increased 1.6 percent for the Fiscal Year ended September 30, 2018 as compared to the Fiscal Year ended September 30, 2017, to 12,399,769 MWh from 12,200,770 MWh, primarily related to territorial sales increasing 2.6 percent to 12,364,340 MWh for the Fiscal Year ended September 30, 2018 from 12,050,135 MWh for the Fiscal Year ended September 30, 2017.

***Operating Expenses*.** Total operating expenses increased $42.0 million, or 5.3 percent, for the Fiscal Year ended September 30, 2018 as compared to the Fiscal Year ended September 30, 2017. Total fuel and purchased power expenses increased $35.0 million, or 6.5 percent, for the Fiscal Year ended September 30, 2018 as compared to the Fiscal Year ended September 30, 2017, primarily related to a 29.6 percent increase in fuel expense offset, in part, by a 14.0 percent decrease in purchased power expense. As commodity prices have fluctuated over these periods, the mix between generation and purchased power has shifted as JEA has taken advantage of the most economical sources of power. Total MWh power generated and purchased increased 1.6 percent for the Fiscal Year ended September 30, 2018 as compared to the Fiscal Year ended September 30, 2017, to 12,874,102 MWh from 12,667,351 MWh, with an increase of 25.6 percent for MWh generated and a decrease of 28.2 percent for MWh purchased. The cost per MWh of power generated increased 5.8 percent while cost per MWh of purchased power increased 19.0 percent.

***Net Revenues*.** Net revenues available for debt service decreased $65.0 million, or 12.6 percent, to $451.8 million for the Fiscal Year ended September 30, 2018 from $516.8 million for the Fiscal Year ended September 30, 2017. Total revenues decreased $23.0 million, or 1.8 percent, and total operating expenses increased $42.0 million, or 5.3 percent, for the Fiscal Year ended September 30, 2018 as compared to the Fiscal Year ended September 30, 2017, as stated above. The decrease in net revenues available for debt service is primarily related to the increase in the amounts paid from the revenue fund into the rate stabilization fund and the increase in fuel and purchased power expenses offset, in part, by higher electric revenues.

***Debt Service on Electric System Bonds*.** The debt service requirement on Electric System Bonds increased 0.5 percent for the Fiscal Year ended September 30, 2018 as compared to the Fiscal Year ended September 30, 2017.

During the Fiscal Year ended September 30, 2018, JEA issued Electric System Bonds as summarized in the following table:

Series	Purpose	Month Issued	Par Amount Issued	Par Amount Refunded
Series Three 2017B	Refunding(1)	December 2017	$198,095,000	$210,030,000

(1) Fixed rate bonds issued to refund fixed rate bonds.

During the Fiscal Year ended September 30, 2017, JEA issued Electric System Bonds as summarized in the following table:

Series	Purpose	Month Issued	Par Amount Issued	Par Amount Refunded
Series Three 2017A	Refunding(1)	February 2017	$18,670,000	$18,990,000

(1) Fixed rate bonds issued to refund fixed rate bonds.

***Debt Service Coverage Ratio on Electric System Bonds*.** The debt service coverage ratio on Electric System Bonds decreased to 6.55 times for the Fiscal Year ended September 30, 2018 as compared to the debt service coverage ratio of 7.53 times for the Fiscal Year ended September 30, 2017 as a result of the 12.6 percent decrease in net revenues available for debt service and the 0.5 percent increase in the debt service requirement on Electric System Bonds between such periods.

***Aggregate Subordinated Debt Service on Subordinated Electric System Bonds*.** Aggregate subordinated debt service on Subordinated Electric System Bonds decreased 6.2 percent for the Fiscal Year ended September 30, 2018 as compared to the Fiscal Year ended September 30, 2017, primarily related to lower principal amortization and lower interest as a result of the December 2018 bond refunding, see table below.

During the Fiscal Year ended September 30, 2018, JEA issued Subordinated Electric System Bonds as summarized in the following table:

Series	Purpose	Month Issued	Par Amount Issued	Par Amount Refunded
2017 Series B	Refunding(1)	December 2017	$185,745,000	$195,075,000

(1) Fixed rate bonds issued to refund fixed rate bonds.

During the Fiscal Year ended September 30, 2017, JEA issued Subordinated Electric System Bonds as summarized in the following table:

Series	Purpose	Month Issued	Par Amount Issued	Par Amount Refunded
2017 Series A	Refunding(1)	February 2017	$71,735,000	$68,080,000

(1) Fixed rate bonds issued to refund fixed rate bonds.

***Debt Service Coverage Ratio on Electric System Bonds and Subordinated Electric System Bonds*.** The debt service coverage ratio on Electric System Bonds and Subordinated Electric System Bonds decreased to 2.30 times for the Fiscal Year ended September 30, 2018 as compared to the debt service coverage ratio of 2.53 times for the Fiscal Year ended September 30, 2017 as a result of the 12.6 percent decrease in net revenues available for debt service being proportionately greater than the 4.0 percent decrease in the debt service requirement on Electric System Bonds and Subordinated Electric System Bonds between such periods.

Liquidity Resources

The Days of Cash on Hand for the Electric System and the Scherer 4 Project at September 30, 2018 was 221 days, and the Days of Liquidity was 320 days. The Days of Cash on Hand for the Electric System and the Scherer 4 Project at September 30, 2017 was 234 days, and the Days of Liquidity was 337 days. The Days of Cash on Hand computation is as follows:

> (Cash and cash equivalents and Investments amounts under Current assets on the Combining Statement of Net Position + Renewal and Replacement Fund balance referenced in Note 4 of the Financial Statements attached hereto as APPENDIX A) / ((Total operating expenses - Depreciation + Contributions to General Fund, City of Jacksonville, Florida) / 365 days)

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The Days of Liquidity computation is as follows:

(Cash and cash equivalents and Investments amounts under Current assets on the Combining Statement of Net Position + Renewal and Replacement Fund balance referenced in Note 4 of the Financial Statements attached hereto as APPENDIX A + allocated share of available Revolving Credit Facility*) / ((Total operating expenses - Depreciation + Contributions to General Fund, City of Jacksonville, Florida) / 365 days)

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* Allocated share of available Revolving Credit Facility at September 30, 2018 was approximately $247.4 million and approximately $245.7 million at September 30, 2017; however, total available balance of $297 million could have been drawn.

APPLICATION OF ELECTRIC SYSTEM REVENUES

The following charts shows a summary of the major components of the application of revenues under the Electric System Resolution, the First Power Park Resolution, the Second Power Park Resolution and the Restated and Amended Bulk Power Supply System Resolution prior to the discharge of the First Power Park Resolution and after the discharge of the First Power Park Resolution, respectively. The First Power Park Resolution was discharged and satisfied in accordance with its terms on March 21, 2018. For a discussion of certain proposed amendments to the Electric System Resolution that amend the provisions thereof with respect to the priority of payment of JEA's obligations with respect to the Power Park, see the subsection "FINANCIAL INFORMATION RELATING TO ELECTRIC UTILITY SYSTEM - *ELECTRIC UTILITY FUNCTIONS* - Debt Relating to Electric Utility Functions - *Proposed Amendments to the Electric System Resolution"- May 1998 Amending Resolution"* herein and "SUMMARY OF CERTAIN PROVISIONS OF THE ELECTRIC SYSTEM RESOLUTION - Proposed Amendments to the Electric System Resolution – *May 1998 Amending Resolution*" in APPENDIX B attached hereto.

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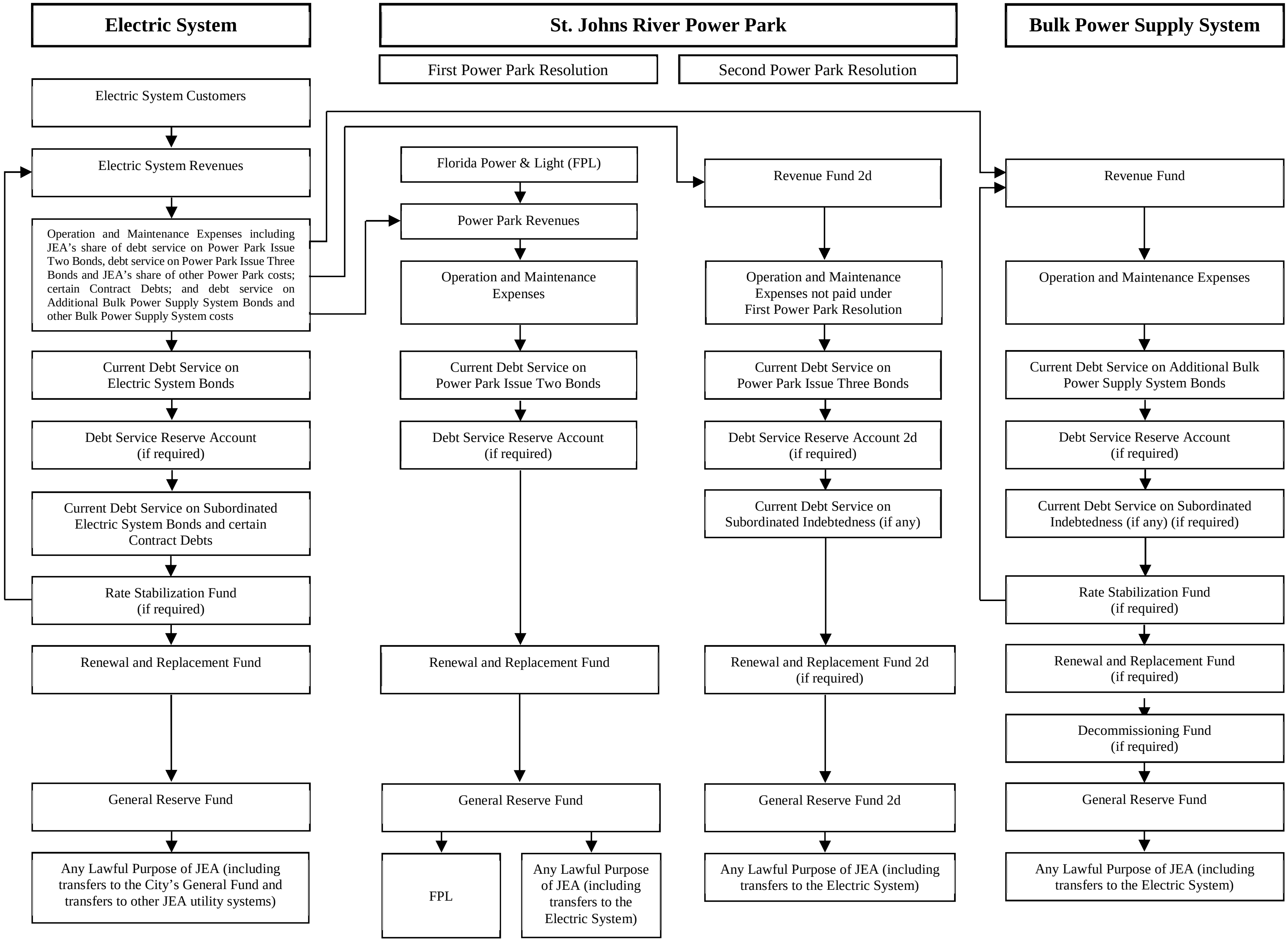
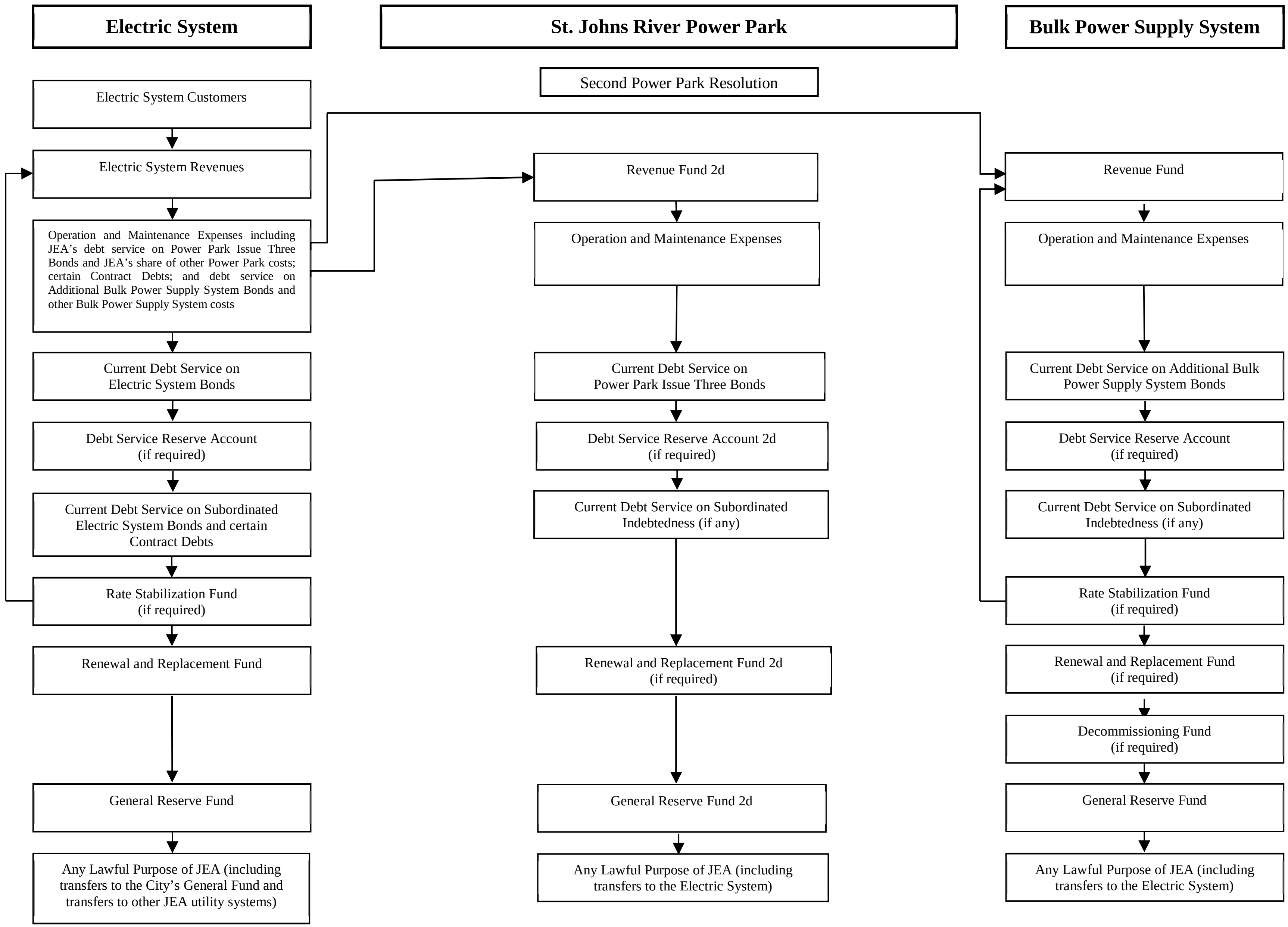

Electric System
St. Johns River Power Park
Bulk Power Supply System
First Power Park Resolution
Second Power Park Resolution
Electric System Customers
Electric System Revenues
Operation and Maintenance Expenses including JEA's share of debt service on Power Park Issue Two Bonds, debt service on Power Park Issue Three Bonds and JEA's share of other Power Park costs; certain Contract Debts; and debt service on Additional Bulk Power Supply System Bonds and other Bulk Power Supply System costs
Current Debt Service on Electric System Bonds
Debt Service Reserve Account (if required)
Current Debt Service on Subordinated Electric System Bonds and certain Contract Debts
Rate Stabilization Fund (if required)
Renewal and Replacement Fund
General Reserve Fund
Any Lawful Purpose of JEA (including transfers to the City's General Fund and transfers to other JEA utility systems)
Florida Power & Light (FPL)
Power Park Revenues
Operation and Maintenance Expenses
Current Debt Service on Power Park Issue Two Bonds
Debt Service Reserve Account (if required)
Renewal and Replacement Fund
General Reserve Fund
FPL
Any Lawful Purpose of JEA (including transfers to the Electric System)
Revenue Fund 2d
Operation and Maintenance Expenses not paid under First Power Park Resolution
Current Debt Service on Power Park Issue Three Bonds
Debt Service Reserve Account 2d (if required)
Current Debt Service on Subordinated Indebtedness (if any)
Renewal and Replacement Fund 2d (if required)
General Reserve Fund 2d
Any Lawful Purpose of JEA (including transfers to the Electric System)
Revenue Fund
Operation and Maintenance Expenses
Current Debt Service on Additional Bulk Power Supply System Bonds
Debt Service Reserve Account (if required)
Current Debt Service on Subordinated Indebtedness (if any) (if required)
Rate Stabilization Fund (if required)
Renewal and Replacement Fund (if required)
Decommissioning Fund (if required)
General Reserve Fund
Any Lawful Purpose of JEA (including transfers to the Electric System)


Electric System
St. Johns River Power Park
Bulk Power Supply System
Second Power Park Resolution
Electric System Customers
Electric System Revenues
Operation and Maintenance Expenses including JEA's debt service on Power Park Issue Three Bonds and JEA's share of other Power Park costs; certain Contract Debts; and debt service on Additional Bulk Power Supply System Bonds and other Bulk Power Supply System costs
Current Debt Service on Electric System Bonds
Debt Service Reserve Account (if required)
Current Debt Service on Subordinated Electric System Bonds and certain Contract Debts
Rate Stabilization Fund (if required)
Renewal and Replacement Fund
General Reserve Fund
Any Lawful Purpose of JEA (including transfers to the City's General Fund and transfers to other JEA utility systems)
Revenue Fund 2d
Operation and Maintenance Expenses
Current Debt Service on Power Park Issue Three Bonds
Debt Service Reserve Account 2d (if required)
Current Debt Service on Subordinated Indebtedness (if any)
Renewal and Replacement Fund 2d (if required)
General Reserve Fund 2d
Any Lawful Purpose of JEA (including transfers to the Electric System)
Revenue Fund
Operation and Maintenance Expenses
Current Debt Service on Additional Bulk Power Supply System Bonds
Debt Service Reserve Account (if required)
Current Debt Service on Subordinated Indebtedness (if any)
Rate Stabilization Fund (if required)
Renewal and Replacement Fund (if required)
Decommissioning Fund (if required)
General Reserve Fund
Any Lawful Purpose of JEA (including transfers to the Electric System)

OTHER FINANCIAL INFORMATION

General

JEA maintains separate accounting records for the Electric System, the Scherer 4 Project (which is sometimes referred to herein and in JEA's financial statements as the "Bulk Power Supply System"), and its interest in the Power Park. For purposes of financial reporting, however, JEA prepares combined financial statements that include the Electric System, the Bulk Power Supply System, JEA's interest in the Power Park, the Water and Sewer System and the District Energy System. Set forth in APPENDIX A hereto are (a) the financial statements of JEA for its Fiscal Year 2018 (which consist of the statement of net position of JEA as of September 30, 2018 and the related statement of revenues, expenses, and changes in net position and cash flows for the year then ended and the notes thereto; such financial statements are hereinafter referred to as "JEA's 2018 Financial Statements"), together with the report of Ernst & Young LLP, independent auditors, on such financial statements, (b) certain supplemental data as of September 30, 2018 and for the year then ended (which consist of the combining statement of net position, the combining statement of revenues, expenses and changes in net position and the combining statement of cash flows) and (c) certain statements of bond compliance information (which consist of schedules of debt service coverage for the year ended September 30, 2018 for the Electric System, the Bulk Power Supply System, JEA's interest in the Power Park, the Water and Sewer System and the District Energy System), together with the report of Ernst & Young LLP, independent auditors, on such schedules. All such statements, information, data and schedules should be read in conjunction with the notes to JEA's 2018 Financial Statements, which are an integral part of the financial statements.

The assets reflected in the statement of net position included in JEA's 2018 Financial Statements include all of the assets of the Electric System, the Bulk Power Supply System, JEA's interest in the Power Park, the Water and Sewer System and the District Energy System, and the liabilities reflected in such statement of net position include, among other things, the Electric System Bonds, the Subordinated Electric System Bonds, the Power Park Issue Two Bonds, the Power Park Issue Three Bonds, the Additional Bulk Power Supply System Bonds, the Water and Sewer System Bonds, the Subordinated Water and Sewer System Bonds and the District Energy System Bonds. The statement of revenues, expenses, and changes in net assets includes all expenses (*e.g.*, interest charges, operating and maintenance expenses, fuel expenses) of the Electric System, the Bulk Power Supply System, JEA's interest in the Power Park, the Water and Sewer System and the District Energy System. However, revenues of JEA's interest in the Power Park and the Bulk Power Supply System are not included in such statement of revenues, expenses, and changes in net assets, except that interest income on funds maintained under the First Power Park Resolution, the Second Power Park Resolution and the Restated and Amended Bulk Power Supply System Resolution and revenues received from the FPL-Power Park Sale are included in the statement of revenues, expenses, and changes in net assets.

For financing purposes, the debt of JEA relating to the Electric Utilities Functions, the debt of JEA relating to its Water and Sewer System and the debt of JEA relating to the District Energy System are payable from and secured by separate revenue sources (*i.e.*, (a) the debt of JEA relating to its Electric Utility Functions is payable from and secured by the revenues derived by the Electric System from the sale of electricity and related services; (b) the debt of JEA relating to the Water and Sewer System is payable from and secured by the revenues derived by the Water and Sewer System from the sale of water and the provision of wastewater treatment and related services; and (c) the debt of JEA relating to the District Energy System is payable from and secured by the revenues derived by the District Energy System from the sale of chilled water and related services; provided, however, available revenues of the Water and Sewer System shall be deposited into a Debt Service Reserve Account established for the District Energy System Refunding Revenue Bonds, 2013 Series A (Federally Taxable) (the "2013 DES Bonds") and pledged to pay debt service on the 2013 DES Bonds in the event that revenues of the District Energy System are insufficient to pay debt service on the 2013 DES Bonds). Accordingly, potential purchasers of the Electric System Bonds are advised that the information in JEA's 2018

Financial Statements relating to JEA's Water and Sewer System and District Energy System is not relevant to a decision to purchase the Electric System Bonds and should not be taken into account with respect thereto.

Transfers to the City

The Charter currently provides that, as consideration for the unique relationship between the City and JEA, there shall be assessed upon JEA in each Fiscal Year, for the uses and purposes of the City, from the revenues of the Electric System and Water and Sewer System operated by JEA available after the payment of all costs and expenses incurred by JEA in connection with the operation of the Electric System and the Water and Sewer System (including, without limitation, all costs of operation and maintenance, debt service on all obligations issued by JEA in connection with such Electric System and the Water and Sewer System and required reserves therefor and the annual deposit to the depreciation and reserve account required pursuant to terms of the Charter), an amount that is periodically negotiated by JEA and the City. The City's annual assessment of JEA does not include assessments pertaining to the District Energy System. The Charter provides that the Council may reconsider the assessment calculations every five years; however, pursuant to the Charter, the Council may also revise the assessments at any time by amending the Charter with a two-thirds vote of the Council. From time to time, proposals have been made, and may be made in the future, to increase the amount of the City's annual assessment on JEA.

Effective October 1, 2008, JEA is required to pay to the City a combined assessment for the Electric System and the Water and Sewer System and this combined assessment has been set forth in the Charter.

JEA and the City reached agreement on amendments ("2016 Amendments") to the Charter which affect the amount of the combined assessment that JEA is required to pay to the City. The 2016 Amendments were set forth in Ordinance 2015-764, were approved by the Council on March 8, 2016 and took effect on March 10, 2016. The 2016 Amendments set forth the combined assessment from fiscal year 2016-2017 through fiscal year 2020-2021. JEA and the City reached agreement on additional amendments ("2019 Amendments," and together with the 2016 Amendments, the "Charter Amendments") to the Charter set forth in Ordinance 2018-747, enacted by the Council on February 12, 2019, which set forth the combined assessment from fiscal year 2021-2022 through fiscal year 2022-2023. The Charter Amendments provide that effective October 1, 2016, the combined assessment for the Electric System and the Water and Sewer System will be equal, but not exceed the greater of (A) the sum of (i) the amount calculated by multiplying 7.468 mills by the gross kilowatt hours delivered by JEA to retail users of electricity in JEA's service area and to wholesale customers under firm contracts having an original term of more than one year (other than sales of energy to FPL from JEA's St. Johns River Power Park System) during the 12-month period ending on April 30 of the Fiscal Year immediately preceding the Fiscal Year for which such assessment is applicable, plus (ii) the amount calculated by multiplying 389.20 mills by the number of kgals (1000 gallons) potable water and sewer service, excluding reclaimed water service, provided to consumers during the 12-month period ending on April 30 of the Fiscal Year immediately preceding the Fiscal Year for which such assessment is applicable or (B) a minimum calculated amount which increases by 1% per year from fiscal year 2016-2017 through fiscal year 2020-2021 using the fiscal year 2015-16 combined assessment of $114,187,538 as the base year. The amounts applicable to clause (B) above are: for fiscal year 2016-2017 - $115,329,413; for fiscal year 2017-2018 - $116,482,708; for fiscal year 2018-2019 - $117,647,535; for fiscal year 2019-2020 - $118,824,010; and for fiscal year 2020-2021 - $120,012,250; for fiscal year 2021-2022 - $121,212,373; and for fiscal year 2022-2023 - $122,424,496. A "mill" is one one-thousandth of a U.S. Dollar. The Charter Amendments provide that the amended assessment calculations for the electric system and the water and sewer system shall be in effect until September 30, 2023 and that the Council may reconsider the assessment calculations after October 1, 2022 and changes, if any, shall become effective October 1, 2023. As provided in the Charter, the Council may change the assessment calculation by ordinance within the provisions of the relevant section of the Charter. The Charter Amendments contemplate that in the event the Council does not reconsider the assessment calculations, the assessments shall be calculated using the existing formulas specified in the Charter, including a minimum calculated amount in clause (B) therein, which increases by one percent per year for each fiscal year computed as provided in the Charter.

In addition to the changes to the annual assessment, the 2016 Amendments provide that JEA, pursuant to the terms of an Interagency Agreement with the City (the "Interagency Agreement"), agrees to provide total nitrogen water quality credit to the City to assist the City in meeting its Basin Management Action Plan load reduction goal ("BMAP Credit"). The 2016 Amendments provide that if JEA cannot provide the BMAP Credit pursuant to the terms of the Interagency Agreement, the Council and JEA shall work cooperatively to address the BMAP Credit shortfall or the Council may reconsider the assessment calculations. The 2019 Amendments provide that JEA, pursuant to amended terms of the Interagency Agreement, agrees to transfer additional future BMAP Credits to the City.

In recognition of the 2016 Amendments to the Charter as described above, JEA paid to the City an additional one-time contribution in the Fiscal Year ending September 30, 2016 of $15,000,000 (the "2016 Additional Contribution"). The City has committed to use the 2016 Additional Contribution for City water and sewer infrastructure projects. Pursuant to the 2019 Amendments, JEA paid to the City an additional one-time contribution in the Fiscal Year ending September 30, 2019 of $15,155,000 (the "2019 Additional Contribution"). The City intends to use $15,000,000 of the 2019 Additional Contribution for City water and sewer infrastructure projects and $155,000 for river level monitoring equipment.

The portion of the budgeted aggregate assessment calculated with respect to the Electric System has increased from approximately $91,471,795 for the Fiscal Year ended September 30, 2018 to $92,952,147 for the Fiscal Year ending September 30, 2019. While the Charter requires JEA to pay the JEA assessment to the City at such times as the City requests, but not in advance of collection, the Ordinance Code of the City requires JEA to pay the JEA assessment on a monthly basis. Pursuant to Section 21.07(f) of the Charter, although the calculation of the amounts assessed upon JEA pursuant to the Charter and the annual transfer of available revenues from JEA to the City pursuant to the Charter are based on formulas that are applied specifically to the respective utility systems operated by JEA, JEA may, in its discretion, determine how to allocate the aggregate assessment between the Electric System and the Water and Sewer System, and the aggregate assessment may be paid from any available revenues of JEA.

In addition, the Charter provides that the Council shall have the power to appropriate annually a portion of the available revenues of each utility system operated by JEA (other than electric, water and sewer systems) for the uses and purposes of the City in an amount to be based on a formula to be agreed upon by JEA and the Council.

The Charter imposes a monthly Franchise Fee which JEA was required to pay to the City commencing June 1, 2008 for revenues derived effective April 1, 2008 in an amount initially equal to three percent (and not to exceed six percent, with increases requiring a request by the Mayor of the City and a two-thirds supermajority vote by the Council) of the revenues of the Electric System derived within Duval County other than the beach communities and the Town of Baldwin and subject to a per customer maximum. The Charter authorizes JEA to pass through the amount of the Franchise Fee to the customers of JEA, which JEA does. As a result, the Franchise Fee has no effect on JEA's net revenues.

Effect of JEA Credit Rating Changes

General

JEA has entered into certain agreements that contain provisions giving counterparties certain rights and options in the event of a downgrade in JEA's credit ratings below specified levels, which provisions commonly are referred to as "ratings triggers."

The table below sets forth the current ratings and outlooks for JEA's Electric System Bonds and Subordinated Electric System Bonds, without giving effect to any third-party credit enhancement. Given JEA's current levels of ratings, JEA's management does not believe that the ratings triggers contained in any of its existing agreements will have a material adverse effect on its results of operations or financial condition. However, JEA's ratings reflect the views of the rating agencies and not of JEA, and therefore JEA cannot give any assurance that its ratings will be maintained at current levels for any period of time.

	Fitch Ratings	Moody's	S&P
Outstanding Electric System Bonds	AA (stable)	A2 (negative)	A+ (negative)
Outstanding Subordinated Electric System Bonds	AA (stable)	A3 (negative)	A (negative)

Liquidity Support for JEA's Variable Rate Bonds

In particular, JEA has entered into standby bond purchase agreements with certain commercial banks in order to provide liquidity support in connection with tenders for purchase of the Senior Liquidity Supported Electric Bonds, and the Subordinated Liquidity Supported Electric Bonds (collectively the "Liquidity Supported Bonds"). As of the date of this Annual Disclosure Report, there is $243,625,000 in aggregate principal amount of Senior Liquidity Supported Electric Bonds outstanding and $132,420,000 in aggregate principal amount of Subordinated Liquidity Supported Electric Bonds outstanding. The standby bond purchase agreements relating to the Liquidity Supported Bonds provide that any of such Liquidity Supported Bonds that are purchased by the applicable bank pursuant to its standby bond purchase agreement may be tendered or deemed tendered to JEA for payment upon the occurrence of certain "events of default" with respect to JEA under such standby bond purchase agreement. Upon any such tender or deemed tender for purchase, such Liquidity Supported Bonds so tendered or deemed tendered will be due and payable immediately.

In general, each standby bond purchase agreement provides that it is an event of default on the part of JEA thereunder if the long-term ratings on the Liquidity Supported Bonds to which such standby bond purchase agreement relates, without giving effect to any third-party credit enhancement, fall below "BBB-" by Fitch Ratings, "Baa3" by Moody's Investors Service ("Moody's") and/or "BBB-" by S&P Global Ratings, a division of S&P Global Inc. ("S&P"), or are suspended or withdrawn (generally for credit-related reasons).

Interest Rate Swap Transactions

From time to time, JEA enters into interest rate swap transactions pursuant to both its debt management policy (see "Debt Management Policy" below) and its investment policies (see "Investment Policies" below), which interest rate swap transactions may be for the account of the Electric System. JEA had interest rate swap transactions outstanding under interest rate swap master agreements with four different counterparties in an aggregate notional amount of $522,470,000 as of September 30, 2018, of which, $406,810,000 were for the account of the Electric System. For additional information concerning those interest rate swap transactions, see (a) "Debt Management Policy" below, (b) "Investment Policies" below and (c) Notes 1(k) and 8 to JEA's 2018 Financial Statements set forth in APPENDIX A attached hereto.

Under each master agreement, the interest rate swap transactions entered into pursuant to that master agreement are subject to early termination upon the occurrence and continuance of certain "events of default" and upon the occurrence of certain "termination events." One of such "termination events" with respect to JEA is a suspension or withdrawal of certain credit ratings with respect to JEA or a downgrade of such ratings to below the levels set forth in the master agreement or in the confirmation related to a particular interest rate swap transaction. Upon any such early termination of an interest rate swap transaction, JEA may owe to the counterparty a termination payment, the amount of which could be substantial. The amount of any such potential termination payment would be determined in the manner provided in the applicable master agreement and would be based primarily upon market interest rate levels and the remaining term of the interest rate swap transaction at the time of termination. In general, the ratings triggers on the part of JEA contained in the master agreements range from (x) below "BBB" by S&P and below "Baa2" by Moody's to (y) below "A-" by S&P and below "A3" by Moody's.

As of September 30, 2018, JEA's estimated aggregate exposure under all of its then outstanding interest rate swap transactions (*i.e.*, the net amount of the termination payments that JEA would owe to its counterparties if all of the interest rate swap transactions were terminated) was $86,356,000, of which $70,103,000 was attributable to interest rate swap transactions entered into for the account of the Electric System. As of March 31, 2019, JEA's estimated aggregate exposure under all of its then outstanding interest rate swap transactions was $112,315,000, of which $89,771,000 was attributable to interest rate swap transactions entered into for the account of the Electric System.

In connection with the issuance or proposed issuance of certain of JEA's bonds, JEA has entered into various floating-to-fixed rate interest rate swap transactions for the account of the Electric System. These swap transactions are entered into with various providers and are otherwise described in the table below.

Related Bonds	Counterparty	Initial Notional Amount	Notional Amount as of March 31, 2019	Fixed Rate of Interest	Variable Rate Index(1)	Termination Date(2)
Variable Rate Electric System Revenue Bonds, Series Three 2008A	Goldman Sachs Mitsui Marine Derivative Products, L.P. ("GSMMDP")	$100,000,000	$51,680,000	3.836%	BMA Municipal Swap Index	10/1/2036
Variable Rate Electric System Revenue Bonds, Series Three 2008B-1, 2008B-2, 2008B-3 and 2008B-4	Morgan Stanley Capital Services Inc. ("MSCS")	$117,825,000	$82,575,000	4.351%	BMA Municipal Swap Index	10/1/2039
	JPMorgan Chase Bank, N.A. ("JPMorgan")	$116,425,000	$85,200,000	3.661%	68% of 1 month LIBOR	10/1/2035
Variable Rate Electric System Revenue Bonds, Series Three 2008C-1 and 2008C-2	GSMMDP	$174,000,000	$84,800,000	3.717%	68% of 1 month LIBOR	9/16/2033
Variable Rate Electric System Revenue Bonds, Series Three 2008D-1	MSCS	$98,375,000	$62,980,000	3.907%	SIFMA Municipal Swap Index	10/1/2031
Variable Rate Electric System Subordinated Revenue Bonds, 2008 Series D	JPMorgan	$40,875,000	$39,175,000	3.716%	68% of 1 month LIBOR	10/1/2037

(1) The BMA Municipal Swap Index is now known as the SIFMA Municipal Swap Index.
(2) Unless earlier terminated.

Debt Management Policy

JEA's debt management policy applies to all current and future debt and related hedging instruments issued by JEA. The policy is designed to provide both broad policy guidance and facilitate management, control and oversight of JEA's debt function, thus fostering ongoing access to the capital markets in order to fund future capital projects of JEA.

The counterparties with whom JEA may deal must meet the requirements for counterparties described under the caption "Investment Policies" below. The policy requires JEA staff to submit to the JEA Board an annual plan of finance, which will address, at a minimum, the amount of debt projected to be issued during the next Fiscal Year, whether such debt is senior or subordinated, whether such debt is fixed or variable, and whether any hedging instruments may be utilized. Under the policy, JEA's net variable rate debt will not exceed 30 percent of total debt and JEA's net variable rate debt plus net fixed-to-floating interest rate swaps will not exceed 55 percent of total debt. "Net variable rate debt" is actual variable rate debt minus net variable rate assets. "Net variable rate assets" is actual variable rate assets minus the notional amount of investment/asset-matched interest rate swaps. "Net fixed-to-floating interest rate swaps" is the aggregate notional amount of fixed-to-floating swaps maturing in 10 years or less minus the aggregate notional amount of floating-to-fixed swaps maturing in 10 years or less outstanding on the last day of each month. "Total debt" equals fixed rate debt plus variable rate debt. "Variable rate assets" are investments maturing in less than one year. "Variable rate debt" is actual variable rate debt outstanding less variable rate debt that is associated with a floating-to-fixed rate swap where the term of the swap matches the term of the variable rate debt. The percentages are to be computed monthly.

JEA's fixed rate debt, variable rate debt and debt-related hedging instruments are to be managed in conjunction with investment assets and investment-related hedging instruments to incorporate the natural occurrence of hedging impacts in those balance sheet categories. The purpose is to use each side of the balance sheet to mitigate or hedge cash flow risks posed by the other side of the balance sheet.

The policy creates procedures to be followed in conjunction with the issuance of fixed rate debt, variable rate debt and debt refundings. Beginning in the Fiscal Year ended September 30, 2010, deposits were made to the Rate Stabilization Fund for the Debt Management Strategy Reserve and reflect the difference in the actual interest rates for interest expense on the unhedged variable rate debt as compared to the budgeted assumptions for interest expense on the unhedged variable rate debt. At a minimum, 50 percent of the calculated reserve will be recorded and deposited each fiscal year. An additional amount, up to the full value of the calculated reserve (the remaining 50 percent), will be reviewed by the Debt and Investment Committee and recorded at their option. However, the amount deposited to the Rate Stabilization Fund (in addition to actual debt service costs for the fiscal year) cannot exceed the total amount of the budgeted debt service. The reserve will be calculated on a system by system basis; however, based on the calculation, any mandatory deposit will exclude the District Energy System. The reserve is capped at five percent of the par amount of the total outstanding variable rate debt. Withdrawals from the Debt Management Strategy Stabilization Fund for debt management strategy can be used for any lawful purpose including debt service, debt repayment, and capital outlay and must be approved in writing by the Managing Director and Chief Executive Officer. Under JEA's pricing policy, withdrawals from the Debt Management Strategy Stabilization Fund are limited to expenses related to market disruption in the capital markets, disruption in availability of credit or unanticipated credit expenses, or to fund variable interest costs in excess of budget. Any amounts withdrawn for these costs will subsequently be presented for approval by the Board.

The policy establishes a framework for JEA's utilization of hedging instruments including interest rate swaps and caps and collars. The utilization of hedging instruments offers JEA a cost effective alternative to traditional debt financing choices. JEA is authorized to enter into floating-to-fixed rate swaps, fixed-rate-to-floating rate swaps and basis swaps (*i.e.*, swaps which seek to manage the risk associated with the mismatch between two benchmarks used to set the indices utilized in an interest rate swap transaction). The percentage of variable rate exposure (the notional amount of net fixed-to-floating interest rate swaps and net variable rate debt outstanding) to total debt outstanding may not exceed 55 percent. The notional amount of interest rate swaps, caps, collars and related hedging instruments is limited to the amount approved by the JEA Board from time to time.

Interest rate caps and related hedging instruments are to be utilized to help JEA manage interest rate risk in its debt management program. Generally, a fixed-to-floating interest rate swap will have an associated interest rate cap for the same notional amount at a level no greater than 200 basis points above the interest rate swap fixed rate. It is also contemplated that an interest rate cap will not always have the same maturity as the interest swap with which it is associated. The average life of the aggregate of outstanding caps will not be less than 75 percent of the average life of the associated aggregate swaps.

The policy sets out various decision rules which govern the decision to execute various hedging instruments. Valuations are performed on a quarterly basis and adjustments to fair value are included in JEA's financial statements.

The policy calls for no more than $500,000,000 of net interest rate swap and cap or other hedging instruments to be outstanding in the aggregate with any one provider or affiliate thereof. The aggregate amount of all "long dated" (greater than 10 years) transactions executed with financial institutions and all affiliates thereof, shall be limited to an amount based on the credit rating of the financial institution at the time of the entry into the long dated hedging transaction as shown below:

Rating Level	Notional Amount
AAA/Aaa by one or more rating agencies	$400,000,000
AA-/Aa3 or better by at least two rating agencies	300,000,000
A/A2 or better by at least two rating agencies	200,000,000
Below A/A2 by at least two rating agencies	0

The ratings criteria shown above apply either to the counterparty to the long dated transaction or, if the payment obligation of such counterparty under the relevant swap agreement shall be guaranteed by an affiliate thereof, such affiliate. The overall maximum by definition of the above limits cannot exceed $400,000,000 for long dated transactions.

These diversification requirements include all interest rate swap, cap and other hedging instruments JEA may utilize to manage interest rate risks including, but not limited to, debt management and 100 percent investment/asset-matched program. Interest rate swap and cap transactions are to be competitively bid (unless otherwise determined by the Managing Director and Chief Executive Officer) by at least three providers that have executed interest rate swap agreements with JEA.

Under the policy, an annual budgeted reserve contribution is to be made to a reserve fund. The contributions to the reserve fund will be funded in three equal installments of 1 percent of the notional amount beginning in the month the swap is executed. Once funded, the reserve fund shall at all times be not less than three percent of the notional amount of fixed-to-floating rate debt interest rate swaps outstanding, but can be used for any lawful purpose as approved by JEA's Managing Director and Chief Executive Officer.

The aggregate notional amount of all hedging instrument transactions entered into for the account of the Electric System outstanding at any one time, net of offsetting transactions, under all swap agreements is established at not to exceed (a) $1.5 billion in the case of interest rate swaps, (b) $500,000,000 in the case of basis swaps and (c) $1 billion in the case of caps and collars. A transaction that reverses an original transaction in every respect thereby offsetting the cashflows perfectly is referred to herein as an "offsetting transaction." Generally, in the past JEA has elected to receive or pay an upfront cash payment to reverse the original swap transaction. The phrase "net of offsetting transactions" would relate to reversals that remain on JEA's books if JEA elected not to take/make an upfront cash payment.

Investment Policies

The goals of JEA's investment policy are to (i) provide safety of capital, (ii) provide sufficient liquidity to meet anticipated cash flow requirements, and (iii) maximize investment yields while complying with the first two goals. Sound investment management practices help maintain JEA's competitive position since investment income reduces utility rates. JEA's funds are invested only in securities of the type and maturity permitted by its bond resolutions, Florida statutes, its internal investment policy and federal income tax limitations. JEA does not speculate on the future movement of interest rates and is not permitted to utilize debt leverage in its investment portfolio. Debt leverage is the practice of borrowing funds solely for the purpose of reinvesting the proceeds in an attempt to earn more income than the cost of the debt.

JEA invests its funds pursuant to Section 218.415, Florida Statutes, its various bond resolutions and its JEA Board-approved investment policy. As of September 30, 2018, 50 percent of JEA's total investment portfolio (including funds held under the Water and Sewer System Resolution, the Subordinated Water and Sewer System Resolution, the District Energy System Resolution, the Bulk Power Supply System Resolution, the Electric System Resolution, the Subordinated Electric System Resolution, the First Power Park Resolution and the Second Power Park Resolution) was invested in securities issued by the United States Government, federal agencies or state and local government entities and has a weighted average maturity of approximately 3.3 years. As of September 30, 2018, the remaining 50 percent of such investment portfolio was invested in commercial paper rated at least "A-1" and "P-1" by S&P and Moody's, respectively, having a weighted average maturity of less than 90 days, in money market mutual funds and in demand deposit bank accounts. JEA's funds that are invested in commercial paper, in money market mutual funds and in bank accounts are used primarily for operating expenses.

JEA has entered into securities lending agreements in the past wherein from time to time JEA loaned certain securities in exchange for eligible collateral consisting of United States Government and federal agency securities whose market values were at least 103 percent of the market values of the loaned securities which were re-priced daily. JEA earned a fee in connection with such securities lending agreements, which augmented its portfolio yield. Although JEA currently does not have any securities held pursuant to its securities lending program, JEA may enter into similar securities lending agreements in the future.

JEA previously implemented a strategy to lengthen synthetically the investment maturity of its short-term revolving funds by entering into 100 percent asset-matched interest rate swap transactions. Through the use of this strategy, JEA may lock-in a fixed rate of return for up to five years on those funds, such as debt service sinking funds, that it is permitted to invest only in short-term investment securities. As of September 30, 2018, JEA had, and as of the date of this Annual Disclosure Report, JEA has, no outstanding interest rate swap transactions for this purpose, although it may enter into interest rate swap transactions for this purpose in the future.

The JEA Board has established limits on the notional amount of JEA's interest rate swap transactions and standards for the qualification of financial institutions with whom JEA may enter into interest rate swap transactions. The counterparties with whom JEA may deal must be rated (i) "AAA/Aaa" by one or more nationally recognized rating agencies at the time of execution, (ii) "AA-/Aa3" or better by at least two of such credit rating agencies at the time of execution, or (iii) if such counterparty is not rated "A/A2" or better at the time of execution, ("AA-/Aa3" or better for interest rate swap transactions entered into prior to 2014), provide for a guarantee by an affiliate of such counterparty rated at least "A/A2" or better at the time of execution where such affiliate agrees to unconditionally guarantee the payment obligations of such counterparty under the swap agreement. In addition, swap agreements generally will require the counterparty to enter into a collateral agreement to provide collateral when (a) the ratings of such counterparty (or its guarantor) fall below "AA-/Aa3" by two rating agencies and (b) a termination payment would be owed to JEA. With respect to swap agreements entered into in 2014 between JEA and three swap counterparties, each counterparty will be required to provide collateral when (a) the ratings of such counterparty fall below "A+/A1" by any one of the rating agencies and (b) a termination payment would be owed to JEA above a specified threshold amount.

JEA's payment obligations under the interest rate swap transactions consist of periodic payments based upon fluctuations in interest rates and, in the event of a termination of a transaction prior to the stated term thereof, potential termination payments. The amounts of such potential termination payments are based primarily upon market interest rate levels and the remaining term of the transaction at the time of termination. JEA is authorized to enter into both (a) interest rate swap agreements the obligations of JEA under which are payable from available funds of the Electric System ("Electric System Swap Agreements") and (b) interest rate swap agreements the obligations of JEA under which are payable from available funds of the Water and Sewer System ("Water and Sewer System Swap Agreements").

In the case of interest rate swap transactions entered into pursuant to Electric System Swap Agreements, JEA's payment obligations thereunder are payable following the payment of the operation and maintenance expenses of the Electric System, including any Contract Debts of the Electric System, debt service on Electric System Bonds, debt service on any Subordinated Bonds of the Electric System (including Subordinated Electric System Bonds) and the deposits to the Renewal and Replacement Fund established by the Electric System Resolution.

All interest rate swap transactions for the account of the Electric System are required to be entered into pursuant to Electric System Swap Agreements. Interest rate swap transactions for the account of the Water and Sewer System may be entered into pursuant to either Water and Sewer System Swap Agreements or Electric System Swap Agreements. In the case of interest rate swap transactions for the account of the Water and Sewer System that are entered into pursuant to Electric System Swap Agreements, JEA has established procedures pursuant to which (a) all amounts received by JEA pursuant to such interest rate swap transactions are transferred to the Revenue Fund established pursuant to the Water and Sewer System Resolution and (b) all payments required to be made by JEA pursuant to such interest rate swap transactions are paid for from Revenues of the Water and Sewer System; *provided*, *however*, that no such payments may be made from Revenues of the Water and Sewer System until payment (or provision for payment) has been made of the operation and maintenance expenses of the Water and Sewer System, including any Contract Debts of the Water and Sewer System, debt service for the Water and Sewer System Bonds, debt service for any Subordinated Indebtedness of the Water and Sewer System (including the Subordinated Water and Sewer System Bonds) and the deposits to the Renewal and Replacement Fund established by the Water and Sewer System Resolution.

For further information regarding this interest rate swap program, see Notes 1(k) and 8 to JEA's 2018 Financial Statements set forth in APPENDIX A attached hereto.

Revolving Credit Facilities

Effective December 17, 2015, JEA entered into a revolving credit agreement with JPMorgan Chase Bank, National Association ("JPMorgan") for a $300,000,000 commitment (the "Revolving Credit Facility"). The Revolving Credit Facility was initially scheduled to expire on December 17, 2018. Effective May 24, 2018, JEA and JPMorgan amended the agreement to extend the expiration date to May 24, 2021, and effective November 1, 2018, the parties further amended the agreement to increase the maximum principal amount of the credit facility available for Electric System loans by $200,000,000, for a total commitment equal to $500,000,000. Subject to meeting various conditions, the Revolving Credit Facility is available to JEA to provide working capital and short-term and interim financing for capital projects in connection with any of its systems. Payment obligations allocable to the Electric System, Power Park (under the Second Power Park Resolution) and the Bulk Power System under the Revolving Credit Facility are payable from the respective revenues of the Electric System, Power Park (under the Second Power Park Resolution) and the Bulk Power Supply System, as applicable, but are subordinate to the payment of JEA's Electric System, Power Park and Bulk Power Supply System debt (including the Electric System Bonds, the Subordinated Electric System Bonds, the Power Park Issue Three Bonds, and the Additional Bulk Power Supply System Bonds). As of the date of this Annual Disclosure Report, JEA has $5,000,000 in borrowings outstanding under the Revolving Credit Facility, which are for the account of the Water and Sewer System.

Loans Among Utility Systems

Pursuant to the Charter, JEA has the authority to lend money from one of its utility systems to another of its utility systems under terms and conditions as determined by JEA. As of the date of this Annual Disclosure Report, no loans among the systems are outstanding.

No Default Certificates

Section 13.F of the Electric System Resolution and Section 6.08 of the Subordinated Electric System Resolution require that JEA annually obtain a certificate of its independent firm of certified public accountants setting forth any default on the part of JEA of any covenant in the Electric System Resolution and the Subordinated Electric System Resolution. Section 716.3 of the First Power Park Resolution, Section 715.2 of the Second Power Park Resolution, and Section 714.2 of the Restated and Amended Bulk Power Supply System Resolution require that JEA annually obtain a certificate of its independent firm of certified public accountants stating whether or not, to the knowledge of the signer, JEA is in default with respect to any of the covenants, agreements or conditions on its part contained in the First Power Park Resolution, the Second Power Park Resolution, and the Restated and Amended Bulk Power Supply System Resolution, respectively, and if so, the nature of such default. The actual certificates provided by such accountants state that nothing has come to such accountants' attention that caused such accountants to believe that JEA failed to comply with the terms, covenants, provisions or conditions of the applicable section(s) of the relevant resolutions, *insofar as they relate to accounting matters* (emphasis supplied). The accountants have advised JEA that the italicized qualifying language is required to be included by their professional standards (specifically, Statement on Auditing Standards No. 62). JEA does not believe that any other nationally-recognized accounting firm will provide certificates that strictly meet the requirements of the applicable section(s) of the relevant resolutions and that differ materially from the certificates provided by JEA's accountants.

As required by the First Power Park Resolution JEA has filed with U.S. Bank National Association, as Trustee, within 120 days after the end of JEA's Fiscal Year Ended September 30, 2017, a certificate signed by an Authorized Officer (as defined in the First Power Park Resolution) of JEA which states that to the best of his knowledge and belief JEA has kept, observed, performed and fulfilled each and every one of its covenants and obligations contained in the First Power Park Resolution and that there does not exist on the date of such certificate any default by JEA under the First Power Park Resolution or any Event of Default (as defined in the First Power Park Resolution) which, with the lapse of time specified in the applicable section of the First Power Park Resolution, would become an Event of Default.

Notwithstanding the failure of the accountants' certificates to strictly meet the requirements of the respective resolutions as described above, as of the date of this Annual Disclosure Report, JEA is not in default in the performance of any of the covenants, agreements or conditions contained in the Electric System Resolution, the Subordinated Electric System Resolution, the First Power Park Resolution, the Second Power Park Resolution, and the Restated and Amended Bulk Power Supply System Resolution.

LITIGATION

In the opinion of the Office of General Counsel of the City, there is no pending litigation or proceedings that may result in any material adverse change in the financial condition of JEA relating to the Electric System other than as set forth in the financial statements of JEA in APPENDIX A of this Annual Disclosure Report and other than the matters set forth in this Annual Disclosure Report, including litigation relating to the Additional Vogtle Units PPA described below and described above under "ELECTRIC UTILITY SYSTEM - *ELECTRIC UTILITY FUNCTIONS* – Electric System - *Litigation and Regulatory Proceedings*" and described in Note 10 of the financial statements of JEA. On September 11, 2018, MEAG filed suit against JEA in the Northern District of Georgia alleging claims for (i) a declaratory judgment that the Additional Vogtle Units PPA is enforceable against JEA, (ii) breach of contract for JEA's alleged failure to adhere to the Additional Vogtle Units PPA's cooperation clause, and (iii) specific performance requiring JEA to continue to comply with the Additional Vogtle Units PPA. The same day, JEA and the City of Jacksonville filed suit against MEAG in the Circuit Court, Fourth Judicial Circuit, Duval County, Florida, seeking a declaratory judgment that the Additional Vogtle Units PPA is invalid and unenforceable against JEA. MEAG removed JEA's and the City's suit to the Middle District of Florida. On April 9, 2019, the district court for the Northern District of Georgia entered an order granting JEA's motion to dismiss and dismissing MEAG's complaint. MEAG has filed a notice of appeal of the dismissal to the Eleventh Circuit Court of Appeals. The parties are presently engaged in procedural litigation over the forum in which the substantive issues will be tried. JEA will vigorously defend and prosecute these actions, but provides no assurances regarding the outcome or consequences of the litigation. JEA and MEAG have commenced negotiations in an attempt to arrive at a mutually beneficial commercial resolution of their dispute. The ultimate outcome of this matter cannot be determined at this time.

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AUTHORIZATION

The dissemination and use of this Annual Disclosure Report have been duly authorized by the JEA Board.

JEA

By: */s/ April Green*
Chair

By: */s/ Aaron F. Zahn*
Managing Director and Chief Executive Officer

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SCHEDULE 1

OPERATING HIGHLIGHTS

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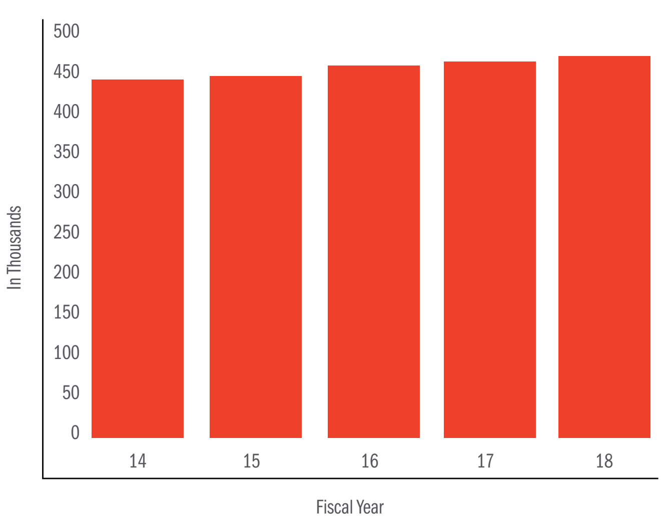
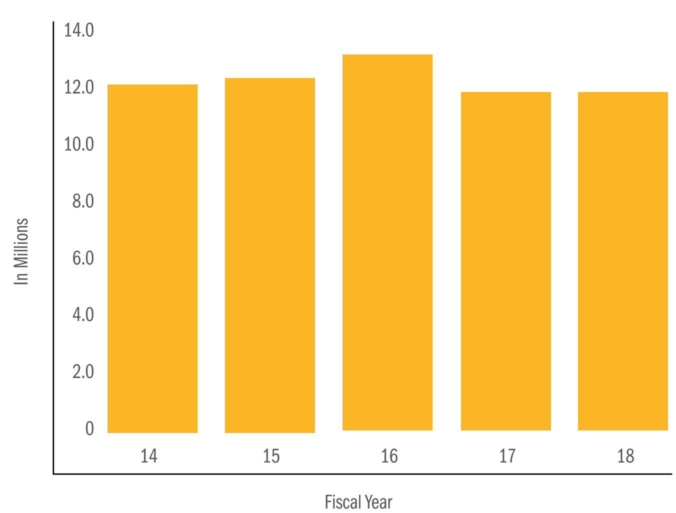
ELECTRIC FINANCIAL AND OPERATING HIGHLIGHTS

	Years Ended September 30					
	2018	2017	2016	2015	2014	% Change 2018–2017
FINANCIAL HIGHLIGHTS						
Total operating revenues (thousands)	$1,366,111	$1,428,329	$1,364,242	$1,370,212	$1,479,483	-4.36%
Fuel and purchased power expenses (thousands)	$530,246	$536,250	$485,874	$517,239	$585,021	-1.12%
Total operating expenses (thousands)	$1,102,133	$1,088,386	$1,032,774	$1,061,853	$1,196,160	1.26%
Debt service coverage:						
Senior and subordinated - Electric	2.30 x	2.53 x	2.89 x	2.63 x	2.41 x	-9.09%
Senior - Electric	6.55 x	7.53 x	6.59 x	5.80 x	5.40 x	-13.01%
Bulk Power Supply System	3.47 x	1.75 x	1.81 x	1.24 x	2.24 x	98.29%
St. Johns River Power Park 2nd Resolution	1.60 x	1.18 x	1.17 x	1.16 x	2.21 x	35.59%
OPERATING HIGHLIGHTS						
Sales (megawatt hours)	12,732,236	13,893,852	14,586,486	14,379,697	14,312,013	-8.36%
Peak demand - megawatts 60 minute net	3,080	2,682	2,674	2,863	2,823	14.84%
Total accounts - average number	466,411	458,953	451,788	443,705	434,917	1.63%
Sales per residential account (kilowatt hours)	13,205	12,672	13,433	13,468	13,301	4.21%
Average residential revenue per kilowatt hour	$11.42	$11.44	$11.24	$11.82	$11.97	-0.17%
Power supply:						
Natural gas	48%	39%	32%	32%	27%	23.08%
Coal	22%	43%	42%	50%	57%	-48.84%
Purchases	18%	12%	11%	8%	5%	50.00%
Petroleum coke	12%	6%	15%	10%	10%	100.00%
Oil	0%	0%	0%	0%	1%	0.00%

Average Number of Electric Retail Accounts



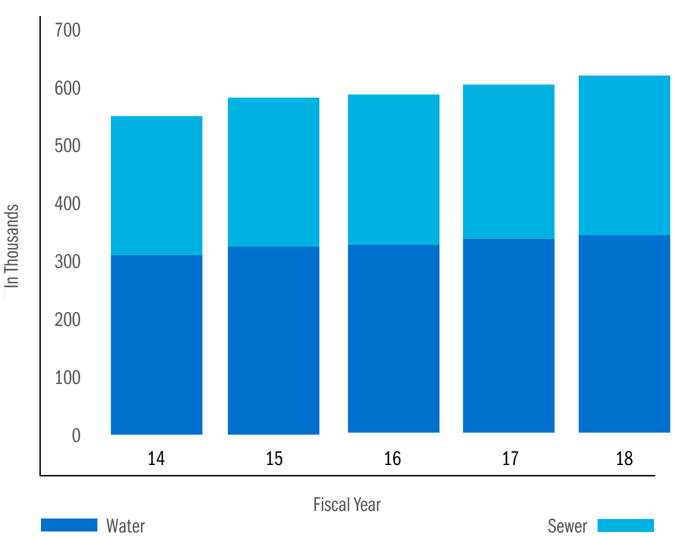
Retail Megawatt Hour Sales



WATER AND SEWER FINANCIAL AND OPERATING HIGHLIGHTS

	Years Ended September 30					
	2018	**2017**	**2016**	**2015**	**2014**	% Change **2018–2017**
FINANCIAL HIGHLIGHTS						
Total operating revenues (thousands)	$435,682	$457,908	$427,750	$389,733	$393,355	-4.85%
Operating expenses (thousands)	$310,435	$305,131	$297,325	$269,509	$263,275	1.74%
Debt service coverage:						
Senior and subordinated	2.79 x	2.99 x	3.28 x	2.75 x	2.46 x	-6.69%
Senior	3.33 x	3.54 x	3.78 x	3.13 x	2.71 x	-5.93%
OPERATING HIGHLIGHTS						
WATER						
Total sales (kgals)	36,186,559	37,245,188	36,357,919	34,558,284	32,468,336	-2.84%
Total accounts - average number	348,159	341,016	333,139	325,352	318,708	2.09%
Average sales per residential account (kgals)	59.33	63.21	62.78	61.32	59.84	-6.14%
Average residential revenue per kgal	$5.43	$5.48	$5.26	$5.30	$5.35	-0.91%
SEWER						
Total sales (kgals)	26,340,622	26,712,770	25,817,658	24,922,141	23,526,976	-1.39%
Total accounts - average number	270,871	264,336	257,719	250,974	244,836	2.47%
Average sales per residential account (kgals)	57.91	61.84	60.96	59.75	58.40	-6.36%
Average residential revenue per kgal	$9.52	$9.46	$9.26	$9.33	$9.46	0.63%
REUSE						
Total sales (kgals)	3,119,739	3,290,311	2,644,046	1,783,730	1,300,838	-5.18%
Total accounts - average number	11,498	9,391	7,498	5,891	4,501	22.44%

Average Number of Water and Sewer Accounts



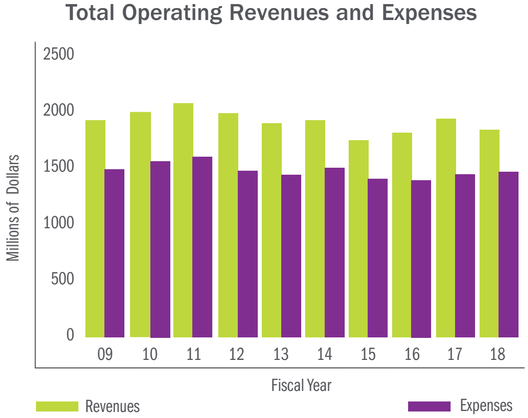
Water and Sewer Sales Volume

FINANCIAL SUMMARY

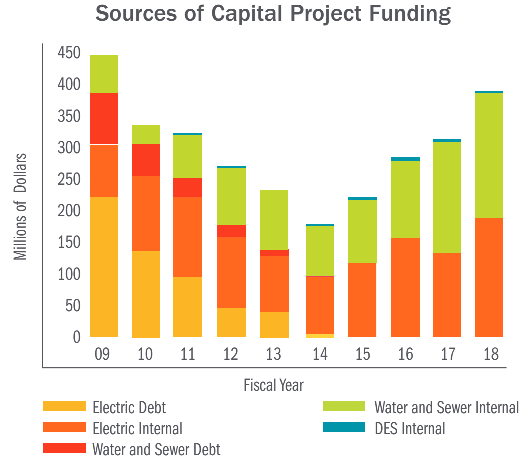
Combined Electric System, Bulk Power Supply System, St Johns River Power Park System, Water and Sewer and District Energy System (in thousands of dollars)

	2018-17	2017-16	2016-15	2015-14	2014-13
Operating revenues:					
Electric	$1,267,202	$1,382,206	$1,321,713	$1,324,883	$1,431,167
Water and sewer	423,480	448,057	417,404	379,789	383,643
District energy system	8,348	8,185	8,337	8,778	8,682
Other, net	90,952	36,729	34,298	35,930	38,389
Total operating revenues	1,789,982	1,875,177	1,781,752	1,749,380	1,861,881
Operating expenses:					
Fuel and purchased power	530,246	536,250	485,874	517,239	585,021
Maintenance and other operating expense	429,989	392,142	380,219	374,166	364,764
Depreciation	360,609	386,699	382,432	366,486	375,505
State utility and franchise taxes	71,307	69,683	71,244	72,510	72,221
Recognition of deferred costs and revenues, net	6,856	(4,075)	(1,527)	(11,168)	49,271
Total operating expenses	1,399,007	1,380,699	1,318,242	1,319,233	1,446,782
Operating income	390,975	494,478	463,510	430,147	415,099
Nonoperating revenues (expenses):					
Interest on debt	(166,508)	(182,992)	(184,457)	(198,199)	(223,736)
Investment income	11,826	10,576	14,225	12,904	20,546
Allowance for funds used during construction	11,764	11,774	9,407	5,723	3,894
Other nonoperating income, net	9,857	5,918	8,765	11,833	7,280
Earnings from The Energy Authority	4,074	6,335	6,136	1,461	3,567
Loss on sale of asset	-	-	-	(199)	-
Other interest, net	(1,825)	(451)	(403)	(68)	(38)
Total nonoperating expenses, net	(130,812)	(148,840)	(146,327)	(166,545)	(188,487)
Income before contributions and special item	260,163	345,638	317,183	263,602	226,612
Contributions (to) from:					
General fund, City of Jacksonville	(116,620)	(115,823)	(129,187)	(111,688)	(109,188)
Capital contributions:					
Developers and other	82,157	66,875	53,652	52,709	38,845
Reduction of plant cost through contributions	(54,114)	(42,069)	(31,632)	(33,105)	-
Total contributions	(88,577)	(91,017)	(107,167)	(92,084)	(70,343)
Special item	(45,099)	-	-	151,490	-
Change in net position	126,487	254,621	210,016	323,008	156,269
Net position - beginning of year, originally reported	2,628,822	2,376,925	2,166,909	1,843,901	2,039,737
Effect of change in accounting	-	(2,724)	-	-	(352,105)
Net position - beginning of year, as restated	2,628,822	2,374,201	2,166,909	1,843,901	1,687,632
Net position - end of year	$2,755,309	$2,628,822	$2,376,925	$2,166,909	$1,843,901

Total Operating Revenues and Expenses



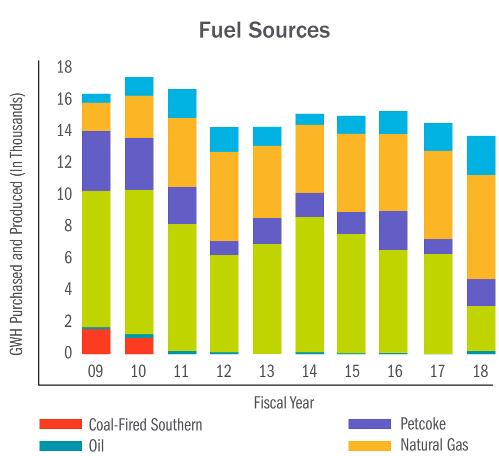
Sources of Capital Project Funding

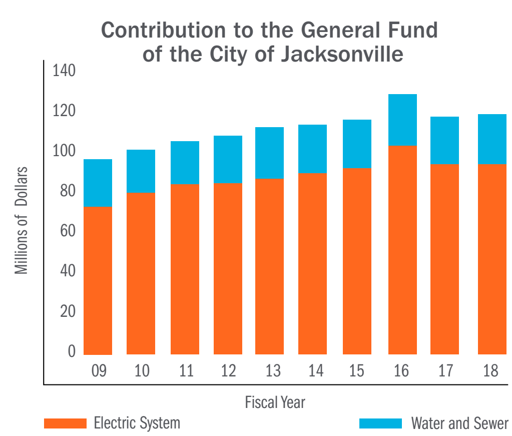


FINANCIAL SUMMARY, CONTINUED

Combined Electric System, Bulk Power Supply System, St Johns River Power Park System, Water and Sewer and District Energy System (in thousands of dollars)

	2013-12	2012-11	2011-10	2010-09	2009-08
Operating revenues:					
Electric	$1,383,696	$1,473,134	$1,624,473	$1,548,248	$1,525,966
Water and sewer	381,677	385,631	358,176	303,241	249,813
District energy system	8,471	8,571	8,067	7,595	6,914
Other, net	38,975	41,046	48,842	50,692	48,687
Total operating revenues	1,812,819	1,908,382	2,039,558	1,909,776	1,831,380
Operating expenses:					
Fuel and purchased power	539,646	548,030	733,296	741,374	719,296
Maintenance and other operating expense	371,041	366,751	334,066	322,672	295,480
Depreciation	378,067	379,570	351,931	353,606	344,158
State utility and franchise taxes	70,237	72,925	78,787	73,120	72,127
Recognition of deferred costs and revenues, net	64,305	59,153	27,014	22,149	33,108
Total operating expenses	1,423,296	1,426,429	1,525,094	1,512,921	1,464,169
Operating income	389,523	481,953	514,464	396,855	367,211
Nonoperating revenues (expenses):					
Interest on debt	(235,228)	(248,681)	(289,320)	(285,669)	(264,701)
Investment income (loss)	(13,240)	8,804	11,908	(3,604)	23,463
Allowance for funds used during construction	3,986	3,365	5,387	9,713	12,708
Other nonoperating income, net	7,530	16,420	7,698	3,832	-
Earnings from The Energy Authority	4,325	6,328	12,265	6,103	4,088
Water & Sewer Expansion Authority	-	-	(485)	(719)	(864)
Loss on sale of asset	-	-	-	-	(986)
Other interest, net	(134)	(23)	(109)	(54)	(72)
Total nonoperating expenses, net	(232,761)	(213,787)	(252,656)	(270,398)	(226,364)
Income before contributions and special item	156,762	268,166	261,808	126,457	140,847
Contributions (to) from:					
General fund, City of Jacksonville	(106,687)	(104,188)	(101,688)	(99,187)	(96,687)
Capital contributions:					
Developers and other	29,292	18,774	23,539	19,883	38,071
Water & Sewer Expansion Authority	-	-	11,465	-	-
City of Jacksonville Better Jacksonville Plan	-	-	-	-	1,516
Total contributions	(77,395)	(85,414)	(66,684)	(79,304)	(57,100)
Change in net position	79,367	182,752	195,124	47,153	83,747
Net position - beginning of year, originally reported	1,991,311	1,808,559	1,613,435	1,566,282	1,482,535
Effect of change in accounting	(30,941)	-	-	-	-
Net position - beginning of year, as restated	1,960,370	1,808,559	1,613,435	1,566,282	1,482,535
Net position - end of year	$2,039,737	$1,991,311	$1,808,559	$1,613,435	$1,566,282





OPERATING SUMMARY: ELECTRIC SYSTEM

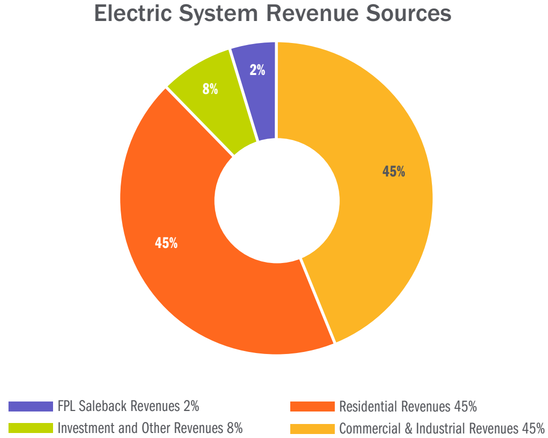
Electric System, Bulk Power System and St Johns River Power Park

	2018-17	2017-16	2016-15	2015-14	2014-13
Electric revenues (000's omitted):					
Residential	$618,171	$584,663	$599,009	$619,897	$608,983
Commercial and industrial	594,395	587,972	597,796	627,547	632,121
Public street lighting	12,873	13,069	13,488	11,982	13,943
Sales for resale	5,474	21,813	31,210	32,424	34,700
Florida Power & Light saleback	30,767	128,737	130,053	128,475	159,747
Total	1,261,680	1,336,254	1,371,556	1,420,325	1,449,494
Sales (megawatt hours):					
Residential	5,414,721	5,108,945	5,328,245	5,243,002	5,086,866
Commercial and industrial	6,851,803	6,725,201	6,847,583	6,767,836	6,636,445
Public street lighting	59,176	65,721	80,108	89,376	111,325
Sales for resale					
Territorial	38,640	150,268	305,315	333,994	337,353
Off-system	35,429	150,635	169,037	83,367	136,342
Florida Power & Light saleback	332,467	1,693,082	1,856,198	1,862,122	2,003,682
Total	12,732,236	13,893,852	14,586,486	14,379,697	14,312,013
Average number of accounts:					
Residential	410,060	403,164	396,664	389,287	382,438
Commercial and industrial	52,573	52,060	51,472	50,867	48,999
Public street lighting	3,777	3,727	3,649	3,549	3,477
Sales for resale (1)	1	2	3	2	3
Total	466,411	458,953	451,788	443,705	434,917
System installed capacity - MW (2)	3,084	3,722	3,722	3,759	3,759
Peak demand - MW (60 minute net)	3,080	2,682	2,674	2,863	2,823
System load factor - %	48%	53%	56%	51%	51%
Residential averages - annual:					
Revenue per account - $	1,507.51	1,450.19	1,510.12	1,592.39	1,592.37
kWh per account	13,205	12,672	13,433	13,468	13,301
Revenue per kWh - ¢	11.42	11.44	11.24	11.82	11.97
All other retail - annual:					
Revenue per account - $	10,776.72	10,773.85	11,089.86	11,752.59	12,311.61
kWh per account	122,644	121,729	125,682	126,015	128,588
Revenue per kWh - ¢	8.79	8.85	8.82	9.33	9.57
Heating-cooling degree days	4,256	3,737	4,117	4,159	3,998

(1) Includes Florida Power and Light, but does not include the average number of off-system non-firm sales customers.

(2) Includes JEA's 50% share of the SJRPP's two coal-fired generating units (638 net megawatts each) and JEA's 23.64% share of Scherer's 846 net megawatt coal-fired generating Unit 4. System installed capacity is reported based on winter capacity.

Electric System Revenue Sources



OPERATING SUMMARY: ELECTRIC SYSTEM, CONTINUED

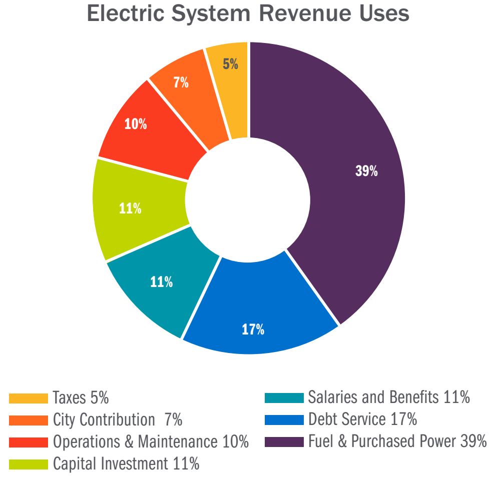
Electric System, Bulk Power System and St Johns River Power Park

	2013-12	2012-11	2011-10	2010-09	2009-08
Electric revenues (000's omitted):					
Residential	$580,893	$601,581	$686,706	$659,829	$645,725
Commercial and industrial	617,962	670,983	704,976	647,316	678,218
Public street lighting	14,661	15,311	15,347	14,203	14,440
Sales for resale	29,989	37,153	41,155	53,990	52,941
Florida Power & Light saleback	158,031	166,873	196,353	190,293	157,898
Total	1,401,536	1,491,901	1,644,537	1,565,631	1,549,222
Sales (megawatt hours):					
Residential	4,877,264	4,806,144	5,444,926	5,707,670	5,300,203
Commercial and industrial	6,599,249	6,670,200	6,908,240	6,932,123	6,849,291
Public street lighting	123,177	122,614	122,402	121,413	120,191
Sales for resale					
Territorial	329,922	374,116	394,548	418,867	406,051
Off-system	42,286	74,852	99,953	391,559	579,730
Florida Power & Light saleback	1,810,651	1,806,781	2,492,559	2,950,244	2,659,565
Total	13,782,549	13,854,707	15,462,628	16,521,876	15,915,031
Average number of accounts:					
Residential	375,600	371,658	369,566	368,682	367,864
Commercial and industrial	47,709	47,230	46,710	46,325	45,810
Public street lighting	3,460	3,424	3,424	3,495	3,550
Sales for resale (1)	3	3	3	3	3
Total	426,772	422,315	419,703	418,505	417,227
System installed capacity - MW (2)	3,759	3,759	3,759	3,376	3,376
Peak demand - MW (60 minute net)	2,596	2,665	3,062	3,224	3,064
System load factor - %	54%	53%	50%	49%	49%
Residential averages - annual:					
Revenue per account - $	1,546.57	1,618.64	1,858.14	1,789.70	1,755.34
kWh per account	12,985	12,932	14,733	15,481	14,408
Revenue per kWh - ¢	11.91	12.52	12.61	11.56	12.42
All other retail - annual:					
Revenue per account - $	12,363.40	13,548.66	14,367.95	13,278.18	14,032.78
kWh per account	131,377	134,102	140,237	141,580	141,197
Revenue per kWh - ¢	9.41	10.10	10.25	9.38	9.94
Heating-cooling degree days	3,830	3,618	4,345	4,705	4,094

(1) Includes Florida Power and Light, but does not include the average number of off-system non-firm sales customers.

(2) Includes JEA's 50% share of the SJRPP's two coal-fired generating units (638 net megawatts each) and JEA's 23.64% share of Scherer's 846 net megawatt coal-fired generating Unit 4. System installed capacity is reported based on winter capacity.

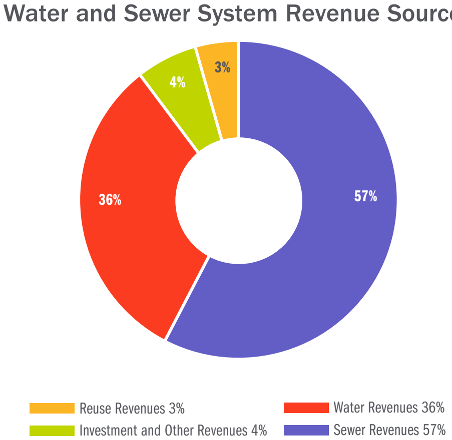
Electric System Revenue Uses



OPERATING SUMMARY: WATER AND SEWER SYSTEM

		2018-17	2017-16	2016-15	2015-14	2014-13
WATER	**Water revenues (000's omitted):**					
	Residential	$91,954	$96,615	$89,946	$86,215	$83,014
	Commercial and industrial	47,494	47,969	46,212	45,078	43,647
	Irrigation	32,004	36,836	34,846	32,681	30,088
	Total	171,452	181,420	171,004	163,974	156,749
	Water sales (kgals):					
	Residential	16,932,812	17,624,952	17,086,586	16,271,698	15,507,752
	Commercial and industrial	14,023,130	13,402,094	13,343,376	12,870,984	12,131,400
	Irrigation	5,230,617	6,218,142	5,927,957	5,415,602	4,829,184
	Total	36,186,559	37,245,188	36,357,919	34,558,284	32,468,336
	Average number of accounts:					
	Residential	285,404	278,838	272,157	265,373	259,159
	Commercial and industrial	25,702	25,423	24,698	23,951	23,722
	Irrigation	37,053	36,755	36,284	36,028	35,827
	Total	348,159	341,016	333,139	325,352	318,708
	Residential averages - annual:					
	Revenue per account - $	322.19	346.49	330.49	324.88	320.32
	kgals per account	59.33	63.21	62.78	61.32	59.84
	Revenue per kgal - $	5.43	5.48	5.26	5.30	5.35
SEWER	**Sewer revenues (000's omitted):**					
	Residential	$139,174	$143,967	$135,288	$129,976	$125,526
	Commercial and industrial	108,126	107,446	103,731	101,910	97,339
	Total	247,300	251,413	239,019	231,886	222,865
	Volume (kgals):					
	Residential	14,623,682	15,225,124	14,614,026	13,934,981	13,269,638
	Commercial and industrial	11,716,940	11,487,646	11,203,632	10,987,160	10,257,338
	Total	26,340,622	26,712,770	25,817,658	24,922,141	23,526,976
	Average number of accounts:					
	Residential	252,531	246,187	239,738	233,203	227,216
	Commercial and industrial	18,340	18,149	17,981	17,771	17,620
	Total	270,871	264,336	257,719	250,974	244,836
	Residential averages - annual:					
	Revenue per account - $	551.12	584.79	564.32	557.35	552.45
	kgals per account	57.91	61.84	60.96	59.75	58.40
	Revenue per kgal - $	9.52	9.46	9.26	9.33	9.46
REUSE	**Reuse revenues (000's omitted):**	$13,659	$13,216	$10,267	$7,378	$5,533
	Reuse sales (kgals):	3,119,739	3,290,311	2,644,046	1,783,730	1,300,838
	Average number of accounts:	11,498	9,391	7,498	5,891	4,501
RAINFALL	**Inches**	57.41	72.89	31.38	49.43	51.17
	Days	120	98	98	114	114

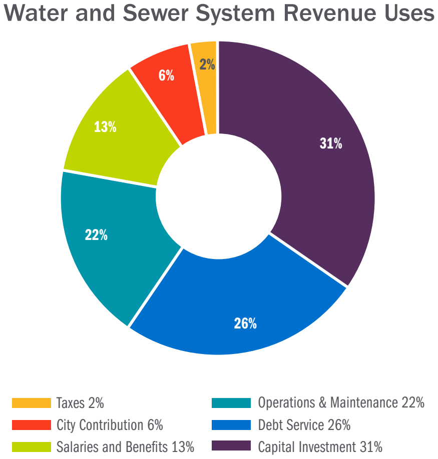
Water and Sewer System Revenue Sources



OPERATING SUMMARY: WATER AND SEWER SYSTEM, CONTINUED

		2013-12	2012-11	2011-10	2010-09	2009-08
WATER	**Water revenues (000's omitted):**					
	Residential	$81,832	$83,390	$81,859	$70,396	$59,441
	Commercial and industrial	42,809	43,629	40,299	34,872	27,591
	Irrigation	32,796	34,802	35,932	26,876	19,080
	Total	157,437	161,821	158,090	132,144	106,112
	Water sales (kgals):					
	Residential	15,741,904	16,589,517	18,485,853	17,609,301	17,572,032
	Commercial and industrial	11,777,128	12,134,488	12,271,645	12,091,091	12,184,482
	Irrigation	5,568,772	6,621,039	8,225,409	7,049,874	7,089,431
	Total	33,087,804	35,345,044	38,982,907	36,750,266	36,845,945
	Average number of accounts:					
	Residential	253,662	250,204	248,605	247,609	246,276
	Commercial and industrial	23,487	23,365	23,221	22,996	23,460
	Irrigation	35,765	35,652	35,559	35,441	35,340
	Total	312,914	309,221	307,385	306,046	305,076
	Residential averages - annual:					
	Revenue per account - $	322.60	333.29	329.27	284.30	241.36
	kgals per account	62.06	66.30	74.36	71.12	71.35
	Revenue per kgal - $	5.20	5.03	4.43	4.00	3.38
SEWER	**Sewer revenues (000's omitted):**					
	Residential	$124,642	$126,722	$116,024	$99,327	$84,961
	Commercial and industrial	96,009	94,232	81,633	70,831	59,017
	Total	220,651	220,954	197,657	170,158	143,978
	Volume (kgals):					
	Residential	13,439,781	14,091,702	15,597,512	14,847,431	14,353,777
	Commercial and industrial	10,184,193	10,398,369	10,321,967	10,279,241	10,413,889
	Total	23,623,974	24,490,071	25,919,479	25,126,672	24,767,666
	Average number of accounts:					
	Residential	221,821	218,264	216,323	214,506	212,741
	Commercial and industrial	17,462	17,351	17,269	17,229	17,617
	Total	239,283	235,615	233,592	231,735	230,358
	Residential averages - annual:					
	Revenue per account - $	561.90	580.59	536.35	463.05	399.36
	kgals per account	60.59	64.56	72.10	69.22	67.47
	Revenue per kgal - $	9.27	8.99	7.44	6.69	5.92
REUSE	**Reuse revenues (000's omitted):**	$4,551	$3,936	$3,622	$2,093	$1,156
	Reuse sales (kgals):	1,109,653	1,330,359	1,551,175	989,010	805,925
	Average number of accounts:	3,143	2,241	1,666	1,201	837
RAINFALL	**Inches**	45.54	55.24	42.18	40.53	53.67
	Days	121	N/A	N/A	N/A	N/A

Water and Sewer System Revenue Uses



APPENDIX A

JEA FINANCIAL INFORMATION

Financial Statements, Supplementary Information, and Bond Compliance Information

JEA

Years Ended September 30, 2018 and 2017
With Report of Independent Auditors

Ernst & Young LLP

EY
Building a better working world

JEA

Financial Statements, Supplementary Information, and Bond Compliance Information

Years Ended September 30, 2018 and 2017

Contents

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Report of Independent Auditors

The Board of Directors
JEA
Jacksonville, Florida

Report on the Financial Statements

We have audited the accompanying financial statements of JEA, a component unit of the City of Jacksonville, as of and for the years ended September 30, 2018 and 2017, and the related notes to the financial statements, which collectively comprise JEA's basic financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in conformity with U.S. generally accepted accounting principles; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free of material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States and the standards applicable to financial audits contained in *Government Auditing Standards,* issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the respective financial position of JEA as of September 30, 2018 and 2017, and the respective changes in its financial position and cash flows thereof for the years then ended in conformity with U.S. generally accepted accounting principles.

Adoption of GASB Statement No. 75, Accounting and Financial Reporting for Postemployment Benefits Other than Pensions and GASB Statement No. 83, Certain Asset Retirement Obligations

As discussed in Footnote 1 to the financial statements, JEA changed its method of accounting for postemployment benefits other than pensions and certain asset retirement obligations as a result of the adoption of Governmental Accounting Standards Board (GASB) Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other than Pensions,* effective October 1, 2016 and GASB Statement No. 83, *Certain Asset Retirement Obligations*, effective October 1, 2017, respectively. Our opinion is not modified with respect to these matters.

Other Matters

Required Supplementary Information

U.S. generally accepted accounting principles require that the Management's Discussion and Analysis, the Schedule of JEA's Proportionate Share of the Net Pension Liability and Schedule of JEA Contributions, SJRPP Plan – Schedule of Changes in Net Pension Liability and Related Ratios, SJRPP Pension Plan – Schedule of Contributions, OPEB Plan – Schedule of Changes in Net OPEB Liability and Related Ratios and OPEB Plan – Schedule of Contributions, as listed in the table of contents be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board which considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Supplementary Information

Our audit was conducted for the purpose of forming an opinion on the financial statements as a whole. The combining statements of net position, revenues, expenses and changes in net position and cash flows, as listed in the table of contents are presented for purposes of additional analysis and are not a required part of the basic financial statements.

Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the financial statements. The information has been subjected to the auditing procedures applied in the audit of the financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the financial statements or to the financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States. In our opinion, the combining statements of net position, revenues, expenses and changes in net position and cash flows, as listed in the table of contents are fairly stated, in all material respects, in relation to the financial statements as a whole.

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Other Reporting Required by Government Auditing Standards

In accordance with *Government Auditing Standards*, we also have issued our report dated December 3, 2018 on our consideration of JEA's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of JEA's internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering JEA's internal control over financial reporting and compliance.

Ernst & Young LLP

December 3, 2018

Management's Discussion and Analysis

Introduction

JEA is a municipal utility operating in Jacksonville, Florida (Duval County) and parts of three adjacent counties. The operation is composed of three enterprise funds – the Electric Enterprise Fund, the Water and Sewer Fund, and the District Energy System (DES). The Electric Enterprise Fund is comprised of the JEA Electric System, Bulk Power Supply System (Scherer), and St. Johns River Power Park System (SJRPP). The Electric Enterprise Fund, Water and Sewer Fund, and DES are presented on a combined basis in the accompanying statements of net position, statements of revenues, expenses and changes in net position, and statements of cash flows.

Overview of the Combined Financial Statements

This discussion and analysis serves as an introduction to JEA's basic financial statements. The information presented here should be read in conjunction with the financial statements and accompanying notes.

The basic financial statements are presented on a comparative basis for the fiscal years ended September 30, 2018 and 2017. The statements of net position present JEA's assets, deferred outflows of resources, liabilities, and deferred inflows of resources, with the residual reported as net position. Revenue and expense information is presented in the accompanying statements of revenues, expenses, and changes in net position. The accompanying statements of cash flows present JEA's sources and uses of cash and cash equivalents and are presented using the direct method. This method provides broad categories of cash receipts and cash disbursements pertaining to cash provided by or used in operations, investing, and financing activities.

The notes to the financial statements are an integral part of JEA's basic financial statements and contain information on accounting principles and additional information on certain components of these statements.

The following tables summarize the financial condition and operations of JEA for the 2018 and 2017 fiscal years:

Condensed Statements of Net Position

	2018	2017*	2016
	(In millions)		
Assets and deferred outflows of resources			
Current assets	**$ 874**	$ 902	$ 917
Other noncurrent assets	**1,677**	1,624	1,552
Net capital assets	**5,380**	5,814	5,875
Deferred outflows of resources	**435**	438	462
Total assets and deferred outflows of resources	**$ 8,366**	$ 8,778	$ 8,806
Liabilities and deferred inflows of resources			
Current liabilities	**$ 207**	$ 189	$ 168
Current liabilities payable from restricted assets	**367**	449	389
Net pension liability	**544**	554	493
Other noncurrent liabilities	**91**	90	47
Long-term debt	**4,053**	4,410	4,791
Deferred inflows of resources	**348**	457	541
Net position			
Net investment in capital assets	**1,857**	1,622	1,420
Restricted	**542**	614	612
Unrestricted	**357**	393	345
Total liabilities, deferred inflows of resources, and net position	**$ 8,366**	$ 8,778	$ 8,806

Condensed Statements of Revenues, Expenses, and Changes in Net Position

	2018	2017*	2016
	(In millions)		
Operating revenues	**$ 1,790**	$ 1,875	$ 1,782
Operating expenses	**(1,399)**	(1,380)	(1,319)
Operating income	**391**	495	463
Nonoperating expenses, net	**(131)**	(149)	(146)
Contributions	**(89)**	(91)	(107)
Special Item	**(45)**	–	–
Change in net position	**126**	255	210
Net position – beginning of the year	**2,629**	2,377	2,167
Effect of adoption of GASB Statement No. 75	**–**	(3)	–
Net position – beginning of the year, restated	**2,629**	2,374	2,167
Net position – end of the year	**$ 2,755**	$ 2,629	$ 2,377

*Restated for implementation of GASB Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions*

Financial Analysis of JEA for fiscal years 2018 and 2017

Operating Revenues

2018 Compared to 2017

Electric Enterprise

Total operating revenues decreased approximately $62 million (4.4%) compared to fiscal year 2017. Electric revenues decreased $114 million and other operating revenues increased by $52 million. The $114 million decrease in electric revenues was due to a $97 million decrease in sales to FPL as a result of the shutdown of SJRPP in January 2018, and a $40 million decrease in transfers from stabilization funds. See note 2, Regulatory Deferrals, for additional information. The decrease was partially offset by $23 million increase in territorial sales. Territorial MWh sales were up 314,205 megawatt hours (MWh) (2.6%), resulting in a 1.0% increase in average MWhs per customer, driven by a 13.9% increase in degree days. SJRPP Sales to FPL decreased by 1,360,616 MWh and off-system sales decreased by 115,206 MWh, which brought the change to a net decrease in MWh sales of 1,161,617 MWh (8.4%). The increase in other operating revenues was driven by the FPL shutdown payment. See note 3, St. Johns River Power Park Decommissioning, for further details.

Water and Sewer

Total operating revenues decreased approximately $22 million (4.9%) compared to fiscal year 2017. Water revenues decreased $10 million (5.5%) due to a 2.8% decrease in consumption, which was partially offset by a 2.1% increase in customer accounts. Water consumption decreased 1,058,629 kgals to 36,186,559 kgals. Sewer revenues decreased approximately $4 million (1.6%) primarily related to a 1.4% decrease in sales, which was partially offset by a 2.5% increase in sewer accounts. Sewer sales decreased 372,148 kgals to 26,340,622 kgals. The water and sewer revenue decreases were driven by a 22.4% increase in rain days. Reuse revenues increased approximately $1 million (3.4%), primarily related to a 22.4% increase in reuse accounts, which was partially offset by a 5.2% decrease in sales. Reuse sales decreased 170,572 kgals to 3,119,739 kgals. Water and sewer revenues were impacted by an $11 million net decrease in transfers from stabilization funds. See note 2, Regulatory Deferrals, for additional information. Other operating revenues increased by $2 million due to additional waste disposal revenues.

District Energy System

Operating revenues remained flat when compared to fiscal year 2017 at $9 million.

2017 Compared to 2016

Electric Enterprise

Total operating revenues increased approximately $64 million (4.7%) compared to fiscal year 2016. Electric revenues increased $61 million and other operating revenues increased by $3 million. The increase in electric revenues was due to an increase in transfers from stabilization funds related to fuel and debt management of $96 million, which was partially offset by a $35 million decrease in sales. See note 2, Regulatory Deferrals, for additional information. Territorial MWh sales were down 511,116 megawatt hours (MWh) (4.1%), resulting in a 5.6% decrease in average MWhs per customer. SJRPP Sales to FPL decreased by 163,116 MWh and off-system sales decreased by 18,402 MWh, which brought the total decrease in MWh sales to 692,634 MWh (4.7%).

Water and Sewer

Total operating revenues increased approximately $30 million (7.1%) compared to fiscal year 2016. Water revenues increased $10 million (6.1%) due to a 2.4% increase in consumption and a 2.4% increase in customer accounts. Water consumption increased 887,269 kgals to 37,245,188 kgals. Sewer revenues increased approximately $12 million (5.2%) primarily related to a 3.5% increase in sales and a 2.6% increase in sewer accounts. Sewer sales increased 895,112 kgals to 26,712,770 kgals. Reuse revenues increased approximately $3 million (28.7%), primarily related to a 24.4% increase in sales and a 25.2% increase in reuse accounts. Reuse sales increased 646,265 kgals to 3,290,311 kgals. Water and sewer revenues were impacted by a $5 million net increase in transfers, primarily related to a withdrawal from the debt management stabilization fund for a debt defeasance. See note 2, Regulatory Deferrals, for additional information.

District Energy System

DES operating revenues remained flat when compared to fiscal year 2016 at $9 million.

Operating Expenses

2018 Compared to 2017

Electric Enterprise

Total operating expenses increased approximately $14 million (1.3%), compared to fiscal year 2017.

Fuel and purchased power expense decreased approximately $6 million (1.1%), compared to fiscal year 2017. Costs decreased by $19 million while MWh generated and purchased increased by $13 million. As commodity prices have fluctuated over these periods, the mix between generation and purchased power has shifted as JEA has taken advantage of the most economical sources of power. In addition, the shutdown of the SJRPP power plant has decreased power production sourced by coal significantly. Total MWh power volumes increased 1.6% compared to fiscal year 2017 to 12,874,102 MWh, with an increase of 41.6% for MWh purchased and a decrease of 4.5% for MWh generated. Detailed below is JEA's power supply mix.

	FY 2018	**FY 2017**
Natural gas	**48%**	39%
Coal	**22%**	43%
Purchases	**18%**	12%
Petroleum coke	**12%**	6%
Total	**100%**	100%

Operating expenses, other than fuel and purchased power, increased approximately $20 million, compared to fiscal year 2017.

Maintenance and other operating expenses increased $30 million. The drivers for the increase were a $19 million increase in Scherer capital improvements and operating costs, $14 million in SJRPP renewal and replacement expenses, and $5 million increase in maintenance costs. These increases were offset by an $8 million reduction in SJRPP operating expenses due to the plant shutdown.

Depreciation expense decreased $28 million due to a decrease in the depreciable base, driven by the impairment of the SJRPP capital assets due to the shutdown of the SJRPP plant. State utility and franchise taxes increased $2 million due to higher electric revenue taxable sales. Recognition of deferred costs and revenues, net increased $16 million as a result of higher deferred cost amortization, primarily related to the reduced depreciation for SJRPP capital assets subsequent to the impairment. See note 3, St. Johns River Power Park Decommissioning, for additional details.

Water and Sewer

Operating expenses increased $5 million (1.7%), compared to fiscal year 2017. Maintenance and other expenses increased $8 million due to a $5 million increase in professional services, industrial services, and compensation and a $3 million increase in interfund charges. Depreciation expense increased $2 million due to an increase in the depreciable base. Recognition of deferred costs and revenues, net decreased $5 million due to a decrease in environmental projects paid from the rate stabilization fund.

District Energy System

Operating expenses remained flat when compared to fiscal year 2017 at $7 million.

2017 Compared to 2016

Electric Enterprise

Total operating expenses increased approximately $56 million (5.4%), compared to fiscal year 2016.

Fuel and purchased power expense increased approximately $51 million (10.4%), compared to fiscal year 2016, primarily due to higher solid fuels, natural gas and purchased power costs. The increase in commodity costs was partially offset by a decrease in total MWH generated and purchased. Generation cost increased by $62 million, purchased power cost increased by $12 million, while MWh generated and purchased decreased by $23 million. As commodity prices have fluctuated over these periods, the mix between generation and purchased power has shifted as JEA has taken advantage of the most economical sources of power. Total MWh power volumes decreased 4.4% compared to fiscal year 2016 to 12,667,351 MWh, with a decrease of 5.6% for MWh generated and an increase of 3.7% for MWh purchased. Detailed below is JEA's power supply mix.

	FY 2017	FY 2016
Coal	**43%**	42%
Natural gas	**39%**	32%
Petroleum coke	**6%**	15%
Purchases	**12%**	11%
Total	**100%**	100%

Operating expenses, other than fuel and purchased power, increased approximately $5 million, compared to fiscal year 2016. Maintenance and other operating expenses increased $3 million. The drivers for the increase were a $9 million increase in compensation and benefits costs and a $3 million increase related to insurance costs. These increases were offset by a decrease of $9 million in maintenance expenses due to a prior year major outage at Brandy Branch not repeated in the current year and reduced maintenance expenses at SJRPP and Scherer. Depreciation expense increased $5 million due to an increase in the depreciable base. State utility and franchise taxes decreased $2 million due to lower electric revenue sales. Recognition of deferred costs and revenues, net decreased $1 million as a result of lower deferred cost amortization.

Water and Sewer

Operating expenses increased $8 million (2.6%), compared to fiscal year 2016. Maintenance and other expenses increased $10 million due to a $5 million increase in compensation and benefits costs, $4 million increase in interfund charges, and a $1 million net increase in miscellaneous other operating expenses. Recognition of deferred costs and revenues, net decreased $2 million due to a decrease in environmental projects paid from the rate stabilization fund.

District Energy System

DES operating expenses remained flat when compared to fiscal year 2016 at $7 million.

Nonoperating Revenues and Expenses

2018 Compared to 2017

There was a decrease of approximately $18 million (12.1%) in total nonoperating expenses, net over the prior year. Detailed below are the drivers.

	FY 2018	
	(in millions)	
Changes in nonoperating expenses, net		
Decrease in interest on debt	$	16
Investment gains – fair value adjustments		4
Decrease in investment income		(3)
Decrease in The Energy Authority earnings		(2)
Gain on sale of assets		2
Decrease in other nonoperating expenses - timber		2
Increase in other interest expense		(1)
Total change in nonoperating expenses, net	$	18

2017 Compared to 2016

There was an increase of approximately $3 million (1.7%) in total nonoperating expenses, net over the prior year. Detailed below are the drivers.

	FY 2017	
	(in millions)	
Changes in nonoperating expenses, net		
Investment losses – fair value adjustments	$	(9)
Increase in investment income		5
Decrease in other nonoperating income – timber		(3)
Increase in allowance for funds used during construction		2
Decrease in interest on debt		2
Total change in nonoperating expenses, net	$	(3)

Capital Assets and Debt Administration for Fiscal Years 2018 and 2017

Capital Assets

As of September 30, 2018, JEA had approximately $5,380 million in capital assets, net of accumulated depreciation. This included $2,662 million in electric plant, $2,683 million in water and sewer plant, and $35 million in chilled water plant. During fiscal year 2018, capital additions were $387 million, which included $183 million in electric plant, $203 million in water and sewer plant, and $1 million in chilled water plant. Also during fiscal year 2018, a $451 million write down was recorded to the Electric Enterprise capital accounts due to the shutdown of the SJRPP power plant. More detailed information is presented in note 3, St. Johns River Power Park Decommissioning, to the financial statements. As of September 30, 2017, JEA had approximately $5,814 million in capital assets, net of accumulated depreciation. This included $3,162 million in electric plant, $2,616 million in water and sewer plant, and $36 million in chilled water plant. During fiscal year 2017, capital additions were $327 million, which included $145 million in electric plant, $180 million in water and sewer plant, and $2 million in chilled water plant. More detailed information about JEA's capital asset activity is presented in note 6, Capital Assets, to the financial statements.

With the adoption of the depreciation ratemaking policy in 2014, the depreciation of contributed assets are not included in rates charged to customers, because it has already been recovered with the contribution. In accordance with GASB 62, the contributed assets will be expensed in capital contributions as a reduction of plant cost through contributions. During fiscal year 2018, $2 million of contributed capital related to the Electric System and $52 million related to Water and Sewer System was recorded as a reduction of plant cost through contributions. During fiscal year 2017, $1 million of contributed capital related to the Electric System and $41 million related to Water and Sewer System was recorded as a reduction of plant cost through contributions.

JEA has ongoing capital improvement programs for the Electric Enterprise Fund and the Water and Sewer Fund. The capital programs consist of: (a) the Electric Enterprise Fund capital requirements for improvements to existing generating facilities that are determined to be necessary as a result of JEA's annual resource planning process; (b) the Electric Enterprise Fund's capital requirements for transmission and distribution facilities and other capital items; and (c) the Water and Sewer Fund capital requirements that are determined to be necessary as a result of the annual resource planning process. The cost of the capital improvement program is planned to be provided from revenues generated from operations and existing construction fund balances.

Scherer is subject to a joint ownership agreement. JEA's share of the estimated capital expenditures relating to this plant is $10 million and is included in the Electric Enterprise Fund amount above.

Debt Administration

Debt outstanding at September 30, 2018, was $3,999 million, a decrease of approximately $402 million from the prior fiscal year. This decrease was due to defeasance of principal of $994 million and regular principal payments of $229 million, being partially offset by new debt issued of $821 million.

Debt outstanding at September 30, 2017, was $4,401 million, a decrease of approximately $251 million from the prior fiscal year. This decrease was due to regular principal payments of $182 million and defeasance of principal of $159 million, being partially offset by new debt issued of $90 million.

JEA's debt ratings on its long-term debt per Fitch and Moody's Investors Service remained unchanged from fiscal year 2017. On September 28, 2018, Standard & Poor's downgraded its long-term ratings on the Electric System senior, SJRPP, and Scherer bonds from AA- to A+ and the Electric System subordinated bonds from A+ to A. All ratings as of September 2018 and 2017 are as follows:

	2018					2017				
	Electric System	Water and Sewer System	SJRPP	Scherer	District Energy System	Electric System	Water and Sewer System	SJRPP	Scherer	District Energy System
Senior debt										
Moody's Investors Service	Aa2	Aa2	Aa2	Aa2	Aa3	Aa2	Aa2	Aa2	Aa2	Aa3
Standard & Poor's	A+	AAA	A+	A+	AA+	AA-	AAA	AA-	AA-	AA+
Fitch	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
Subordinated debt										
Moody's Investors Service	Aa3	Aa2	*	*	*	Aa3	Aa2	*	*	*
Standard & Poor's	A	AA+	*	*	*	A+	AA+	*	*	*
Fitch	AA	AA	*	*	*	AA	AA	*	*	*

* There are no subordinated bonds related to this system.

Currently Known Facts Expected to have a Significant Effect on Financial Position and/or Changes in Operations

Setting of Rates

The setting of rates is the responsibility of the Board. Base rate changes are implemented after a public rate hearing and Board approval. Fuel rate changes are implemented solely with Board approval.

In October 2017, the Board approved a new rate rider called SolarMax for customers purchasing a minimum of 7,000,000 kWh of annual solar purchase power, effective November 1, 2017. The Board also approved a wastewater rate for Leachate waste disposed at a JEA sewage treatment plant at a charge of $5.16 per 100 gallons.

JEA has an ongoing plan to review, update and, where possible, expand its rate options to provide customers more rate choices for their utility services. As part of this initiative, the Board approved, at its August 2018 meeting, an extension of the Economic Stimulus Rider from September 30, 2018 to September 30, 2021 that provides a financial incentive for new commercial or industrial customers to locate within the JEA service area.

Bond Ratings

Moody's Investors Services lowered certain JEA bond ratings subsequent to the end of fiscal year 2018. As a result of the ratings change, commitment fees related to Electric System variable rate demand obligations and the interest rate related to the variable rate direct purchased bonds changed. For further details, see note 18, Subsequent Events.

Requests for Information

The financial report is designed to provide a general overview of JEA's finances for all those with an interest in JEA's finances. Questions concerning any of the information provided in this report or requests for additional information should be addressed to the Controller, JEA, 21 West Church Street, Jacksonville, Florida, 32202.

Audited Financial Statements

JEA

Statements of Net Position
(In Thousands)

	September 2018	September 2017*
Assets		
Current assets:		
Cash and cash equivalents	**$ 441,206**	$ 489,559
Investments	**85,310**	25,122
Accounts and interest receivable, net of allowance ($1,830 for 2018 and $2,101 for 2017)	**251,148**	245,444
Inventories:		
Fuel	**36,871**	72,772
Materials and supplies	**59,204**	69,721
Total current assets	**873,739**	902,618
Noncurrent assets:		
Restricted assets:		
Cash and cash equivalents	**114,576**	124,475
Investments	**731,627**	936,708
Accounts and interest receivable	**62**	984
Total restricted assets	**846,265**	1,062,167
Costs to be recovered from future revenues	**808,096**	541,021
Investment in The Energy Authority	**6,811**	6,283
Other assets	**15,875**	14,511
Total noncurrent assets	**1,677,047**	1,623,982
Net capital assets	**5,380,259**	5,813,799
Total assets	**7,931,045**	8,340,399
Deferred outflows of resources		
Unrealized pension contributions and losses	**171,367**	173,578
Unamortized deferred losses on refundings	**143,722**	133,356
Accumulated decrease in fair value of hedging derivatives	**86,356**	125,269
Unrealized asset retirement obligation	**29,173**	–
Unrealized OPEB contributions and losses	**4,078**	5,240
Total deferred outflows of resources	**434,696**	437,443
Total assets and deferred outflows of resources	**$ 8,365,741**	$ 8,777,842

See accompanying notes to financial statements.

*Restated for implementation of GASB Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions*

JEA

Statements of Net Position (continued)

(In Thousands)

	September 2018	September 2017*
Liabilities		
Current liabilities:		
Accounts and accrued expenses payable	$ 147,361	$ 131,892
Customer deposits	59,883	57,278
Total current liabilities	207,244	189,170
Current liabilities payable from restricted assets:		
Debt due within one year	185,790	229,095
Renewal and replacement reserve	54,370	82,577
Interest payable	73,737	82,221
Construction contracts and accounts payable	53,369	54,961
Total current liabilities payable from restricted assets	367,266	448,854
Noncurrent liabilities:		
Net pension liability	544,203	554,337
Asset retirement obligation	22,526	–
Net OPEB liability	18,835	39,508
Other liabilities	49,227	50,022
Total other noncurrent liabilities	634,791	643,867
Long-term debt:		
Debt payable, less current portion	3,813,680	4,172,160
Unamortized premium, net	152,891	112,475
Fair value of debt management strategy instruments	86,356	125,269
Total long-term debt	4,052,927	4,409,904
Total liabilities	5,262,228	5,691,795
Deferred inflows of resources		
Revenues to be used for future costs	286,832	444,606
Unrealized pension gains	50,124	11,960
Unrealized OPEB gains	8,712	659
Accumulated increase in fair value of hedging derivatives	2,536	–
Total deferred inflows of resources	348,204	457,225
Net position		
Net investment in capital assets	1,856,725	1,622,160
Restricted for:		
Debt service	187,374	234,268
Other purposes	354,663	379,186
Unrestricted	356,547	393,208
Total net position	2,755,309	2,628,822
Total liabilities, deferred inflows of resources, and net position	$ 8,365,741	$ 8,777,842

See accompanying notes to financial statements.

*Restated for implementation of GASB Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions*

JEA

Statements of Revenues, Expenses, and Changes in Net Position
(In Thousands)

	September	
	2018	**2017***
Operating revenues		
Electric	**$ 1,267,202**	$ 1,382,206
Water and sewer	**423,480**	448,057
District energy system	**8,348**	8,185
Other	**90,952**	36,729
Total operating revenues	**1,789,982**	1,875,177
Operating expenses		
Operations and maintenance:		
Fuel	**421,052**	458,794
Purchased power	**109,194**	77,456
Maintenance and other operating expenses	**429,989**	392,142
Depreciation	**360,609**	386,699
State utility and franchise taxes	**71,307**	69,683
Recognition of deferred costs and revenues, net	**6,856**	(4,075)
Total operating expenses	**1,399,007**	1,380,699
Operating income	**390,975**	494,478
Nonoperating revenues (expenses)		
Interest on debt	**(166,508)**	(182,992)
Investment income	**11,826**	10,576
Allowance for funds used during construction	**11,764**	11,774
Other nonoperating income, net	**9,857**	5,918
Earnings from The Energy Authority	**4,074**	6,335
Other interest, net	**(1,825)**	(451)
Total nonoperating expenses, net	**(130,812)**	(148,840)
Income before contributions	**260,163**	345,638
Contributions (to) from		
General Fund, City of Jacksonville, Florida	**(116,620)**	(115,823)
Developers and other	**82,157**	66,875
Reduction of plant cost through contributions	**(54,114)**	(42,069)
Total contributions, net	**(88,577)**	(91,017)
Special items	**(45,099)**	-
Change in net position	**126,487**	254,621
Net position, beginning of year	**2,628,822**	2,376,925
Effect of adoption of GASB Statement No. 75	**-**	(2,724)
Net position, beginning of year, as restated	**2,628,822**	2,374,201
Net position, end of year	**$ 2,755,309**	$ 2,628,822

See accompanying notes to financial statements.

*Restated for implementation of GASB Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions*

JEA

Statements of Cash Flows

(In Thousands)

	September 2018	September 2017
Operating activities		
Receipts from customers	$ 1,740,598	$ 1,758,515
Payments to suppliers	(790,962)	(738,231)
Payments to employees	(267,569)	(249,193)
Other operating activities	93,902	4,541
Net cash provided by operating activities	775,969	775,632
Noncapital and related financing activities		
Contribution to General Fund, City of Jacksonville, Florida	(116,569)	(115,694)
Net cash used in noncapital and related financing activities	(116,569)	(115,694)
Capital and related financing activities		
Defeasance of debt	(993,690)	(159,345)
Proceeds from issuance of debt	821,000	90,405
Acquisition and construction of capital assets	(384,577)	(308,133)
Repayment of debt principal	(229,095)	(181,525)
Interest paid on debt	(182,849)	(193,483)
Capital contributions	28,043	24,805
Other capital financing activities	63,197	2,528
Net cash used in capital and related financing activities	(877,971)	(724,748)
Investing activities		
Purchase of investments	(1,037,966)	(1,803,447)
Proceeds from sale and maturity of investments	1,179,471	1,861,596
Investment income	15,301	17,593
Distributions from The Energy Authority	3,513	6,182
Net cash provided by investing activities	160,319	81,924
Net change in cash and cash equivalents	(58,252)	17,114
Cash and cash equivalents at beginning of year	614,034	596,920
Cash and cash equivalents at end of year	$ 555,782	$ 614,034
Reconciliation of operating income to net cash provided by operating activities		
Operating income	$ 390,975	$ 494,478
Adjustments:		
Depreciation and amortization	361,889	388,040
Recognition of deferred costs and revenues, net	6,856	(4,075)
Other nonoperating income, net	1,073	(1,072)
Changes in noncash assets and noncash liabilities:		
Accounts receivable	26,486	(14,185)
Accounts receivable, restricted	16	32
Inventories	46,419	(24,692)
Other assets	6,421	(27,625)
Accounts and accrued expenses payable	979	23,262
Current liabilities payable from restricted assets	(49,998)	4,409
Other noncurrent liabilities and deferred inflows	(15,147)	(62,940)
Net cash provided by operating activities	$ 775,969	$ 775,632
Noncash activity		
Contribution of capital assets from developers	$ 54,114	$ 42,069
Unrealized losses on fair value of investments, net	$ (3,386)	$ (7,710)

See accompanying notes to financial statements.

(Dollars in Thousands)

1. Summary of Significant Accounting Policies and Practices

(a) Reporting Entity

JEA is currently organized into three enterprise funds – the Electric Enterprise Fund, the Water and Sewer Fund, and the District Energy System (DES). The Electric Enterprise Fund is comprised of the Electric System; the Bulk Power Supply System (Scherer), which consists of Scherer Unit 4, a coal-fired, 846-megawatt generating unit operated by Georgia Power Company (Georgia Power) and owned by JEA (23.64% ownership interest) and Florida Power & Light Company (FPL) (76.36% ownership interest); and St. Johns River Power Park System (SJRPP), which is jointly owned and operated by JEA (80% ownership interest) and FPL (20% ownership interest). The Water and Sewer Fund consists of water and sewer system activities. The DES consists of chilled water activities. These financial statements include JEA's ownership interests in Scherer and SJRPP. Separate accounting records are currently maintained for each system. The following information relates to JEA's ownership interests in respective plants as of September 30, 2018 and 2017:

	2018	2017
Bulk Power Supply System:		
Inventories	**$ 7,463**	$ 7,042
Costs to be recovered from future revenues	**6,155**	11,686
Capital assets, net	**135,595**	143,981
Debt due within one year	**5,710**	5,205
Long-term debt	**94,602**	100,465
Revenues to be used for future costs	**37,560**	41,438
SJRPP:		
Inventories	**1,680**	53,977
Other current assets	**68,672**	63,040
Capital assets, net	**10,144**	474,437
Restricted assets	**97,490**	272,823
Costs to be recovered from future revenues	**261,277**	4,042
Long-term debt	**281,359**	420,060
Other liabilities	**110,152**	184,464

The Electric Enterprise Fund, Water and Sewer Fund, and the DES are governed by the JEA Board of Directors (Board). The Board is responsible for setting rates based on operating and maintenance expenses and depreciation of the respective operations. The operations of the Bulk Power Supply System and SJRPP are subject to joint ownership agreements, and rates are established on a cost-of-service basis, including operating and maintenance expenses and debt service. See note 1(s), Setting of rates.

1. Summary of Significant Accounting Policies and Practices (continued)

(b) Basis of Accounting

JEA is presenting financial statements combined for the Electric Enterprise Fund, the Water and Sewer Fund, and the District Energy System. JEA uses the accrual basis of accounting for its operations and the uniform system of accounts prescribed by the Federal Energy Regulatory Commission for the Electric Enterprise Fund and the National Association of Regulatory Utility Commissioners for the Water and Sewer Fund.

The financial statements have been prepared in conformity with the Governmental Accounting Standards Board (GASB) codification, which defines JEA as a component unit of the City of Jacksonville, Florida (City). Accordingly, the financial statements of JEA are included in the Comprehensive Annual Financial Report of the City.

JEA presents its financial statements in accordance with the GASB pronouncements that establish standards for external financial reporting for all state and local governmental entities that include a statement of net position, a statement of revenues, expenses, and changes in net position, and a statement of cash flows. It requires the classification of net position into three components – net investment in capital assets, restricted, and unrestricted. These classifications are defined as follows:

- Net investment in capital assets consists of capital assets, net of accumulated depreciation, reduced by the outstanding balances of any debt that is attributable to those assets and increased/reduced by costs to be recovered from future revenues or revenues to be used for future costs.

- Restricted consists of assets that have constraints placed upon their use through external constraints imposed either by creditors (such as through debt covenants) or through laws, regulations, or constraints imposed by law through constitutional provisions or enabling legislation, reduced by any liabilities to be paid from these assets.

- Unrestricted consists of net position that does not meet the definition of restricted or net investment in capital assets.

JEA's bond resolutions specify the flow of funds from revenues and specify the requirements for the use of certain restricted and unrestricted assets.

(c) Revenues

Operating revenues are defined as revenues generated from the sale of primary products or services through normal business operations. Nonoperating revenues include investment income and earnings from investments recorded on the equity method.

(Dollars in Thousands)

1. Summary of Significant Accounting Policies and Practices (continued)

Operating revenues reported in the accompanying statements of revenues, expenses, and changes in net position are shown net of discounts, estimated allowances for bad debts, and amounts transferred to stabilization funds. Discounts and allowances totaled $32,441 in fiscal year 2018 and $31,664 in 2017. JEA withdrew the net amount of $15,813 in fiscal year 2018 and $65,791 in 2017 from stabilization funds. Electric Enterprise and Water and Sewer Fund revenues are recorded as earned. JEA earned 7.1% of its electric revenue from electricity sold to FPL in fiscal year 2018 and 9.2% in 2017. Operating revenues include amounts estimated for unbilled services provided during the reporting period of $82,576 in 2018 and $73,244 in 2017.

(d) Capital Assets

Utility plant represents four classes of capital assets – real property, tangible property, tangible personal property, and intangible property. All capital assets are recorded at historical cost and must have a useful life greater than one year. The costs of capital asset additions and replacements are capitalized. The costs of capital projects include direct labor and benefits of JEA employees working on capital projects and an allocation of overhead from certain JEA departments. Maintenance and replacements of minor items are charged to operating expenses. The cost of depreciable plant retired is removed from the capital asset accounts, and such cost plus removal expense less salvage value is charged to accumulated depreciation.

SJRPP and Scherer are required by its bond resolutions to deposit certain amounts in a renewal and replacement fund. These amounts are then required to be expended on capital expenditures to maintain and improve the system or applied to other designated uses as specifically allowed under the bond resolutions. The Electric Fund records the amounts deposited in the fund as a purchased power expense when deposited. The purchase of capital assets funded from the renewal and replacement fund is not capitalized by SJRPP or Scherer.

(e) Allowance for Funds Used During Construction

An allowance for funds used during construction (AFUDC) is included in construction work-in-progress and as a reduction of interest expense. JEA capitalizes interest on construction projects financed with revenue bonds and renewal and replacement funds. The average AFUDC rate for the debt of each system is listed in the table below.

Average AFUDC Rate (%)	**2018**	**2017**
Electric Enterprise Fund	**4.3%**	4.2%
Water and Sewer Fund	**4.3%**	4.2%
District Energy System	**3.7%**	3.6%

The amount capitalized is the interest cost of the debt less any interest earned on investment of debt proceeds from the date of the borrowing until the assets are placed in service. Total interest incurred was $166,508 for fiscal year 2018 and $182,992 for 2017, of which $11,764 was capitalized in fiscal year 2018 and $11,774 in 2017. There was no investment income on bond proceeds in either year that reduced the amount of interest expense.

(Dollars in Thousands)

1. Summary of Significant Accounting Policies and Practices (continued)

(f) Depreciation

Depreciation of capital assets is computed on a straight-line basis at rates based upon the estimated service lives of the various property classes. Depreciation begins on the date the assets are placed in service. Generally, recurring renewal and replacement capital additions are placed in service at the end of each fiscal year. The depreciation rates are based on depreciation studies performed by an outside consultant that are updated periodically, most recently in fiscal year 2011. The effective rate of depreciation based upon the average depreciable plant in service balance was 3.2% and 3.5% for fiscal years 2018 and 2017, respectively. The average depreciable life in years of the depreciable capital assets for each system is listed in the table below.

Average Depreciable Life *(Years)*	**2018**	**2017**
Electric Enterprise Fund	**23.9**	24.1
Water and Sewer Fund	**27.6**	27.7
District Energy System	**23.7**	24.0

(g) Amortization

Amortization of bond discounts and premiums is computed on a straight-line basis, which approximates the effective-interest method over the remaining term of the outstanding bonds.

(h) Losses on Refundings

Losses on refundings of JEA revenue bonds are deferred and amortized as a component of interest on debt using the straight-line method over the remaining life of the old debt or the new debt, whichever is shorter. Unamortized deferred losses on refundings are reported as deferred outflows of resources on the accompanying statements of net position. Whereas JEA has incurred accounting losses on refundings, calculated as the difference between the net carrying value of the refunded and the refunding bonds, JEA has over time realized economic gains calculated as the present value difference in the future debt service on the refunded and refunding bonds.

(i) Investments

Investments are presented at fair value or cost, which is further explained in note 14, *Fair Value Measurements*. Realized and unrealized gains and losses for all investments are included in investment income on the statements of revenues, expenses, and changes in net position. The investment in The Energy Authority (TEA) is recorded on the equity method (see note 7, Investment in The Energy Authority, for additional information).

1. Summary of Significant Accounting Policies and Practices (continued)

(j) Cash and Cash Equivalents

For purposes of reporting cash flows, cash and cash equivalents include cash on hand, bank demand accounts, money market mutual funds, and short-term liquid investments purchased with an original maturity of 90 days or less.

(k) Interest Rate Swap Agreements

JEA's risk management policies allow for the use of interest rate swaps to manage financial exposures, but prohibit the use of these instruments for speculative or trading purposes. JEA utilizes interest rate swaps to manage the interest rate risk associated with various assets and liabilities. Interest rate swaps are used in the area of debt management to take advantage of favorable market interest rates. Interest rate swaps are authorized under the policy to be used in the area of investment management to increase the yield on revolving short-term investments.

JEA applies GASB Statement No. 53, *Accounting and Financial Reporting for Derivative Instruments*, where applicable for effective hedging instruments. For effective hedging instruments, the changes in fair value are recorded on the statements of net position as deferred outflows and inflows of resources. For ineffective hedging instruments or investment derivatives, the changes in fair value are recorded on the statements of revenues, expenses, and changes in net position as an adjustment to investment income.

Under JEA's interest rate swap programs, JEA either pays a variable rate of interest, which is based on various indices, and receives a fixed rate of interest for a specified period of time (unless earlier terminated) or JEA pays a fixed rate of interest and receives a variable rate of interest, which is based on various indices for a specified period of time (unless earlier terminated). These indices are affected by changes in the market. The net amounts received or paid under the swap agreements are recorded as either an adjustment to investment income (asset management) or interest on debt (debt management) in the statements of revenues, expenses, and changes in net position. No money is initially exchanged when JEA enters into a new interest rate swap transaction.

During fiscal years 2018 and 2017, JEA did not have any interest rate swaps outstanding under JEA's asset management interest rate swap program. See the Debt Management Strategy section in note 8, Long-Term Debt, for more information on JEA's debt management interest rate swap program.

(l) Inventory

Inventories are maintained for fuel and materials and supplies. Fuel inventories are maintained at levels sufficient to meet generation requirements. Inventories are valued at average cost, with obsolete items being expensed when identified.

1. Summary of Significant Accounting Policies and Practices (continued)

(m) Energy Market Risk Management Program

The energy market risk management program is intended to help manage the risk of changes in the market prices of fuel consumed by JEA for electric generation. JEA executes over-the-counter forward purchase and sale contracts and swaps. For effective derivative transactions, hedge accounting is applied in accordance with GASB Statement No. 53 and the fair market value changes are recorded on the accompanying statements of net position as either a deferred outflow of resources or a deferred inflow of resources until such time that the transactions end. The related settled gains and losses from these transactions are recognized as fuel expenses on the accompanying statements of revenues, expenses, and changes in net position.

(n) Capital Contributions

Capital contributions represent contributions of cash and capital assets from the City, developers, customers, and other third parties. Capital contributions are recorded in the accompanying statement of revenues, expenses, and changes in net position at the time of receipt. Assets received are recorded as contributions from developers and others at acquisition cost. Corresponding expenses of $54,114 and $42,069 were recorded in fiscal years 2018 and 2017 to recognize the costs of the assets since it will not be included in revenue requirements charged to customers in the future.

(o) Pension

For purposes of measuring the net liability, deferred outflows of resources and deferred inflows of resources related to pensions, pension expense and fiduciary net position; JEA's portion of the City of Jacksonville General Employees' Retirement Plan (GERP) and St. Johns River Power Park System Employees' Retirement Plan (SJRPP Plan) have been determined on the same basis as reported in the GERP and SJRPP Plan financial statements. Employer contributions made subsequent to the measurement date and before the fiscal year end are recorded as a deferred outflow of resources.

Basis of Accounting – The pension trust financial statements are prepared using the accrual basis of accounting. Plan member contributions are recognized in the period in which the contributions are due. Employer contribution, benefit payments and refunds are recognized when due and payable in accordance with the terms of the plans. Florida law and the Florida Division of Retirement require plan contributions be made annually in amounts determined by an actuarial valuation stated as a percent of covered payroll or in dollars. The Florida Division of Retirement reviews and approves the GERP actuarial report to ensure compliance with actuarial standards. The SJRPP Plan is governed by a five-member Pension Committee to ensure compliance with actuarial standards.

1. Summary of Significant Accounting Policies and Practices (continued)

Method Used to Value Investments – Investments are reported at fair value. Securities traded on a national or international exchange are valued at the last reported sales price at current exchange rates. The fair value of real estate investments in GERP is based on independent appraisals or estimates of fair value as provided by third-party fund managers. Investments that do not have an established market are reported at estimated fair value as provided by third-party fund managers. Investments are managed by third-party money managers while cash and securities are generally held by the independent custodians.

(p) Compensated Absences

JEA employees accumulate earned personal leave benefits (compensated absences) at various rates within limits specified in collective bargaining agreements and other employment plans. Accrued leave may be taken at any time when authorized. In addition, employees may elect to sell back any leave accrued during the fiscal year. Leave accrued over the maximum allowed leave balances is paid to the employee after the end of the fiscal year.

Upon termination from employment, employees are paid for their unused leave balances. In accordance with GASB Statement No. 16, *Accounting for Compensated Absences* (GASB No. 16), the amount reflected as the current portion is estimated based upon historical trends of retirements and attrition.

This liability reflects amounts attributable to employee services already rendered, cumulative, probable for payment, and reasonably estimated in conformity with GASB No. 16.

Compensated absences liabilities are accrued when incurred in the financial statements in conformity with generally accepted accounting principles (GAAP). The compensated absences liability is determined based on current rates of pay.

The compensated absence liability as of September 30, 2018, was $30,854. Of this amount, $1,423 was included in accounts and accrued expenses payable on the accompanying statements of net position. The remaining balance of $29,431 was included in other liabilities on the accompanying statements of net position. During fiscal year 2018, annual leave earned totaled $21,983 and annual leave taken totaled $22,788. The compensated absence liability as of September 30, 2017, was $31,798. Of this amount, $3,527 was included in accounts and accrued expenses payable on the accompanying statements of net position. The remaining balance of $28,271 was included in other liabilities on the accompanying statements of net position. During fiscal year 2017, annual leave earned totaled $21,856 and annual leave taken totaled $19,757.

(q) Pollution Remediation Obligations

JEA applies GASB Statement No. 49, *Accounting and Financial Reporting for Pollution Remediation Obligations*. See note 15, Commitments and Contingent Liabilities, for further discussion.

1. Summary of Significant Accounting Policies and Practices (continued)

(r) Asset Retirement Obligations

JEA applies GASB Statement No. 83, *Certain Asset Retirement Obligations*. See note 3, St. Johns River Power Park Decommissioning, for further discussion.

(s) Costs to Be Recovered from Future Revenues/Revenues to Be Used for Future Costs

JEA records certain assets and liabilities (or deferred inflows) that result from the effects of the ratemaking process that would not be recorded under GAAP for nonregulated entities. Currently, the electric utility industry is predominantly regulated on a basis designed to recover the cost of providing electric power to its customers. If cost-based regulation were to be discontinued in the electric industry for any reason, market prices for electricity could be reduced or increased and utilities might be required to reduce their statements of net position amounts to reflect market conditions.

Discontinuance of cost-based regulation could also require affected utilities to write off their associated regulatory assets and liabilities. Management cannot predict the potential impact, if any, of the change in the regulatory environment on JEA's future financial position and results of operations.

(t) Setting of Rates

The setting of rates is the responsibility of the Board. Base rate changes are implemented after a public rate hearing and Board approval. Fuel rate changes are implemented solely with Board approval.

In October 2017, the Board approved a new rate rider called SolarMax for customers purchasing a minimum of 7,000,000 kWh of annual solar purchase power, effective November 1, 2017. The Board also approved a wastewater rate for Leachate waste disposed at a JEA sewage treatment plant at a charge of $5.16 per 100 gallons.

JEA has an ongoing plan to review, update and, where possible, expand its rate options to provide customers more rate choices for their utility services. As part of this initiative, the Board approved, at its August 2018 meeting, an extension of the Economic Stimulus Rider from September 30, 2018 to September 30, 2021 that provides a financial incentive for new commercial or industrial customers to locate within the JEA service area.

(u) Reclassifications

Certain 2017 amounts have been reclassified to conform to the 2018 presentation.

(Dollars in Thousands)

1. Summary of Significant Accounting Policies and Practices (continued)

(v) Pervasiveness of Estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and deferred outflows of resources, liabilities and deferred inflows of resources, and disclosure of contingent assets at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

(w) Newly Adopted Standards for Fiscal Year 2018

In June 2015, GASB issued Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other than Pension (OPEB)*. This statement replaces the requirements of Statements No. 45, *Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions, as amended* and No. 57, *OPEB Measurements by Agent Employers and Agent Multiple-Employer Plans*, for OPEB. This statement establishes standards for measuring and recognizing liabilities, deferred outflows and deferred inflows of resources and expenses for governments that provide OPEB benefits. Note disclosure and required supplementary information requirements are also addressed. For comparative purposes, the statement of net position and statement of revenues, expenses, and changes in net position for the year ended September 30, 2017 were restated for this change. See the chart below for details of the restatement.

	Originally Reported October 1, 2016	GASB 75	As Restated October 1, 2016
Statement of Net Position			
Assets			
Costs to be recovered from future revenues	$ 463,610	$ 39,337	$ 502,947
Other assets	17,931	(2,724)	15,207
Deferred outflows of resources			
Unrealized OPEB contributions	–	5,061	5,061
Noncurrent liabilities			
Net OPEB liability	–	44,398	44,398
Net position	2,376,925	(2,724)	2,374,201
Statement of Revenues, Expenses, and Change in Net Position			
Adjustment to beginning net position			
Effect of adoption of GASB Statement No. 75	–	(2,724)	(2,724)

1. Summary of Significant Accounting Policies and Practices (continued)

In March 2016, GASB issued Statement 81, *Irrevocable Split-Interest Agreements*. This statement requires that a government that receives resources related to an irrevocable split-interest agreement recognize assets, liabilities, and deferred inflows of resources at the inception of the agreement. In addition, this statement requires a government recognize assets representing its beneficial interest in irrevocable split-interest agreements that are administered by a third party, if the government controls the beneficial interests. The implementation of this statement did not have an impact on JEA's financial statements.

In November 2016, GASB issued Statement No. 83, *Certain Asset Retirement Obligations*. This statement addresses accounting and financial reporting for certain asset retirement obligations (AROs). An ARO is a legally enforceable liability associated with the retirement of a tangible capital asset. This statement is effective for JEA in fiscal year 2019. However, JEA early adopted this statement in fiscal year 2018 in association with its accounting for the shutdown and dismantlement of St. Johns River Power Park. See note 3, SJRPP for details.

In March 2017, GASB issued Statement No. 85, *Omnibus 2017*. The objective of this statement is to address practice issues that have been identified during implementation and application of certain GASB statements. It addresses a variety of topics including issues related to blending component units, goodwill, fair value measurement and application, and pensions and other postemployment benefits. The implementation of this statement did not have an impact on JEA's financial statements.

In May 2017, GASB issued Statement No. 86, *Certain Debt Extinguishment Issues*. The primary objective of this statement is to improve consistency in accounting and financial reporting for in-substance defeasance of debt by providing guidance for transactions in which cash and other monetary assets acquired with only existing resources—resources other than the proceeds of refunding debt—are placed in an irrevocable trust for the sole purpose of extinguishing debt. This statement also improves accounting and financial reporting for prepaid insurance on debt that is extinguished and notes to financial statements for debt that is defeased in substance. The implementation of this statement did not have an impact on JEA's financial statements.

(x) Recently Issued Accounting Pronouncements Not Yet Effective

In January 2017, GASB issued Statement No. 84, *Fiduciary Activities*. This statement establishes criteria for identifying fiduciary activities of all state and local governments. The focus of the criteria generally is on (1) whether a government is controlling the assets of the fiduciary activity and (2) the beneficiaries with whom a fiduciary relationship exists. Separate criteria are included to identify fiduciary component units and postemployment benefit arrangements that are fiduciary activities. This statement is effective for JEA in fiscal year 2020. The impact on JEA's financial reporting will be the reporting of its pension and other postemployment benefit plans in fiduciary fund financial statements.

1. Summary of Significant Accounting Policies and Practices (continued)

In June 2017, GASB issued Statement No. 87, *Leases*. The objective of this statement is to better meet the information needs of financial statement users by improving accounting and financial reporting for leases by governments. This statement increases the usefulness of governments' financial statements by requiring recognition of certain lease assets and liabilities for leases that previously were classified as operating leases and recognized as inflows of resources or outflows of resources based on the payment provisions of the contract. It establishes a single model for lease accounting based on the foundational principle that leases are financings of the right to use an underlying asset. Under this statement, a lessee is required to recognize a lease liability and an intangible right-to-use lease asset, and a lessor is required to recognize a lease receivable and a deferred inflow of resources, thereby enhancing the relevance and consistency of information about governments' leasing activities. This statement is effective for JEA in fiscal year 2021. The impact on JEA's financial reporting has not been determined.

In April 2018, GASB issued Statement No. 88, *Certain Disclosures Related to Debt, including Direct Borrowings and Direct Placements*. The objective of this Statement is to improve the information that is disclosed in notes to government financial statements related to debt, including direct borrowings and direct placements. It also clarifies which liabilities governments should include when disclosing information related to debt. This Statement requires that additional essential information related to debt be disclosed in notes to financial statements, including unused lines of credit; assets pledged as collateral for the debt; and terms specified in debt agreements related to significant events of default with finance-related consequences, significant termination events with finance-related consequences, and significant subjective acceleration clauses. For notes to financial statements related to debt, this Statement also requires that existing and additional information be provided for direct borrowings and direct placements of debt separately from other debt. This statement is effective for JEA in fiscal year 2019. The impact on JEA's financial statements will be additional disclosures within the financial statement footnotes.

In June 2018, GASB issued Statement No. 89, *Accounting for Interest Cost Incurred before the End of a Construction Period*. The objectives of this Statement are (1) to enhance the relevance and comparability of information about capital assets and the cost of borrowing for a reporting period and (2) to simplify accounting for interest cost incurred before the end of a construction period. This Statement requires that interest cost incurred before the end of a construction period be recognized as an expense in the period in which the cost is incurred for financial statements prepared using the economic resources measurement focus. However, GASB allows those entities meeting the criteria for regulated operations, and electing to apply the related provisions of Statement 62, to continue to capitalize qualifying interest cost as a regulatory asset. This statement is effective for JEA in fiscal year 2021. The impact on JEA's financial reporting has not been determined.

In August 2018, GASB issues Statement No. 90, *Majority Equity Interests—an amendment of GASB Statements No. 14 and No. 61*. The objectives of this Statement are to improve the consistency and comparability of reporting a government's majority equity interest in a legally separate organization and to improve the relevance of financial statement information for certain component units. This statement is effective for JEA in fiscal year 2020. The implementation of this statement is not expected to have an impact on JEA's financial statements.

(Dollars in Thousands)

2. Regulatory Deferrals

Based on regulatory action taken by the Board and in accordance with the Regulated Operations section within GASB Statement 62, JEA has recorded the following regulatory assets and liabilities that will be included in the ratemaking process and recognized as expenses and revenues, respectively, in future periods. These amounts are shown under other noncurrent assets or deferred inflows of resources on the accompanying statements of net position.

Regulatory Assets

The following is a summary of JEA's regulatory assets at September 30:

Regulatory Asset		2018		2017 Restated
Unfunded pension costs	**$**	**433,583**	$	392,719
SJRPP and Bulk Power cost to be recovered		**267,432**		14,940
Water environmental projects		**59,859**		68,409
Unfunded OPEB costs		**23,469**		34,927
Storm costs to be recovered		**18,966**		27,999
Debt issue cost		**4,787**		2,027
Total regulatory assets	**$**	**808,096**	$	541,021

Unfunded Pension Costs – Accrued pension represents a regulatory asset related to unrecognized actuarial gains and losses, unrecognized prior service cost, and unrecognized transition obligation. In fiscal year 2018, the asset consisted of amounts attributable to JEA's portion of the GERP. For the SJRPP pension plan, JEA made excess contributions during fiscal year 2018 that resulted in a regulatory liability. See excess pension contributions in the Regulatory Liabilities section of this footnote. In fiscal year 2017, the balance includes amounts attributable to JEA's portion of the GERP and amounts related to the SJRPP Plan. The regulatory asset is amortized with the recognition of actuarial gains and losses, prior service cost, and transition obligations to net periodic benefit costs for pension.

2. Regulatory Deferrals (continued)

SJRPP and Bulk Power costs to be recovered – SJRPP deferred debt-related costs of $261,277 at September 30, 2018 and $3,254 at September 30, 2017 are the result of differences between expenses in determining rates and those used in financial reporting. During fiscal year 2018, operations of SJRPP, as generating facility, ceased and the majority of the assets are being dismantled. A write down of $451,037 of undepreciated book value of the assets was recognized during fiscal year 2018 and $128,280 of bonds were defeased as a result of the shutdown of SJRPP. After shutdown, SJRPP has remaining plant in service assets of $3,484 and outstanding debt of $280,605. The details relating to the shutdown of SJRPP are further discussed in note 3, St. Johns River Power Park Decommissioning. The JEA board approved the deferral of this regulatory asset. SJRPP has a contract with the JEA Electric System to recover these costs from future revenues that will coincide with retirement of long-term debt. The amount recovered each year will be the difference between debt principal maturities (adjusted for the effects of premiums, discounts, and amortization of gains and losses) and straight-line depreciation and results in recognition of deferred costs on the accompanying statements of revenues, expenses, and changes in net position. The Bulk Power Supply System deferred debt-related costs were $6,155 at September 30, 2018 and $11,686 at September 30, 2017. The amount recovered each year will be the difference between debt principal maturities (adjusted for the effects of premiums, discounts, and amortization of gains and losses) and straight-line depreciation. The Bulk Power Supply System will recover these costs from future revenues that will coincide with the retirement of long-term debt.

Water Environmental Projects – In August 2015, the Board approved the recovery of previously approved environmental capital projects that had not been collected through the environmental surcharge over a ten-year period beginning October 1, 2015. The amount approved for recovery and transferred out of capital assets was $101,277 of which $59,859 remained unrecovered as of September 30, 2018 and $68,409 remained unrecovered as of September 30, 2017. This deferral is being amortized over ten years.

Unfunded OPEB Costs – Accrued OPEB represents a regulatory asset related to unrecognized actuarial gains and losses, unrecognized prior service cost, and unrecognized transition obligation attributable to JEA's other postemployment benefit plan. The regulatory asset is amortized with the recognition of actuarial gains and losses, prior service cost, and transition obligations to net periodic benefit costs for OPEB. The Board approved the recovery of the unfunded amounts in future revenue requirements with the adoption of GASB 75 in fiscal year 2018. In addition, the Board approved the deferral of the difference between the annual contributions (funding) and OPEB expense.

Storm costs to be recovered – This amount represents storm costs that are expected to be recovered from insurance and the Federal Emergency Management Agency (FEMA). See note 16, Storm Costs, for further details.

Debt issue costs – With the application of regulatory accounting in fiscal year 2015, the Board approved deferral of the issue costs on all new debt issues with the amounts being amortized over the life of the bonds, as they are included in revenue requirements. These costs are incurred in connection with the issuance of debt obligations and are mainly underwriter fees and legal costs. Unrecovered costs remaining at the end of the fiscal year were $4,787 in fiscal year 2018 and $2,027 in 2017.

(Dollars in Thousands)

2. Regulatory Deferrals (continued)

Regulatory Liabilities

The following is a summary of JEA's regulatory liabilities at September 30:

Regulatory Liabilities	2018	2017
Fuel stabilization	**$ 74,376**	$ 131,715
Environmental	**55,077**	41,630
Nonfuel purchase power	**53,493**	25,189
Debt management stabilization	**44,093**	44,093
SJRPP and Bulk Power revenues to be used for future costs	**37,560**	189,070
Excess pension contributions	**10,624**	–
Self-insurance medical reserve	**8,139**	9,214
Customer benefit stabilization	**3,470**	3,695
Total regulatory liabilities	**$ 286,832**	$ 444,606

Fuel stabilization – This account represents the difference between the fuel costs incurred and fuel charge revenues collected from customers, inclusive of accrued utility revenue and fuel costs. During fiscal year 2018, a net of $57,339 of costs were incurred in excess of the revenues collected and was recognized as a reduction of the regulatory liability. During fiscal year 2017, a net of $48,400 of costs were incurred in excess of the revenues collected and was recognized as a reduction of the regulatory liability.

Environmental – The Board has authorized an environmental surcharge that is applied to all electric customer kilowatt-hour and water customer kilogallon sales. Electric costs included in the surcharge include all costs of environmental remediation and compliance with new and existing environmental regulations, excluding the amount already collected in the Environmental Liability Reserve. Water costs included in the surcharge include operating and capital costs of environmentally driven or regulatory required projects approved by the Board to be included in the surcharge. Any amounts under or over-collected are recorded as a regulatory asset or liability. During fiscal year 2018, $31,401 was collected through the surcharge with $8,551 of recovery of previously approved environmental capital projects, $6,169 of capital projects, and $3,234 of operations and maintenance costs being incurred with the remaining $13,447 recognized as a regulatory liability. During fiscal year 2017, $31,659 was collected through the surcharge with $11,286 of capital projects, $8,551 of recovery of previously approved environmental capital projects, and $1,866 of operations and maintenance costs being incurred with the remaining $9,956 recognized as a regulatory liability.

Nonfuel purchased power – JEA entered into a power purchase agreement related to the Alvin W. Vogtle Nuclear Plant in Burke County, Georgia (Plant Vogtle). This agreement is discussed in further detail in note 10, Fuel Purchase and Purchased Power Commitments. Related to that agreement, the JEA Board approved a nonfuel purchased power stabilization fund to balance the timing of the payments for Plant Vogtle's debt service with the anticipated in service date. It may be used for other purposes with the Board's approval. The amounts included in the fund are to be used for Plant Vogtle or refunded to customers if not needed. During fiscal year 2018, $40,000 was deposited into the stabilization fund to fund the additional debt service payments as a result of the new anticipated in service dates.

2. Regulatory Deferrals (continued)

Debt management stabilization – The Board has authorized the use of a debt management stabilization fund. Amounts are included in the fund based on differences between budgeted and actual debt cost up to an established maximum reserve fund. The reserve is available to support JEA during times of financial market crisis. Withdrawals from the debt management stabilization fund for debt management strategy can be made for expenses related to market disruption in the capital markets, disruption in availability of credit, or unanticipated credit expenses. The reserve can also be used to reduce short-term variable interest expense in excess of the amounts included in the budget. The Board evaluates during the budget approval process and periodically throughout the year the amounts in the reserve that will be included in JEA's annual revenue requirements. As a result, $44,093 collected in the past for the debt management stabilization fund was recorded as a regulatory liability at September 30, 2018 and 2017, respectively. During fiscal year 2018, no additional amounts were deposited or withdrawn from the stabilization fund. During fiscal year 2017, $18,323 was withdrawn and used to defease bonds.

SJRPP and Bulk Power revenues to be used for future costs – As a result of the shutdown of SJRPP, the deferred debt-related revenues of $144,933 at the shutdown date in January 2018 was adjusted. Through the regulatory approval by the board, a regulatory asset was recorded. See SJRPP and Bulk Power costs to be recovered in this note for further details. SJRPP had deferred debt-related revenues of $147,632 at September 30, 2017 as the result of differences between revenues in determining rates and those used in financial reporting. Bulk Power Supply System early debt principal in excess of straight-line depreciation of $37,560 at September 30, 2018 and $41,438 at September 30, 2017 is included in deferred inflows of resources on the accompanying statements of net position.

Excess pension contributions – Excess pensions contributions represents a regulatory liability related to unrecognized actuarial gains and losses, unrecognized prior service cost, and unrecognized transition obligation attributable to the SJRPP Plan. The regulatory liability is amortized with the recognition of actuarial gains and losses, prior service cost, and transition obligations to net periodic benefit costs for pension.

Self-insurance medical reserve – The Board has established, from operating revenues, an internally designated "Health Self-Insurance Fund" to cover reserve requirements for its self-insurance health program over medical and prescription benefits. The Board, as part of the budget process, will approve amounts to be collected in rates that include both the current anticipated cost less amounts approved to be contributed by employees as well as amounts to maintain an adequate reserve for future costs.

Under the self-insurance program, JEA is liable for all claims. JEA retains an additional stop-loss policy for claims in excess of $250 per employee, with an aggregate limit of 125.0% of claims. There have been no significant reductions in coverage from the prior year. The health insurance benefits program is administered through a third-party insurance company and, as such, the administrator is responsible for processing the claims in accordance with the benefit specifications with JEA reimbursing the insurance company for its payouts. Liabilities associated with the health care program are determined based on an actuarial study and include claims that have been incurred but not reported.

(Dollars in Thousands)

2. Regulatory Deferrals (continued)

The changes in the self-insurance medical reserve for the years ended September 30, 2018 and 2017 are as follows:

	2018	2017
Beginning balance	**$ 9,214**	$ 11,178
Contributions	**29,561**	29,615
Incurred claims	**(30,636)**	(31,579)
Ending balance	**$ 8,139**	$ 9,214

Customer benefit stabilization – The pricing policy adopted by the Board includes a demand side management surcharge. The costs approved for recovery through the surcharge included programs for the electrification, direct load control, demand side management, residential low-income efficiency programs, and customer utility optimization education programs.

3. St. Johns River Power Park Decommissioning

JEA and FPL entered into an Agreement for Joint Ownership, Construction and Operation of SJRPP Coal Units #1 and #2 (JOA) dated as of April 2, 1982. JEA owns 80% and FPL owns 20% of SJRPP. A Purchased Power Agreement (PPA) in the JOA assigned 37.5% of JEA's 80% generation to FPL, which effectively provided 50% of the generation to both owners of SJRPP. The JOA ends on April 2, 2022. JEA and FPL reached an agreement to close SJRPP, including early termination of the PPA. On May 16, 2017, JEA's board of directors approved the Asset Transfer and Contract Termination Agreement, which outlined the terms of the retirement, decommissioning, and dismantling of the plant. The week following, FPL approved the contract and filed a petition with the Florida Public Service Commission (FPSC) for approval to shut down SJRPP. The final order was approved by FPSC in October 2017.

Shutdown occurred on January 5, 2018. On that date, FPL paid JEA $90,400, made up of FPL's cash reserves at SJRPP and a shutdown cash payment of $51,869 as a result of the early termination of the PPA. The payment was recorded as other operating revenue and the expenses related to the shutdown were charged to maintenance and other operating expenses on the statement of revenues, expenses, and changes in net position.

In addition, on that date, FPL paid JEA the FPL Debt Service Reserves, which JEA then paid to an escrow account to consummate the bond defeasance of $128,280 of Issue Two debt. On January 5, 2018, JEA defeased all of the SJRPP System Revenue Issue Two debt and, on March 21, 2018, JEA satisfied and discharged the First Power Park Resolution.

As part of the agreement, JEA assumed all payment obligations and other liabilities related to separation benefits for the qualifying SJRPP employees and any amounts required to be deposited into the SJRPP Pension Fund. JEA paid a total of $8,974 in separation benefits for SJRPP employees.

3. St. Johns River Power Park Decommissioning (continued)

FPL conveyed their 20% interest in SJRPP's fuel inventory to JEA. The fuel inventory received, totaling $4,595, was recorded at fair value. The remaining coal at SJRPP was transferred and consumed at JEA Northside Units 1 and 2. These transactions were recorded at the book value of the coal as the coal was transferred. Based on a physical inventory, the book balance of coal inventory at September 30, 2018 was written down by $11,484 to reflect the remaining coal at SJRPP of $1,015.

FPL received a credit for their estimated share of the material and supplies inventory balance at shutdown, pending sale of the inventory. After the sales period passed, FPL paid a shutdown payment adjustment for their share of 20% of the loss on the remaining materials and supplies inventory. JEA is in the process of liquidating the material and supplies inventory. However, the remaining materials and supplies was written down to fair value. As a result, an adjustment of $22,444 was recorded to adjust the remaining balance down to $665.

As part of the agreement, the parties agreed that all operation of SJRPP as a generating facility would cease at shutdown. As such, the majority of the plant assets will be dismantled. As a result of the shutdown of SJRPP and in accordance with GASB 42, *Accounting and Financial Reporting for Impairment of Capital Assets*, an impairment loss of $451,037 was recorded, as a special item, on the un-depreciated book value of the assets that are being dismantled. In conjunction with the recording of the impairment loss related to SJRPP decommissioning, it was determined that there were certain items included in the regulatory asset balance that were longer going to be recovered through the ratemaking process, primarily those costs deferred related to debt issues that were defeased. As a result, an additional adjustment of $45,099 to regulatory balances was included in the statement of revenues, expenses and changes in net position in the current period, as a special item. The remaining regulatory balance will be amortized over the life of the remaining debt outstanding related to Issue Three debt. See note 2, Regulatory Deferrals, for additional information related to SJRPP's regulatory deferrals.

FPL conveyed their 20% undivided ownership of plant in service assets to JEA. The retained plant in service assets were recorded at fair value. At the end of fiscal year 2018, JEA had remaining plant in service assets of $3,484. In addition, FPL will convey their 20% undivided ownership interest in the SJRPP site to JEA upon completion of dismantlement and environmental remediation.

(Dollars in Thousands)

3. St. Johns River Power Park Decommissioning (continued)

Under a service management agreement, FPL will pay 20% of the dismantlement and remediation costs incurred. Dismantlement and remediation is expected to be complete by April 2020. Monitoring of the site will continue for ten years subsequent to the completion date. JEA's share of the estimated cost for dismantlement and remediation is approximately $43,204. As discussed in note 1, Summary of Significant Accounting Policies and Practices, JEA early adopted Statement No. 83, *Certain Retirement Obligations* in association with its accounting for the asset retirement obligations (ARO) related to dismantlement and remediation at SJRPP. The current portion of the remaining liability, $6,647, is recorded in accounts and accrued expenses payable and the long-term portion, $22,526, is a separate line item, asset retirement obligation, on the statement of net position. These amounts are offset by the separate line item, unrealized asset retirement obligation, in deferred outflows of resources, totaling $29,173. Currently, JEA does not possess sufficient information to reasonably estimate the amounts of additional liabilities, if any, on the site until completion of future environmental studies. In addition, conditions that are currently unknown could result in additional exposure, the amount and materiality of which cannot presently be reasonably estimated. Based upon information currently available, however, JEA believes its ARO accurately reflects the estimated cost of remedial actions currently required.

4. Restricted Assets

Restricted assets were held in the following funds at September 30, 2018 and 2017:

	September 30, 2018				
	Electric	SJRPP	Water and Sewer	DES	Total
Renewal and Replacement Fund	**$ 189,929**	**$ 52,610**	**$ 141,423**	**$ 1,078**	**$ 385,040**
Sinking Fund	**167,483**	**7,446**	**81,242**	**2,340**	**258,511**
Debt Service Reserve Fund	**65,433**	**11,354**	**102,850**	**–**	**179,637**
Revenue Fund	**–**	**26,014**	**–**	**–**	**26,014**
Adjustment to fair value of investments	**(3,302)**	**66**	**(1,347)**	**–**	**(4,583)**
Environmental Fund	**–**	**–**	**1,159**	**–**	**1,159**
Construction Fund	**203**	**–**	**284**	**–**	**487**
Total	**$ 419,746**	**$ 97,490**	**$ 325,611**	**$ 3,418**	**$ 846,265**

	September 30, 2017				
	Electric	SJRPP	Water and Sewer	DES	Total
Renewal and Replacement Fund	$ 201,388	$ 82,577	$ 150,331	$ 899	$ 435,195
Sinking Fund	174,529	51,280	82,208	2,331	310,348
Debt Service Reserve Fund	65,433	141,145	107,488	–	314,066
Revenue Fund	–	1,903	–	–	1,903
Adjustment to fair value of investments	750	(4,082)	2,133	–	(1,199)
Environmental Fund	–	–	1,839	–	1,839
Construction Fund	–	–	15	–	15
Total	$ 442,100	$ 272,823	$ 344,014	$ 3,230	$ 1,062,167

The Electric System, SJRPP System, Bulk Power Supply, Water and Sewer System, and the DES are permitted to invest restricted funds in specified types of investments in accordance with their bond resolutions and the investment policy.

(Dollars in Thousands)

4. Restricted Assets (continued)

The requirements of the respective bond resolutions for contributions to the respective systems' renewal and replacement funds are as follows:

Electric System:	An amount equal to the greater of 10% of the prior year defined net revenues or 5% of the prior year defined gross revenues.
SJRPP System:	An amount equal to 12.5% of aggregate debt service, as defined, on bonds issued under the First SJRPP Bond Resolution. An amount equal to 12.5% of aggregate debt service, as defined, on bonds issued under the Second SJRPP Bond Resolution. However, no such deposit is required under the Second SJRPP Bond Resolution as long as the First SJRPP Bond Resolution has not been discharged. On January 5, 2018, JEA defeased all the SJRPP System Revenue Issue Two bonds in their entirety and on March 21, 2018, JEA satisfied and discharged the First Power Park Resolution; therefore, the deposits required under the Second SJRPP Bond Resolution began in fiscal year 2018.
Bulk Power Supply System:	An amount equal to 12.5% of aggregate debt service, as defined.
Water and Sewer System:	An amount equal to the greater of 10% of the prior year defined annual net revenues or 5% of the prior year defined gross revenues.
DES:	An amount equal to the greater of 10% of the prior year defined annual net revenues or 5% of the prior year defined revenues.

5. Cash and Investments

JEA maintains cash and investment pools that are utilized by all funds except for the bond funds. Included in the JEA cash balances are amounts on deposit with JEA's commercial bank, as well as amounts held in various money market funds as authorized in the JEA Investment Policy. The commercial bank balances are covered by federal depository insurance or collateralized subject to the Florida Security for Public Deposits Act of Chapter 280, Florida Statutes. Amounts subject to Chapter 280, Florida Statutes, are collateralized by securities deposited by JEA's commercial bank under certain pledging formulas with the State Treasurer or other qualified custodians.

JEA follows GASB Statement No. 31, *Accounting and Financial Reporting for Certain Investments and for External Investment Pools*, which requires the adjustments of the carrying value of investments to fair value to be presented as a component of investment income. Investments are presented at fair value or cost, which is further explained in note 14, Fair Value Measurements.

(Dollars in Thousands)

5. Cash and Investments (continued)

At September 30, 2018 and 2017, the fair value of all securities, regardless of statement of net position classification as cash equivalent or investment, was as follows:

	2018	2017
Securities:		
U.S. Treasury and government agency securities	$ 462,897	$ 538,887
State and local government securities	223,845	323,507
Commercial paper	133,074	170,829
Local government investment pool	194,786	138,207
Money market mutual funds	23,208	51,460
Total securities, at fair value	$ 1,037,810	$ 1,222,890

These securities are held in the following accounts:

	2018	2017
Current assets:		
Cash and cash equivalents	$ 441,206	$ 489,559
Investments	85,310	25,122
Restricted assets:		
Cash and cash equivalents	114,576	124,475
Investments	731,627	936,708
Total cash and investments	1,372,719	1,575,864
Plus: interest due on securities	2,878	2,967
Less: cash on deposit	(337,787)	(355,941)
Total securities, at fair value	$ 1,037,810	$ 1,222,890

JEA is authorized to invest in securities as described in its investment policy and in each bond resolution. As of September 30, 2018, JEA's investments in securities and their maturities are categorized below in accordance with GASB Statement No. 40, *Deposit and Investment Risk Disclosures – an amendment of GASB Statement No. 3*. It is assumed that callable investments will not be called. Puttable securities are presented as investments with a maturity of less than one year.

(Dollars in Thousands)

5. Cash and Investments (continued)

The maturity distribution of the investments held at September 30, 2018 is listed below.

Type of Investments	Less than One Year	One to Five Years	Five to Ten Years	Ten to Twenty Years	Total
U.S. Treasury and government agency securities	$ 245,490	$ 193,550	$ 12,956	$ 10,901	$ 462,897
State and local government securities	48,852	86,537	8,821	79,635	223,845
Commercial paper	133,074	–	–	–	133,074
Local government investment pools	194,786	–	–	–	194,786
Money market mutual funds	23,208	–	–	–	23,208
Total securities, at fair value	$ 645,410	$ 280,087	$ 21,777	$ 90,536	$ 1,037,810

Interest Rate Risk – As a means of limiting its exposure to fair value losses arising from rising interest rates, JEA's investment policy requires the investment portfolio to be structured in such a manner as to provide sufficient liquidity to pay obligations as they come due. To the extent possible, investment maturities are matched with known cash needs and anticipated cash flow requirements. Additionally, maturity limitations for investments related to the issuance of debt are outlined in the bond resolution relating to those bond issues. JEA's investment policy also limits investments in commercial paper to maturities of less than nine months.

Credit Risk – JEA's investment policy is consistent with the requirements for investments of state and local governments contained in the Florida Statutes and its objectives are to seek reasonable income, preserve capital, and avoid speculative investments. Consistent with JEA's investment policy and bond resolutions: (1) the U.S. government agency securities held in the portfolio are issued or guaranteed by agencies created pursuant to an Act of Congress as an agency or instrumentality of the United States of America; (2) the state and local government securities are rated by two nationally recognized rating agencies and are rated at least AA- by Standard & Poor's, Aa3 by Moody's Investors Services, or AA- by Fitch Ratings; and (3) the money market mutual funds are rated AAA by Standard & Poor's or Aaa by Moody's Investors Services. JEA's investment policy limits investments in commercial paper to the highest whole rating category issued by at least two nationally recognized rating agencies, and the issuer must be a Fortune 500 company, a Fortune Global 500 company with significant operations in the U.S., or the governments of Canada or Canadian provinces and the ratings outlook must be positive or stable at the time of the investment. As of September 30, 2018, JEA's investments in commercial paper are rated at least A-1 by Standard & Poor's and P-1 by Moody's Investors Services. In addition, JEA's investment policy limits the commercial paper investment in any one issuer to $12,500. Additionally, JEA's investment policy limits investments in commercial paper to 25% of the total cash and investment portfolio regardless of statement of net position classification as cash equivalent or investment. As of September 30, 2018, JEA had 12.8% of its investments in commercial paper.

5. Cash and Investments (continued)

Custodial Credit Risk – For an investment, custodial credit risk is the risk that, in the event of the failure of the counterparty, JEA will not be able to recover the value of its investments or collateral securities that are in the possession of an outside party. All of JEA's investments are held by JEA or by an agent in JEA's name.

Concentration of Credit Risk – As of September 30, 2018, investments in any one issuer representing 5% or more of JEA's investments included $235,878 (22.7%) invested in issues of the Federal Home Loan Bank, $170,424 (16.4%) held in U.S. Treasury securities, and $56,595 (5.5%) invested in issues of the Federal Farm Credit Bank. JEA's investment policy limits the maximum holding of any one U.S. government agency issuer to 35% of total cash and investments regardless of statement of net position classification as cash equivalent or investment. Other than investments in U.S. Treasury securities or U.S. Treasury money market funds, JEA's investment policy limits the percentage of the total cash and investment portfolio (regardless of statement of net position classification as cash equivalent or investment) that may be held in various security types. As of September 30, 2018, investments in all security types were within the allowable policy limits.

(Dollars in Thousands)

6. Capital Assets

Capital asset activity for the year ended September 30, 2018 is as follows:

	Balance September 30, 2017	Additions	Retirements	Transfers/ Adjustments	Balance September 30, 2018
Electric Enterprise Fund:					
Generation assets	$ 3,685,363	$ –	$ (5,686)	$ 20,237	$ 3,699,914
Transmission assets	571,810	–	(175)	22,223	593,858
Distribution assets	1,927,058	–	(5,881)	78,899	2,000,076
Other assets	459,240	–	(1,754)	(8,609)	448,877
Total capital assets	6,643,471	–	(13,496)	112,750	6,742,725
Less: accumulated depreciation and amortization	(3,718,060)	(680,606)	13,496	–	(4,385,170)
Land	130,246	–	(197)	237	130,286
Construction work-in-process	106,012	183,278	–	(114,763)	174,527
Net capital assets	3,161,669	(497,328)	(197)	(1,776)	2,662,368
Water and Sewer Fund:					
Pumping assets	509,490	–	(9,533)	25,691	525,648
Treatment assets	627,165	–	(7,037)	26,141	646,269
Transmission and distribution assets	1,182,420	–	(312)	24,772	1,206,880
Collection assets	1,485,168	–	(427)	23,857	1,508,598
Reclaimed water assets	138,535	–	(730)	(271)	137,534
General and other assets	397,765	–	(1,512)	10,812	407,065
Total capital assets	4,340,543	–	(19,551)	111,002	4,431,994
Less: accumulated depreciation	(1,991,742)	(140,025)	19,551	4,189	(2,108,027)
Land	61,259	–	(11)	(33)	61,215
Construction work-in-process	205,890	202,761	–	(110,969)	297,682
Net capital assets	2,615,950	62,736	(11)	4,189	2,682,864
District Energy System:					
Chilled water plant assets	55,240	–	(940)	2,076	56,376
Total capital assets	55,240	–	(940)	2,076	56,376
Less: accumulated depreciation	(24,091)	(2,403)	940	–	(25,554)
Land	3,051	–	–	–	3,051
Construction work-in process	1,980	1,250	–	(2,076)	1,154
Net capital assets	36,180	(1,153)	–	–	35,027
Total	$ 5,813,799	$ (435,745)	$ (208)	$ 2,413	$ 5,380,259

(Dollars in Thousands)

6. Capital Assets (continued)

Capital asset activity for the year ended September 30, 2017 is as follows:

	Balance September 30, 2016	Additions	Retirements	Transfers/ Adjustments	Balance September 30, 2017
Electric Enterprise Fund:					
Generation assets	$ 3,679,557	$ –	$ (41,299)	$ 47,105	$ 3,685,363
Transmission assets	547,705	–	(1,563)	25,668	571,810
Distribution assets	1,822,944	–	(5,011)	109,125	1,927,058
Other assets	436,508	–	(3,238)	25,970	459,240
Total capital assets	6,486,714	–	(51,111)	207,868	6,643,471
Less: accumulated depreciation and amortization	(3,525,733)	(243,438)	51,111	–	(3,718,060)
Land	127,895	–	(30)	2,381	130,246
Construction work-in-process	181,247	144,855	–	(220,090)	106,012
Net capital assets	3,270,123	(98,583)	(30)	(9,841)	3,161,669
Water and Sewer Fund:					
Pumping assets	501,502	–	(9,152)	17,140	509,490
Treatment assets	606,217	–	(6,434)	27,382	627,165
Transmission and distribution assets	1,161,588	–	(314)	21,146	1,182,420
Collection assets	1,468,752	–	(530)	16,946	1,485,168
Reclaimed water assets	131,557	–	(91)	7,069	138,535
General and other assets	382,964	–	(3,408)	18,209	397,765
Total capital assets	4,252,580	–	(19,929)	107,892	4,340,543
Less: accumulated depreciation	(1,879,932)	(135,928)	19,929	4,189	(1,991,742)
Land	59,714	–	(830)	2,375	61,259
Construction work-in-process	135,881	180,276	–	(110,267)	205,890
Net capital assets	2,568,243	44,348	(830)	4,189	2,615,950
District Energy System:					
Chilled water plant assets	53,648	–	(88)	1,680	55,240
Total capital assets	53,648	–	(88)	1,680	55,240
Less: accumulated depreciation	(21,815)	(2,364)	88	–	(24,091)
Land	3,051	–	–	–	3,051
Construction work-in process	1,675	1,985	–	(1,680)	1,980
Net capital assets	36,559	(379)	–	–	36,180
Total	$ 5,874,925	$ (54,614)	$ (860)	$ (5,652)	$ 5,813,799

(Dollars in Thousands)

7. Investment in The Energy Authority

JEA is a member of TEA, a municipal power marketing and risk management joint venture, headquartered in Jacksonville, Florida. TEA currently has eight members, and JEA's ownership interest in TEA is 16.7%. TEA provides wholesale power marketing and resource management services to members (including JEA) and nonmembers and allocates transaction savings and operating expenses pursuant to a settlement agreement. TEA also assists members (including JEA) and nonmembers with natural gas procurement and related gas hedging activities. JEA's earnings from TEA were $4,074 in fiscal year 2018 and $6,335 in 2017 for all power marketing activities. JEA's distributions from TEA were $3,513 in fiscal year 2018 and $6,182 in 2017. The investment in TEA was $6,811 at September 30, 2018 and $6,283 at September 30, 2017 and is included in noncurrent assets on the accompanying statement of net position.

The following is a summary of the unaudited financial information of TEA for the nine months ended September 30, 2018 and 2017. TEA issues separate audited financial statements on a calendar-year basis.

	Unaudited	
	2018	**2017**
Condensed statement of net position:		
Current assets	**$ 165,904**	$ 177,777
Noncurrent assets	**21,510**	15,622
Total assets	**$ 187,414**	$ 193,399
Current liabilities	**$ 146,768**	$ 155,313
Noncurrent liabilities	**15**	394
Members' capital	**40,631**	37,692
Total liabilities and members' capital	**$ 187,414**	$ 193,399
Condensed statement of operations:		
Operating revenues	**$ 1,334,738**	$ 1,153,933
Operating expenses	**1,252,868**	1,092,748
Operating income	**$ 81,870**	$ 61,185
Net income	**$ 81,975**	$ 61,223

As of September 30, 2018, JEA is obligated to guaranty, directly or indirectly, TEA's electric trading activities in an amount up to $28,929 and TEA's natural gas procurement and trading activities up to $31,000, in either case, plus attorney's fees that any party claiming and prevailing under the guaranty might incur and be entitled to recover under its contract with TEA. JEA has approved up to $60,000 (plus attorney fees) for TEA's natural gas procurement and trading activities.

7. Investment in The Energy Authority (continued)

Generally, JEA's guaranty obligations for electric trading would arise if TEA did not make the contractually required payment for energy, capacity, or transmission that was delivered or made available, or if TEA failed to deliver or provide energy, capacity, or transmission as required under a contract. Generally, JEA's guaranty obligations for natural gas procurement and trading would arise if TEA did not make the contractually required payment for natural gas or transportation that was delivered or purchased or if TEA failed to deliver natural gas or transportation as required under a contract.

Upon JEA's making any payments under its electric guaranty, it has certain contribution rights with the other members of TEA in order that payments made under the TEA member guaranties would be equalized ratably, based upon each member's equity ownership interest in TEA. Upon JEA's making any payments under its natural gas guaranty, it has certain contribution rights with the other members of TEA in order that payments under the TEA member guaranties would be equalized ratably in proportion to their respective amounts of guaranties, as adjusted by the actual natural gas member volumes and prices for the calendar year. After such contributions have been effected, JEA would only have recourse against TEA to recover amounts paid under the guaranty.

The term of these guaranties is generally indefinite, but JEA has the ability to terminate its guaranty obligations by causing to be provided advance notice to the beneficiaries thereof. Such termination of its guaranty obligations only applies to TEA transactions not yet entered into at the time the termination takes effect. Such termination would be because of JEA's withdrawal from membership in TEA, or such termination could cause JEA's membership in TEA to be terminated.

Under a separate agreement, TEA contracted with Southern Power Company ("Southern"), on JEA's behalf, for the purchase and sale of capacity and energy from Southern's Wansley plant located in Heard County, GA, covering the term from January 1, 2018 to December 31, 2019. In turn, JEA has guaranteed the payment obligations in the agreement up to $9,000 as well as all reasonable fees and expenses of Southern's counsel in any way relating to the enforcement of Southern's rights under the agreement.

8. Long-Term Debt

The Electric System, Bulk Power Supply System, SJRPP System, Water and Sewer System, and DES revenue bonds (JEA Revenue Bonds) are each governed by one or more bond resolutions. The Electric System bonds are governed by both a senior and a subordinated bond resolution; the Bulk Power Supply System bonds are governed by a single bond resolution; the Water and Sewer System bonds are governed by both a senior and a subordinated bond resolution; the SJRPP System bonds are governed by the First and Second Power Park Resolutions; and the DES bonds are governed by a single bond resolution. In accordance with the bond resolutions of each system, principal and interest on the bonds are payable from and secured by a pledge of the net revenues of the respective system. In general, the bond resolutions require JEA to make monthly deposits into the separate debt service sinking funds for each System in an amount equal to approximately one-twelfth of the aggregate amount of principal and interest due and payable on the bonds within the bond year. Interest on the fixed rate bonds is payable semiannually on April 1 and October 1, and principal is payable on October 1.

In accordance with the requirements of the SJRPP First Power Park Resolution and the Agreement for Joint Ownership and Construction and Operation of SJRPP Coal Units #1 and #2 between JEA and FPL, FPL is responsible for paying its share of the debt service on bonds issued under the First Power Park Resolution. The various bond resolutions provide for certain other covenants, the most significant of which (1) requires JEA to establish rates for each system such that net revenues with respect to that system are sufficient to exceed (by a certain percentage) the debt service for that system during the fiscal year and any additional amount required to make all reserve or other payments required to be made in such fiscal year by the resolution of that system and (2) restricts JEA from issuing additional parity bonds unless certain conditions are met.

On January 5, 2018, JEA defeased all the SJRPP System Revenue Issue Two bonds in their entirety and on March 21, 2018, JEA satisfied and discharged the First Power Park Resolution.

(Dollars in Thousands)

8. Long-Term Debt (continued)

Below is the schedule of outstanding indebtedness for the fiscal years 2018 and 2017.

Long-Term Debt	Interest Rates[1]	Payment Dates	September 30 2018	2017
Electric System Senior Revenue Bonds:				
Series Three 2004A	5.000%	2039	**$ 5**	$ 5
Series Three 2005B	4.750%	2033	**100**	100
Series Three 2008A[2]	Variable	2027–2036	**51,680**	51,680
Series Three 2008B-1[3]	Variable	2018–2040	**60,020**	60,395
Series Three 2008B-2[2]	Variable	2025–2040	**41,900**	41,900
Series Three 2008B-3[2]	Variable	2024–2036	**37,000**	37,000
Series Three 2008B-4[3]	Variable	2018–2036	**49,410**	49,810
Series Three 2008C-1[2]	Variable	2024–2034	**44,145**	44,145
Series Three 2008C-2[2]	Variable	2024–2034	**43,900**	43,900
Series Three 2008C-3[2]	Variable	2030–2038	**25,000**	25,000
Series Three 2008D-1[3]	Variable	2018–2036	**108,900**	111,420
Series Three 2009C	N/A	N/A	**–**	3,355
Series Three 2009D[6]	6.056%	2033–2044	**45,955**	45,955
Series Three 2010A	4.000%	2018–2019	**10,065**	14,980
Series Three 2010C	4.125–4.500%	2026–2031	**1,950**	8,975
Series Three 2010D	4.250–5.000%	2018–2038	**7,210**	79,470
Series Three 2010E[6]	5.350–5.482%	2028–2040	**34,255**	34,255
Series Three 2012A	4.000–4.500%	2023–2033	**16,995**	60,750
Series Three 2012B	2.000–5.000%	2019–2039	**85,615**	128,250
Series Three 2013A	3.000–5.000%	2018–2026	**74,865**	93,815
Series Three 2013B	3.000–5.000%	2026–2038	**7,500**	7,500
Series Three 2013C	4.000–5.000%	2018–2030	**19,335**	28,685
Series Three 2014A	3.400–5.000%	2018–2034	**12,870**	32,305
Series Three 2015A	2.750–5.000%	2018–2041	**69,975**	79,495
Series Three 2015B	3.375–5.000%	2018–2031	**23,900**	36,005
Series Three 2017A	5.000%	2019	**18,670**	18,670
Series Three 2017B	3.375–5.000%	2026–2039	**198,095**	–
Total Electric System Senior Revenue Bonds			**1,089,315**	1,137,820

(Dollars in Thousands)

8. Long-Term Debt (continued)

Long-Term Debt	Interest Rates[1]	Payment Dates	September 30 2018	September 30 2017
Electric System Subordinated Revenue Bonds:				
2000 Series A[2]	Variable	2021-2035	**$ 30,965**	$ 30,965
2000 Series F-1[2]	Variable	2026-2030	**37,200**	37,200
2000 Series F-2[2]	Variable	2026-2030	**24,800**	24,800
2008 Series D[2]	Variable	2024-2038	**39,455**	39,455
2009 Series A	N/A	N/A	**–**	21,140
2009 Series D	5.000%	2018	**11,660**	23,925
2009 Series E	4.000%	2018	**295**	2,215
2009 Series F[6]	4.800-6.406%	2018-2034	**63,670**	64,670
2009 Series G	4.000-5.000%	2018-2019	**16,090**	16,090
2010 Series A	N/A	N/A	**–**	710
2010 Series B	4.000-5.000%	2018-2024	**4,605**	7,535
2010 Series C	N/A	N/A	**–**	4,385
2010 Series D[6]	4.000-5.582%	2018-2027	**44,125**	45,575
2012 Series A	3.250-5.000%	2018-2033	**62,440**	88,500
2012 Series B	3.250-5.000%	2018-2037	**52,995**	93,750
2013 Series A	3.000-5.000%	2018-2030	**44,585**	54,110
2013 Series B	3.000-5.000%	2018-2026	**21,275**	25,385
2013 Series C	1.375-5.000%	2018-2038	**78,330**	80,390
2013 Series D	4.000-5.250%	2018-2035	**88,660**	124,025
2014 Series A	4.000-5.000%	2018-2039	**121,320**	206,105
2017 Series A	3.000-5.000%	2018-2019	**31,790**	71,735
2017 Series B	3.375-5.000%	2018-2034	**185,745**	–
Total Electric System Subordinated Revenue Bonds			**960,005**	1,062,665

(Dollars in Thousands)

8. Long-Term Debt (continued)

Long-Term Debt	Interest Rates[1]	Payment Dates	September 30 2018	2017
Bulk Power Supply System Revenue Bonds:				
Series 2010A[6]	4.600–5.920%	2018–2030	**$ 37,400**	$ 39,875
Series 2014A	2.000–5.000%	2018–2038	**63,320**	66,050
Total Bulk Power System Revenue Bonds			**100,720**	105,925
SJRPP System Revenue Bonds:				
Issue Two, Series Seventeen	N/A	N/A	**–**	100
Issue Two, Series Eighteen	N/A	N/A	**–**	50
Issue Two, Series Nineteen	N/A	N/A	**–**	100
Issue Two, Series Twenty	N/A	N/A	**–**	100
Issue Two, Series Twenty-One	N/A	N/A	**–**	5
Issue Two, Series Twenty-Two	N/A	N/A	**–**	5
Issue Two, Series Twenty-Three	N/A	N/A	**–**	64,910
Issue Two, Series Twenty-Four	N/A	N/A	**–**	29,625
Issue Two, Series Twenty-Five	N/A	N/A	**–**	45
Issue Two, Series Twenty-Six	N/A	N/A	**–**	65,970
Issue Two, Series Twenty-Seven	N/A	N/A	**–**	7,025
Issue Three, Series One[5]	4.500%	2037	**100**	100
Issue Three, Series Two[5]	5.000%	2034–2037	**29,370**	29,370
Issue Three, Series Four[5][6]	4.500–5.450%	2018–2028	**22,410**	24,085
Issue Three, Series Six[5]	2.375–5.000%	2019–2037	**91,330**	91,330
Issue Three, Series Seven[5]	2.000–5.000%	2019–2033	**79,500**	79,500
Issue Three, Series Eight[5]	2.000–5.000%	2019–2039	**57,895**	57,895
Total SJRPP System Revenue Bonds			**280,605**	450,215

(Dollars in Thousands)

8. Long-Term Debt (continued)

Long-Term Debt	Interest Rates[1]	Payment Dates	September 30 2018	September 30 2017
Water and Sewer System Senior Revenue Bonds:				
2006 Series B[4]	Variable	2018-2022	**$ 30,370**	$ 34,625
2008 Series A-2[2]	Variable	2028-2042	**51,820**	51,820
2008 Series B[2]	Variable	2023-2041	**85,290**	85,290
2009 Series B	3.750-5.000%	2018-2019	**18,295**	25,565
2010 Series A[6]	6.210-6.310%	2026-2044	**83,115**	83,115
2010 Series B	4.700-5.700%	2018-2025	**13,840**	15,570
2010 Series C	5.000%	2020	**3,000**	9,545
2010 Series D	4.000-5.000%	2018-2039	**42,525**	101,850
2010 Series E	4.000-5.000%	2021-2039	**11,865**	60,990
2010 Series F[6]	3.750-5.887%	2018-2040	**44,275**	45,520
2012 Series A	3.000-5.000%	2019-2041	**162,430**	317,935
2012 Series B	2.000-5.000%	2018-2037	**76,380**	130,085
2013 Series A	4.500-5.000%	2018-2027	**63,660**	89,740
2013 Series B	N/A	N/A	**–**	3,830
2014 Series A	2.000-5.000%	2018-2040	**217,790**	284,595
2017 Series A	3.125-5.000%	2020-2041	**378,220**	–
Total Water and Sewer System Senior Revenue Bonds			**1,282,875**	1,340,075
Water and Sewer System Subordinated Revenue Bonds:				
Subordinated 2008 Series A-1[2]	Variable	2018–2038	**50,950**	52,950
Subordinated 2008 Series A-2[2]	Variable	2030–2038	**25,600**	25,600
Subordinated 2008 Series B-1[2]	Variable	2030–2036	**30,885**	30,885
Subordinated 2010 Series A	5.000%	2018–2022	**8,275**	13,150
Subordinated 2010 Series B	3.000–5.000%	2020–2025	**3,255**	12,770
Subordinated 2012 Series A	3.000%	2021	**1,440**	20,320
Subordinated 2012 Series B	3.250–5.000%	2030–2043	**29,685**	35,505
Subordinated 2013 Series A	2.125–5.000%	2018–2029	**37,435**	72,250
Subordinated 2017 Series A	2.750–5.000%	2021–2034	**58,940**	–
Total Water and Sewer System Subordinated Revenue Bonds			**246,465**	263,430

(Dollars in Thousands)

8. Long-Term Debt (continued)

Long-Term Debt	Interest Rates[1]	Payment Dates	September 30 2018	2017
Water and Sewer System Other Subordinated Debt:				
Revolving Credit Agreement[7]	Variable	2021	**$ 3,000**	$ 3,000
Total Water and Sewer System Other Subordinated Debt			**3,000**	3,000
District Energy System:				
2013 Series A	1.725–4.538%	2018–2034	**36,485**	38,125
Total District Energy System			**36,485**	38,125
Total Debt Principal Outstanding			**3,999,470**	4,401,255
Less: Debt Due Within One Year			**(185,790)**	(229,095)
Total Long-Term Debt			**$ 3,813,680**	$ 4,172,160

(1) Interest rates apply only to bonds outstanding at September 30, 2018. Interest on the outstanding variable rate debt is based on either the daily mode, weekly mode, or the flexible mode, which resets in time increments ranging from 1 to 270 days. In addition, JEA has executed fixed-payer weekly mode interest rate swaps to effectively fix a portion of its net payments relative to certain variable rate bonds. The terms of the interest rate swaps are approximately equal to that of the fixed-payer bonds. See the Debt Management Strategy section of this note for more information related to the interest rate swap agreements outstanding at September 30, 2018 and 2017.

(2) Variable rate demand obligations – interest rates ranged from 1.53% to 1.68% at September 30, 2018.

(3) Variable rate direct purchased bonds indexed to SIFMA – interest rates were 1.96% at September 30, 2018.

(4) Variable rate bonds indexed to the Consumer Price Index (CPI bonds) – interest rates ranged from 3.02% to 3.07% at September 30, 2018.

(5) SJRPP System Issue Three Bonds were issued under the Second Power Park Resolution, whereby JEA is responsible for 100% of the related debt service payments. Whereas the SJRPP System Issue Two Bonds issued under the First Power Park Resolution, JEA is responsible for approximately 62.5% of the related debt service payments and FPL the remainder. On January 5, 2018, JEA defeased all the SJRPP System Issue Two Bonds in their entirety and on March 21, 2018, JEA satisfied and discharged the First Power Park Resolution.

(6) Federally Taxable – Issuer Subsidy – Build America Bonds where JEA expects to receive a cash subsidy payment from the United States Department of the Treasury for an amount up to 35% of the related interest.

(7) Revolving Credit Agreement – interest rates were 3.39% at September 30, 2018.

(Dollars in Thousands)

8. Long-Term Debt (continued)

Long-term debt activity (excluding short-term bank borrowings) for the year ended September 30, 2018 was as follows:

System	Debt Payable September 30, 2017	Par Amount of Debt Issued	Par Amount of Debt Refunded or Defeased	Scheduled Debt Principal Payments	Debt Payable September 30, 2018	Current Portion of Debt Payable September 30, 2018
Electric	$ 2,200,485	$ 383,840	$ (405,105)	$ (129,900)	$ 2,049,320	$ 124,980
Bulk Power Supply	105,925	–	–	(5,205)	100,720	5,710
SJRPP	450,215	–	(128,280)	(41,330)	280,605	1,720
Water and Sewer	1,603,505	437,160	(460,305)	(51,020)	1,529,340	51,720
DES	38,125	–	–	(1,640)	36,485	1,660
Total	$ 4,398,255	$ 821,000	$ (993,690)	$ (229,095)	$ 3,996,470	$ 185,790

Long-term debt activity (excluding short-term bank borrowings) for the year ended September 30, 2017 was as follows:

System	Debt Payable September 30, 2016	Par Amount of Debt Issued	Par Amount of Debt Refunded or Defeased	Scheduled Debt Principal Payments	Debt Payable September 30, 2017	Current Portion of Debt Payable September 30, 2017
Electric	$ 2,359,485	$ 90,405	$ (153,210)	$ (96,195)	$ 2,200,485	$ 129,900
Bulk Power Supply	111,970	–	–	(6,045)	105,925	5,205
SJRPP	494,000	–	–	(43,785)	450,215	41,330
Water and Sewer	1,643,515	–	(6,135)	(33,875)	1,603,505	51,020
DES	39,750	–	–	(1,625)	38,125	1,640
Total	$ 4,648,720	$ 90,405	$ (159,345)	$ (181,525)	$ 4,398,255	$ 229,095

(Dollars in Thousands)

8. Long-Term Debt (continued)

The debt service to maturity on the outstanding debt (excluding short-term bank borrowings) as of September 30, 2018 is summarized as follows:

Fiscal Year Ending	Electric System		Bulk Power Supply System		SJRPP	
September 30	Principal	Interest	Principal	Interest	Principal	Interest
2018	$ 124,980	$ 34,676	$ 5,710	$ 2,116	$ 1,720	$ 5,603
2019	116,230	72,122	6,150	3,959	13,780	11,128
2020	60,790	66,757	6,975	3,716	13,340	10,444
2021	59,140	63,939	7,080	3,498	14,175	9,894
2022	58,135	61,381	7,270	3,274	15,285	9,310
2023–2027	412,705	267,922	24,955	12,689	85,040	37,109
2028–2032	527,685	180,414	22,750	6,749	77,645	21,324
2033–2037	535,695	86,762	15,305	2,895	52,060	8,990
2038–2042	144,750	14,698	4,525	187	7,560	456
2043–2047	9,210	842	–	–	–	–
Total	$ 2,049,320	$ 849,513	$ 100,720	$ 39,083	$ 280,605	$ 114,258

Fiscal Year Ending	Water and Sewer System		District Energy System		Total Debt
September 30	Principal	Interest	Principal	Interest	Service(1)(2)(3)
2018	$ 51,720	$ 29,521	$ 1,660	$ 680	$ 258,386
2019	54,705	59,741	1,690	1,330	340,835
2020	56,340	57,535	1,725	1,296	278,918
2021	58,950	55,404	1,770	1,254	275,104
2022	59,550	52,973	1,815	1,206	270,199
2023–2027	294,405	225,940	10,005	5,102	1,375,872
2028–2032	295,730	159,214	12,165	2,943	1,306,619
2033–2037	356,835	96,163	5,655	388	1,160,748
2038–2042	285,850	30,530	–	–	488,556
2043–2047	15,255	1,274	–	–	26,581
Total	$ 1,529,340	$ 768,295	$ 36,485	$ 14,199	$ 5,781,818

(1) Includes debt service accrued from October 1 through September 30 of the corresponding fiscal year, except for fiscal year 2018, which excludes payments made during the fiscal year.

(2) Interest requirement for the variable rate debt was determined by using the interest rates that were in effect at the financial statement date of September 30, 2018.

(3) Interest in the above table reflects total interest on the Federally Taxable – Issuer Subsidy – Build America Bonds and does not reflect the impact of the 35% cash subsidy payments that JEA expects to receive in the future from the United States Department of the Treasury.

(Dollars in Thousands)

8. Long-Term Debt (continued)

JEA, at its option, may redeem specific outstanding fixed rate JEA Revenue Bonds prior to maturity, as discussed in the official statements covering their issuance. A summary of the redemption provisions is as follows:

	Electric System	Bulk Power Supply System	SJRPP	Water and Sewer System	District Energy System
Earliest fiscal year for redemption	2019	2019	2019	2019	2023
Redemption price	100%	100%	100%	100%	100%

JEA debt issued during fiscal year 2018 is summarized as follows:

System	Debt Issued	Purpose	Priority of Lien	Month of Issue	Par Amount Issued	Par Amount Refunded	Accounting Gain/(Loss)
Electric	Series Three 2017B	Refunding[1]	Senior	Dec 2017	$ 198,095	$ 210,030	$ (6,413)
Electric	2017 Series B	Refunding[2]	Subordinated	Dec 2017	185,745	195,075	(8,407)
Water and Sewer	2017 Series A	Refunding[3]	Senior	Dec 2017	378,220	394,335	(11,076)
Water and Sewer	2017 Series A	Refunding[4]	Subordinated	Dec 2017	58,940	65,970	(1,915)
					$ 821,000	$ 865,410	$ (27,811)

(1) Fixed rate bonds issued to refund fixed rate bonds with new debt service of $324,904 compared to prior debt service of $346,747 and $17,425 of net present value economic savings.

(2) Fixed rate bonds issued to refund fixed rate bonds with new debt service of $291,178 compared to prior debt service of $304,128 and $12,314 of net present value economic savings.

(3) Fixed rate bonds issued to refund fixed rate bonds with new debt service of $588,806 compared to prior debt service of $635,880 and $33,648 of net present value economic savings.

(4) Fixed rate bonds issued to refund fixed rate bonds with new debt service of $86,518 compared to prior debt service of $93,337 and $5,283 of net present value economic savings.

The JEA Board has authorized the issuance of additional refunding bonds within certain parameters for the Electric System, SJRPP, and Water and Sewer System. The following table summarizes the maximum amounts that could be issued:

	Authorization		
System	Senior	Subordinated	Expiration
Electric	$ 672,905	$ 447,255	December 31, 2018
SJRPP Issue Three	80,000	–	December 31, 2018
Water and Sewer	424,780	206,060	December 31, 2018

8. Long-Term Debt (continued)

Variable Rate Demand Obligations (VRDOs) – Liquidity Support

For the Electric System and the Water and Sewer System VRDOs appearing in the schedule of outstanding indebtedness, and except for the obligations noted in the following paragraphs, liquidity support is provided in connection with tenders for purchase with various liquidity providers pursuant to standby bond purchase agreements (SBPA) relating to that series of obligation. The purchase price of the obligations tendered or deemed tendered for purchase is payable from the proceeds of the remarketing thereof and moneys drawn under the applicable SBPA. At September 30, 2018, there were no outstanding draws under the SBPA. In the event of the expiration or termination of the SBPA that results in a mandatory tender of the VRDOs and the purchase of the obligations by the bank, then beginning on April 1 or October 1, whichever date is at least six months subsequent to the purchase of the obligations, JEA shall begin to make equal semiannual installments over an approximate five-year period. Commitment fees range from 0.38% to 0.42% with stated termination dates ranging from May 8, 2020 to August 22, 2022, unless otherwise extended. See note 18, Subsequent Events, for further details.

JEA entered into irrevocable direct-pay letter of credit and reimbursement agreement to support the payment of principal and interest on the Water and Sewer System 2008 Series A-2 VRDOs. The letter of credit agreement constitutes both a credit facility and a liquidity facility. As of September 30, 2018, there were no draws outstanding under the letter of credit agreement. Repayment of any draws outstanding at the expiration date are payable in equal semiannual installments over an approximate five-year period. The commitment fee is 0.48% with a stated expiration date of December 2, 2018, unless otherwise extended. Subsequent to the end of the fiscal year, the letter of credit and reimbursement agreement was renewed. See note 18, Subsequent Events, for further details.

JEA has entered into continuing covenant agreements for the Variable Rate Electric System Revenue Bonds, Series Three 2008B-1, Series Three 2008B-4 and Series Three 2008D-1 (collectively, the Direct Purchased Bonds). Except as described below, the bank does not have the option to tender the respective Direct Purchased Bonds for purchase for a period specified in the respective continuing covenant agreements, which period would be subject to renewal under certain conditions. Any Direct Purchased Bond that was not purchased from such bank on the scheduled mandatory tender date that occurred upon the expiration of such period would be required to be repaid as to principal in equal semiannual installments over a period of approximately five years from such scheduled mandatory tender date. Upon any such tender for payment, the Direct Purchased Bond so tendered would be due and payable immediately. The current expiration date of the continuing covenant agreements is December 12, 2018, unless otherwise extended. The interest rate is variable and set weekly based upon SIFMA plus 40 basis points. Subsequent to the end of the fiscal year, the continuing covenant agreements were renewed. See note 18, Subsequent Events, for further details.

8. Long-Term Debt (continued)

Short-Term Bank Borrowings

As of September 30, 2018, JEA has a revolving credit agreement with a commercial bank for an unsecured amount of $300,000. This agreement became effective on December 17, 2015, when JEA terminated the prior two revolving credit agreements with a total available amount of $300,000 with two commercial banks. The revolving credit agreement may be used with respect to the Electric System, the Bulk Power Supply System, the SJRPP System, the Water and Sewer System, or the DES, and for operating expenditures or for capital expenditures.

During fiscal year 2016, the revolving credit agreement was drawn upon by the Water and Sewer System for $3,000 and remains outstanding as of September 30, 2018, with $297,000 available to be drawn.

The revolving credit agreement is scheduled to expire on May 24, 2021. Subsequent to the end of the fiscal year, the revolving credit agreement was amended. See note 18, Subsequent Events, for further details.

Debt Management Strategy

JEA has entered into various interest rate swap agreements executed in conjunction with debt financings for initial terms up to 35 years (unless earlier terminated). JEA utilizes floating to fixed interest rate swaps as part of its debt management strategy. For purposes of this note, the term floating to fixed interest rate swaps refers to swaps in which JEA receives a floating rate and pays a fixed rate.

The fair value of the interest rate swap agreements and related hedging instruments is reported in the long-term debt section in the accompanying statements of net position; however, the notional amounts of the interest rate swaps are not reflected in the accompanying financial statements. JEA follows GASB Statement No. 53, *Accounting and Financial Reporting for Derivative Instruments*; therefore, hedge accounting is applied where fair market value changes are recorded in the accompanying statements of net position as either deferred outflow or deferred inflow resources.

The earnings from the debt management strategy interest rate swaps are recorded to interest on debt in the accompanying statements of revenues, expenses, and changes in net position.

(Dollars in Thousands)

8. Long-Term Debt (continued)

JEA entered into all outstanding floating to fixed interest rate swap agreements during prior fiscal years. The terms of the floating to fixed interest rate swap agreements outstanding at September 30, 2018, are as follows:

System	Hedged Bonds	Initial Notional Amount	Notional Amount Outstanding	Fixed Rate of Interest	Effective Date	Termination Date	Variable Rate Index
Electric	Series Three 2008C	**$ 174,000**	**$ 84,800**	3.7%	Sep 2003	Sep 2033	68% of one month LIBOR
Electric	Series Three 2008B	**117,825**	**82,575**	4.4%	Aug 2008	Oct 2039	SIFMA
Electric	Series Three 2008B	**116,425**	**85,600**	3.7%	Sep 2008	Oct 2035	68% of one month LIBOR
Electric	2008 Series D	**40,875**	**39,175**	3.7%	Mar 2009	Oct 2037	68% of one month LIBOR
Electric	Series Three 2008D-1	**98,375**	**62,980**	3.9%	May 2008	Oct 2031	SIFMA
Electric	Series Three 2008A	**100,000**	**51,680**	3.8%	Jan 2008	Oct 2036	SIFMA
Water and Sewer	2006 Series B	**38,730**	**30,370**	4.0-4.1%	Oct 2006	Oct 2018-2022	CPI
Water and Sewer	2008 Series B	**85,290**	**85,290**	3.9%	Mar 2007	Oct 2041	SIFMA
		$ 771,520	**$ 522,470**				

The terms of the floating to fixed interest rate swap agreements outstanding at September 30, 2017, are as follows:

System	Hedged Bonds	Initial Notional Amount	Notional Amount Outstanding	Fixed Rate of Interest	Effective Date	Termination Date	Variable Rate Index
Electric	Series Three 2008C	$ 174,000	$ 84,800	3.7%	Sep 2003	Sep 2033	68% of one month LIBOR
Electric	Series Three 2008B	117,825	82,575	4.4%	Aug 2008	Oct 2039	SIFMA
Electric	Series Three 2008B	116,425	86,000	3.7%	Sep 2008	Oct 2035	68% of one month LIBOR
Electric	2008 Series D	40,875	39,175	3.7%	Mar 2009	Oct 2037	68% of one month LIBOR
Electric	Series Three 2008D-1	98,375	62,980	3.9%	May 2008	Oct 2031	SIFMA
Electric	Series Three 2008A	100,000	51,680	3.8%	Jan 2008	Oct 2036	SIFMA
Water and Sewer	2006 Series B	38,730	34,625	3.9-4.1%	Oct 2006	Oct 2017-2022	CPI
Water and Sewer	2008 Series B	85,290	85,290	3.9%	Mar 2007	Oct 2041	SIFMA
		$ 771,520	$ 527,125				

(Dollars in Thousands)

8. Long-Term Debt (continued)

The following table includes fiscal year 2018 and 2017 summary information for JEA's effective cash flow hedges related to the outstanding floating to fixed interest rate swap agreements.

	Changes in Fair Value		Fair Value at September 30, 2018		
System	**Classification**	**Amount**	**Classification**	**Amount[1]**	**Notional**
Electric	Deferred outflows	**$ (31,247)**	Fair value of debt management strategy instruments	**$ (70,103)**	**$ 406,810**
Water and Sewer	Deferred outflows	**(7,666)**	Fair value of debt management strategy instruments	**(16,253)**	**115,660**
Total		**$ (38,913)**		**$ (86,356)**	**$ 522,470**

	Changes in Fair Value		Fair Value at September 30, 2017		
System	**Classification**	**Amount**	**Classification**	**Amount[1]**	**Notional**
Electric	Deferred outflows	$ (44,458)	Fair value of debt management strategy instruments	$ (101,350)	$ 407,210
Water and Sewer	Deferred outflows	(12,067)	Fair value of debt management strategy instruments	(23,919)	119,915
Total		$ (56,525)		$ (125,269)	$ 527,125

(1) Fair value amounts were calculated using market rates and standard cash flow present valuing techniques.

(Dollars in Thousands)

8. Long-Term Debt (continued)

For fiscal years ended September 30, 2018 and 2017, the weighted-average rates of interest for each index type of floating to fixed interest rate swap agreement and the total net swap earnings were as follows:

	2018	2017
68% of LIBOR Index:		
Notional amount outstanding	**$ 209,575**	$ 209,975
Variable rate received (weighted average)	**1.17%**	0.60%
Fixed rate paid (weighted average)	**3.69%**	3.70%
SIFMA Index (formerly BMA Index):		
Notional amount outstanding	**$ 282,525**	$ 282,525
Variable rate received (weighted average)	**1.27%**	0.80%
Fixed rate paid (weighted average)	**4.02%**	4.00%
CPI Index:		
Notional amount outstanding	**$ 30,370**	$ 34,625
Variable rate received (weighted average)	**2.87%**	2.60%
Fixed rate paid (weighted average)	**4.02%**	4.00%
Net debt management swap loss	**$ (13,395)**	$ (16,181)

(Dollars in Thousands)

8. Long-Term Debt (continued)

The following two tables summarize the anticipated net cash flows of JEA's outstanding hedged variable rate debt and related floating to fixed interest rate swap agreements at September 30, 2018:

Electric System[1]

Bond Year Ending October 1	Principal	Interest	Net Swap Interest	Total
2018	$ 400	$ 501	$ 820	$ 1,721
2019	425	6,031	9,794	16,250
2020	3,200	6,024	9,784	19,008
2021	3,275	5,970	9,713	18,958
2022	3,375	5,914	9,640	18,929
2023–2027	91,100	27,219	44,951	163,270
2028–2032	172,605	16,714	28,162	217,481
2033–2037	114,180	6,745	11,464	132,389
2038–2042	18,250	466	780	19,496
Total	$ 406,810	$ 75,584	$ 125,108	$ 607,502

Water and Sewer System[1]

Bond Year Ending October 1	Principal	Interest	Net Swap Interest	Total
2018	$ 5,520	$ 558	$ 320	$ 6,398
2019	5,740	2,036	2,278	10,054
2020	9,195	1,861	2,222	13,278
2021	4,860	1,581	2,132	8,573
2022	5,055	1,433	2,084	8,572
2023–2027	17,595	5,751	9,147	32,493
2028–2032	4,540	5,010	7,971	17,521
2033–2037	21,430	4,239	6,741	32,410
2038–2042	41,725	1,597	2,540	45,862
Total	$ 115,660	$ 24,066	$ 35,435	$ 175,161

(1) Interest requirement for the variable rate debt and the variable portion of the interest rate swaps was determined by using the interest rates that were in effect at the financial statement date of September 30, 2018. The fixed portion of the interest rate swaps was determined based on the actual fixed rates of the outstanding interest rate swaps at September 30, 2018.

(Dollars in Thousands)

8. Long-Term Debt (continued)

Credit Risk – JEA is exposed to credit risk on hedging derivative instruments that are in asset positions. To minimize its exposure to loss related to credit risk, the Board has established limits on the notional amount of JEA's interest rate swap transactions and standards for the qualification of financial institutions with which JEA may enter into interest rate swap transactions. The counterparties with which JEA may deal must be rated (i) "AAA" by one or more nationally recognized rating agencies at the time of execution, (ii) "AA/Aa3" or better by at least two of such credit rating agencies at the time of execution, or (iii) if such counterparty is not rated "AA/Aa3" or better at the time of execution, provide for a guarantee by an affiliate of such counterparty rated at least "A/A2" or better at the time of execution where such affiliate agrees to unconditionally guarantee the payment obligations of such counterparty under the swap agreement. In addition, each swap agreement will require the counterparty to enter into a collateral agreement to provide collateral when the ratings of such counterparty (or its guarantor) fall below "AA/Aa3" and a payment is owed to JEA. All outstanding interest rate swaps at September 30, 2018, were in a liability position. Therefore, if counterparties failed to perform as contracted, JEA would not be subject to any credit risk exposure at September 30, 2018.

JEA's floating to fixed interest rate swap counterparty credit ratings at September 30, 2018, are as follows:

Counterparty	Counterparty Credit Ratings S&P/Moody's/Fitch		Outstanding Notional Amount
Morgan Stanley Capital Service Inc.	BBB+/A3/A	$	175,925
Goldman Sachs Mitsui Marine Derivative Products L.P.	AA-/Aa2/not rated		136,480
JPMorgan Chase Bank, N.A.	A+/Aa3/AA		124,775
Merrill Lynch Derivative Products AG	A-/A3/A+		85,290
Total		$	522,470

Interest Rate Risk – JEA is exposed to interest rate risk where changes in interest rates could affect the related net cash flows and fair values of outstanding interest rate swaps. On a pay-fixed, receive-variable interest rate swap, as the floating swap index decreases, JEA's net payment on the swap increases, and as the fixed rate swap market declines as compared to the fixed rate on the swap, the fair value declines.

Basis Risk – JEA is exposed to basis risk on certain pay-fixed interest rate swap hedging derivative instruments because the variable-rate payments received on certain hedging derivative instruments are based on a rate or index other than interest rates that JEA pays on its hedged variable-rate debt, which is reset every one or seven days. As of September 30, 2018, the weighted-average interest rate on JEA's hedged variable-rate debt (excluding variable rate CPI bonds) is 1.71%, while the SIFMA swap index rate is 1.56% and 68% of LIBOR is 1.43%.

Termination Risk – JEA or its counterparties may terminate a derivative instrument if the other party fails to perform under the terms of the contract. If at the time of termination, a hedging derivative instrument were in a liability position, JEA would be liable to the counterparty for a payment equal to the liability.

(Dollars in Thousands)

8. Long-Term Debt (continued)

Market Access Risk – JEA is exposed to market access risk due to potential market disruptions in the municipal credit markets that could inhibit the issuing or remarketing of bonds and related hedging instruments. JEA maintains strong credit ratings (see Debt Administration section of the Management Discussion and Analysis) and, to date, has not encountered any barriers to the credit markets.

9. Transactions with City of Jacksonville

Utility and Administrative Services

JEA is a separately governed authority and considered a discretely presented component unit of the City. JEA provides electric, water, and sewer service to the City and its agencies and bills for such service using established rate schedules. JEA utilizes various services provided by departments of the City including insurance, legal, and motor pool. JEA is billed on a proportionate cost basis with other user departments and agencies. The revenues for services provided and expenses for services received by JEA for these related-party transactions with the City were as follows:

	2018	2017
Revenues	**$ 35,708**	$ 36,842
Expenses	**$ 6,031**	$ 5,433

City Contribution

On March 22, 2016, the City and JEA entered into a five-year agreement, which established the contribution formula for the fiscal years 2017 through 2021.

Although the calculation for the annual transfer of available revenue from JEA to the City is based upon formulas that are applied specifically to each utility system operated by JEA, JEA, at its sole discretion, may utilize any of its available revenues, regardless of source, to satisfy its total annual obligation to the City.

The contributions from the JEA Electric Enterprise Fund and JEA Water and Sewer Fund for fiscal years 2018 and 2017 were as follows:

	2018	2017
Electric	**$ 91,472**	$ 92,271
Water and Sewer	**$ 25,148**	$ 23,552

(Dollars in Thousands)

9. Transactions with City of Jacksonville (continued)

The JEA Electric Enterprise Fund is required to contribute annually to the General Fund of the City an amount equal to 7.468 mills per kilowatt hour delivered by JEA to retail users in JEA's service area and to wholesale customers under firm contracts having an original term of more than one year, other than sales of energy to FPL from JEA's SJRPP System. The JEA Water and Sewer Fund is required to contribute annually to the General Fund of the City an amount equal to 389.2 mills per thousand gallons of potable water and sewer service provided, excluding reclaimed water service. These calculations are subject to a minimum increase of 1% per year through 2021, using 2016 as the base year for the combined assessment for the Electric Enterprise Fund and Water and Sewer Fund. There is no maximum annual assessment.

Franchise Fees

In 2008, the City enacted a 3.0% franchise fee from designated revenues of the Electric and Water and Sewer systems. The ordinance authorizes JEA to pass through these fees to its electric and water and sewer funds. These amounts are included in operating revenues and expenses and were as follows:

	2018	2017
Electric	**$ 28,496**	$ 27,704
Water and Sewer	**$ 10,476**	$ 10,562

Insurance Risk Pool

JEA is exposed to various risks of loss related to torts, theft and destruction of assets, errors and omissions, and natural disasters. In addition, JEA is exposed to risks of loss due to injuries and illness of its employees. These risks are managed through the Risk Management Division of the City, which administers the public liability (general liability and automobile liability) and workers' compensation self-insurance program covering the activities of the City general government, JEA, Jacksonville Housing Authority, Jacksonville Port Authority, and the Jacksonville Aviation Authority. The general objectives are to formulate, develop, and administer, on behalf of the members, a program of insurance to obtain lower costs for that coverage and to develop a comprehensive loss control program.

(Dollars in Thousands)

9. Transactions with City of Jacksonville (continued)

JEA has excess coverage for individual workers' compensation claims above $1,200. Liability for claims incurred is the responsibility of, and is recorded in, the City's self-insurance plan. The premiums are calculated on a retrospective or prospective basis, depending on the claims experience of JEA and other participants in the City's self-insurance program. The liabilities are based on the estimated ultimate cost of settling the claim including the effects of inflation and other societal and economic factors. The JEA workers' compensation expense is the premium charged by the City's self-insurance plan. JEA is also a participant in the City's general liability insurance program. As part of JEA's risk management program, certain commercial insurance policies are purchased to cover designated exposures and potential loss programs. These amounts are included in operating expenses and were as follows:

	2018	2017
General liability	**$ 2,240**	$ 1,511
Workers' compensation	**$ 1,613**	$ 1,435

The following table shows the estimated workers' compensation and general liability loss accruals for the City and JEA's portion for the fiscal years ended September 30, 2018 and 2017. The amounts are recorded by the City at present value using a 4% discount rate for the fiscal years ended September 30, 2018 and September 30, 2017.

	Workers' Compensation		General Liability	
	City of Jacksonville	JEA Portion	City of Jacksonville	JEA Portion
Beginning balance	$ 94,300	$ 3,156	$ 15,531	$ 2,308
Change in provision	32,394	468	5,939	1,245
Payments	(23,052)	(1,032)	(6,170)	(997)
Ending balance	$ 103,642	$ 2,592	$ 15,300	$ 2,556

10. Fuel Purchase and Purchased Power Commitments

JEA has made purchase commitments for Scherer Unit 4 through calendar year 2022. Northside coal and petroleum coke commitments concluded at the end of September 2018. Contract terms specify minimum annual purchase commitments at fixed prices or at prices that are subject to market adjustments. JEA has remarketing rights under the coal contracts. The majority of JEA's coal and petroleum coke supply is purchased with transportation included.

In addition, JEA participates in Georgia Power agreements with rail carriers for the delivery of coal to Scherer Unit 4. Georgia Power Company, acting for itself and as agent for JEA and the other Scherer co-owners, has entered into an agreement with Burlington Northern Santa Fe Railway Company (BNSF) that extends the rail contract through calendar year 2028. Georgia Power has also entered into an agreement with the Norfolk Southern Railway Company (NS) that extends through December 31, 2019.

(Dollars in Thousands)

10. Fuel Purchase and Purchased Power Commitments (continued)

JEA has commitments to purchase natural gas delivered to Jacksonville under a long-term contract with Shell Energy North America L.P. (Shell Energy) that expire in 2021. Contract terms for the natural gas supply specify minimum annual purchase commitments at market prices. JEA has the option to remarket any excess natural gas purchases. In addition to the gas delivered by Shell Energy, JEA has long-term contracts with Peoples Gas system, Florida Gas Transmission, Southern Natural Gas and SeaCoast Gas Transmission for firm gas transportation to allow the delivery of natural gas through those pipeline systems. There is no purchase commitment of natural gas associated with those transportation contracts.

In the unlikely event that JEA would not be in a position to fulfill its obligations to receive fuel and purchased power under the terms of its existing fuel and purchased power contracts, JEA would nonetheless be obligated to make certain future payments. If the conditions necessitating the future payments occurred, JEA would mitigate the financial impact of those conditions by remarketing the fuel and purchased power at then-current market prices. The aggregate amount of future payments that JEA does not expect to be able to mitigate appears in the table below:

Fiscal Year Ending	Coal and Pet Coke Fuel	Natural Gas Transportation	Transmission	Total
2019	2,049	7,236	6,091	15,376
2020	1,165	7,256	7,212	15,633
2021	553	4,817	7,493	12,863
2022	247	–	7,776	8,023
2023	49	–	8,009	8,058
2024-2042	–	–	175,653	175,653

Vogtle Units Purchased Power Agreement

Overview

As a result of an earlier 2008 Board policy establishing a 10% of total energy from nuclear energy goal, JEA entered into a power purchase agreement (as amended, the Additional Vogtle Units PPA) with the Municipal Electric Authority of Georgia (MEAG) for 206 megawatts (MW) of capacity and related energy from MEAG's interest in two additional nuclear generating units (the Additional Vogtle Units or Plant Vogtle Units 3 and 4) under construction at the Alvin W. Vogtle Nuclear Plant in Burke County, Georgia. The owners of the Additional Vogtle Units include Georgia Power Company (Georgia Power), Oglethorpe Power Corporation (Oglethorpe), MEAG and the City of Dalton, Georgia (collectively, the Owners or Vogtle Co-Owners). The energy received under the Additional Vogtle Units PPA is projected to represent approximately 13% of JEA's total energy requirements in the year 2023.

10. Fuel Purchase and Purchased Power Commitments (continued)

The Additional Vogtle Units PPA requires JEA to pay MEAG for the capacity and energy at the full cost of production (including debt service on the bonds issued and to be issued by MEAG and on the loans made and to be made by the Project J Entity referred to below, in each case, to finance the portion of the capacity to be sold to JEA from the Additional Vogtle Units) plus a margin over the term of the Additional Vogtle Units PPA. Under the Additional Vogtle Units PPA, JEA is entitled to 103 MW of capacity and related energy from each of the Additional Vogtle Units for a 20-year term commencing on each Additional Vogtle Unit's commercial operation date and is required to pay for such capacity and energy on a "take-or-pay" basis (that is, whether or not either Additional Vogtle Unit is completed or is operating or operable, and whether or not its output is suspended, reduced or the like or terminated in whole or in part), except that JEA is not obligated to pay the "margin" referred to above during such periods in which the output of either Additional Vogtle Unit is suspended or terminated.

On September 11, 2018, MEAG filed a complaint in the United States District Court for the Northern District of Georgia seeking a declaratory judgement that the Additional Vogtle Units PPA is lawful and enforceable and ordering specific performance from JEA with the terms of the Additional Vogtle Units PPA. On the same day, JEA and the City, as co-plaintiffs, filed a complaint in the Fourth Judicial Circuit Court of Florida seeking a declaratory judgment that the Additional Vogtle Units PPA violates the Florida Constitution and laws and public policy of the state of Florida and is therefore ultra vires, void ab initio, and unenforceable. For additional information about such litigation, see the Litigation and Regulatory Proceedings section in this note.

Financing and In-Service Costs

MEAG created three separate "projects" (Vogtle Units 3 and 4 Project Entities) for the purpose of owning and financing its 22.7% undivided ownership interest in the Additional Vogtle Units (representing approximately 500.308 MW of capacity and related energy based upon the nominal rating of the Units). The project corresponding to the portion of MEAG's ownership interest, which will provide the capacity and energy to be purchased by JEA under the Additional Vogtle Units PPA, is referred to herein as "Project J." MEAG currently estimates that the total in-service cost for its entire undivided ownership interest in the Additional Vogtle Units will be approximately $6,485,000, including construction costs, financing costs through the estimated in-service dates, contingencies, initial fuel load costs, and switchyard and transmission costs. MEAG has additionally provided that its total financing needs for its share of the Additional Vogtle Units, including reserve funds and other fund deposits required under the financing documents, are approximately $6,975,000. Based on information provided by MEAG, (i) the portion of the total in-service cost for Plant Vogtle Units 3 and 4 allocable to Project J is approximately $2,715,000 and (ii) the portion of additional in-service costs relating to reserve funds and other fund deposits is approximately $203,000 resulting in total financing needs of approximately $2,918,000.

10. Fuel Purchase and Purchased Power Commitments (continued)

Financing for Project J – In order to finance a portion of its acquisition and construction of Project J and to refund bond anticipation notes previously issued by MEAG, MEAG issued approximately $1,248,435 of its Plant Vogtle Units 3 and 4 Project J Bonds (the 2010 PPA Bonds) on March 11, 2010. Of the total 2010 PPA Bonds, approximately $1,224,265 were issued as Federally Taxable – Issuer Subsidy – Build America Bonds where MEAG expects to receive a cash subsidy payment from the United States Treasury for 35% of the related interest, subject to reduction due to sequestration. At this time, a portion of the interest subsidy payments with respect to the Build America Bonds is not being paid as a result of the federal government sequestration process and the Bipartisan Budget Act of 2018 for the current fiscal year through fiscal year 2027. The exact amount of such reduction is determined on or about the beginning of the federal government's fiscal year, or October 1, and is subject to adjustment thereafter. The current reduction amount of 6.2% became effective on October 1, 2018. MEAG issued approximately $185,180 of additional Project J tax-exempt bonds on September 9, 2015.

On June 24, 2015, in order to obtain certain loan guarantees from the United States Department of Energy (DOE) for further funding of Plant Vogtle Units 3 and 4, MEAG divided its undivided ownership interest in Plant Vogtle Units 3 and 4 into three separate undivided interests and transferred such interests to the Vogtle Units 3 and 4 Project Entities. MEAG transferred approximately 41.175% of its ownership interest, representing 206 MW of nominally rated generating capacity (which is the portion of MEAG's ownership interest attributable to Project J), to MEAG Power SPVJ, LLC (the Project J Entity).

The Project J Entity entered into a loan guarantee agreement with the DOE in 2015, subsequently amended in 2016 and 2017, under which the Project J Entity is permitted to borrow from the Federal Financing Bank (FFB) an aggregate amount of approximately $577,743. To date, the Project J Entity has received proceeds from borrowings under the loan guarantee agreement in an aggregate principal amount of approximately $341,446. There is additional borrowing capacity of approximately $236,297 under the Project J Entity's existing DOE-guaranteed loan. On September 28, 2017, DOE, MEAG, and the Vogtle Units 3 and 4 Project Entities entered into a conditional commitment for additional DOE loan guarantees in the aggregate amount of $414,700. On September 17, 2018, the DOE extended the expiration date of such conditional commitment to March 31, 2019. Subject to satisfaction of the conditions contained in such conditional commitment, it is expected that the Project J Entity will obtain from FFB such additional lending commitment in the amount of $111,541. While MEAG expects that the total financing needs for Project J will exceed the aggregate of the Project J Entity's FFB lending commitments and the balance will be financed in the capital markets, in the event that the JEA litigation challenging its obligations under the Additional Vogtle Units PPA materially impedes access to capital markets for MEAG, Georgia Power has agreed to provide certain funding as described below under "Description of Construction Contracts and Status of Construction".

(Dollars in Thousands)

10. Fuel Purchase and Purchased Power Commitments (continued)

Summary of financing associated with Project J:

	Borrowings to Date	Additional Capacity	Total Projected Borrowings
2010A Build America Bonds	$ 1,224,265	$ –	$ 1,224,265
2010B tax-exempt bonds	24,170	–	24,170
2015A tax-exempt bonds	185,180	–	185,180
DOE loan guarantee	341,446	236,297	577,743
Additional conditional DOE loan guarantee	–	111,541	111,541
Additional public markets bonds	–	666,290	666,290
Other sources of funds	–	129,198	129,198
Total	$ 1,775,061	$ 1,143,326	$ 2,918,387

(Dollars in Thousands)

10. Fuel Purchase and Purchased Power Commitments (continued)

Based on information provided by MEAG, JEA's portion of the debt service on the outstanding Project J debt as of September 30, 2018 is summarized as follows:

Fiscal Year Ending September 30	Principal	Interest	Annual Debt Service	Build America Bonds Subsidy	Capitalized Interest	Net Debt Service
2019	$ 12,750	$ 98,800	$ 111,550	$ (27,612)	$ (71,188)	$ 12,750
2020	16,183	97,995	114,178	(27,392)	(70,603)	16,183
2021	19,952	97,058	117,010	(27,100)	(69,958)	19,952
2022	20,706	95,983	116,689	(26,790)	(33,262)	56,637
2023	22,100	94,842	116,942	(26,466)	(4,207)	86,269
2024	22,967	93,642	116,609	(26,129)	–	90,480
2025	23,819	92,385	116,204	(25,776)	–	90,428
2026	24,685	91,079	115,764	(25,409)	–	90,355
2027	25,570	89,721	115,291	(25,026)	–	90,265
2028	26,538	88,311	114,849	(24,626)	–	90,223
2029	27,511	86,844	114,355	(24,209)	–	90,146
2030	28,528	85,318	113,846	(23,774)	–	90,072
2031	29,586	83,733	113,319	(23,320)	–	89,999
2032	30,661	82,084	112,745	(22,847)	–	89,898
2033	31,842	80,370	112,212	(22,353)	–	89,859
2034	33,035	78,587	111,622	(21,838)	–	89,784
2035	34,272	76,733	111,005	(21,301)	–	89,704
2036	28,275	74,805	103,080	(20,740)	–	82,340
2037	16,223	72,799	89,022	(20,155)	–	68,867
2038	10,905	70,713	81,618	(19,545)	–	62,073
2039	6,973	68,543	75,516	(18,909)	–	56,607
2040	1,424	66,250	67,674	(18,246)	–	49,428
2041	–	63,866	63,866	(17,553)	–	46,313
2042	–	31,076	31,076	(9,217)	–	21,859
2043	–	4,058	4,058	(1,249)	–	2,809
Total	$ 494,505	$ 1,965,595	$ 2,460,100	$ (547,582)	$ (249,218)	$ 1,663,300

10. Fuel Purchase and Purchased Power Commitments (continued)

Description of Construction Contracts and Status of Construction

In 2008, Georgia Power, acting for itself and as agent for the other Vogtle Co-Owners, entered into a contract (EPC Contract) pursuant to which the Contractor agreed to design, engineer, procure, construct, and test the Additional Vogtle Units. The entities that constituted the Contractor prior to June 9, 2017 were Westinghouse Electric Company LLC (Westinghouse) and WECTEC Global Project Services Inc. (WECTEC, and together with Westinghouse, the Contractor).

On March 29, 2017, Westinghouse and WECTEC each filed for bankruptcy protection under Chapter 11 of the United States Bankruptcy Code.

On June 9, 2017, Georgia Power (for itself and as agent for the other Vogtle Co-Owners) and the Contractor entered into a services agreement (Services Agreement) for the Contractor to transition construction management of Plant Vogtle Units 3 and 4 to Southern Nuclear Operating Company, an affiliate of Georgia Power (SNC or Southern Nuclear), and to provide ongoing design, engineering, and procurement services to SNC. The Services Agreement has taken effect and provides that the Contractor will generally be compensated on a time and materials basis for services rendered. The Services Agreement will continue until the start-up and testing of Plant Vogtle Units 3 and 4 is complete and electricity is generated and sold from both units. Facility design and engineering remains the responsibility of Westinghouse under the Services Agreement. The Services Agreement is terminable by the Vogtle Co-Owners upon 30 days' written notice.

As a result of the Westinghouse and WECTEC bankruptcy, Georgia Power, along with SNC acting as the project manager, will manage the remaining bulk construction phase of the Additional Vogtle Units on behalf of the Owners pursuant to a revised Ownership Participation Agreement. Effective October 23, 2017, Bechtel Power Corporation (Bechtel) will serve as the prime construction contractor for the remaining construction activities for Plant Vogtle Units 3 and 4 under a Construction Agreement entered into between Bechtel and Georgia Power, acting for itself and as agent for the other Vogtle Co-Owners (Construction Agreement).

Unlike the EPC Contract, which required the Contractor to absorb most of the construction cost overruns for the Additional Vogtle Units, the Construction Agreement is a cost reimbursable plus fee arrangement, whereby Bechtel will be reimbursed by the Vogtle Co-Owners for actual costs plus a base fee and an at-risk fee, which is subject to adjustment based on Bechtel's performance against cost and schedule targets. Each Vogtle Co-Owner is severally (not jointly) liable for its proportionate share, based on its ownership interest, of all amounts owed to Bechtel under the Construction Agreement.

The Vogtle Co-Owners may terminate the Construction Agreement at any time for their convenience, provided that the Vogtle Co-Owners will be required to pay amounts related to work performed prior to the termination (including the applicable portion of the base fee), certain termination-related costs, and, at certain stages of the work, the at-risk fee. Bechtel may terminate the Construction Agreement under certain circumstances, including certain Vogtle Co-Owner suspensions of work, certain breaches of the Construction Agreement by the Vogtle Co-Owners, Vogtle Co-Owner insolvency, and certain other events.

10. Fuel Purchase and Purchased Power Commitments (continued)

Georgia Power recommended in the 17th Vogtle Construction Monitoring report (the VCM 17 Report, filed with the Georgia Public Service Commission ("GPSC") on August 31, 2017), that the construction of the Additional Vogtle Units be continued. The Vogtle Co-Owners recommended that the Additional Vogtle Units be completed on the condition that any of the Owners have the right to abandon the construction of the Plant Vogtle Units 3 and 4 if the revised cost estimate or the revised construction schedule is not approved by the GPSC or if there is a determination by the GPSC that any of Georgia Power's share of the total investment in Plant Vogtle Units 3 and 4 or Georgia Power's associated financing costs will not be recovered in Georgia Power's retail rates, because they are deemed by the GPSC to be unreasonable or imprudent.

The Vogtle Co-Owners entered into an amendment, dated as of November 2, 2017, to their joint ownership agreements for Plant Vogtle Units 3 and 4 (as amended, the "Joint Ownership Agreements") to provide for, among other conditions, additional Vogtle Co-Owner approval requirements. Pursuant to the Joint Ownership Agreements, the holders of at least 90% of the ownership interests in Plant Vogtle Units 3 and 4 must vote to continue construction if certain adverse events occur including: (1) termination or rejection in bankruptcy of certain agreements, including the Services Agreement or the Construction Agreement; (2) the GPSC or Georgia Power determines that any of Georgia Power's costs relating to the construction of Plant Vogtle Units 3 and 4 will not be recovered in retail rates because such costs are deemed unreasonable or imprudent; or (3) an increase in the construction budget contained in the Vogtle Construction Monitoring 17 Report of more than $1,000,000 or extension of the project schedule contained in the VCM 17 Report of more than one year. In addition, pursuant to the Joint Ownership Agreements, the required approval of holders of ownership interests in Plant Vogtle Units 3 and 4 is at least (1) 90% for a change of the primary construction contractor and (2) 67% for material amendments to the Services Agreement or agreements with Southern Nuclear or the primary construction contractor, including the Construction Agreement.

The Joint Ownership Agreements also provide that the Vogtle Co-Owners' sole recourse against Georgia Power or Southern Nuclear for any action or inaction in connection with their performance as agent for the Vogtle Co-Owners is limited to removal of Georgia Power and/or Southern Nuclear as agent, except in cases of willful misconduct.

On December 21, 2017, the GPSC took a series of actions related to the construction of Plant Vogtle Units 3 and 4 and issued its related order on January 11, 2018. Among other actions, the GPSC (i) accepted Georgia Power's recommendation to continue construction of Plant Vogtle Units 3 and 4, with Southern Nuclear serving as construction manager and Bechtel as primary contractor and (ii) approved the revised schedule placing Vogtle Unit 3 in service in November 2021 and Vogtle Unit 4 in service in November 2022. In its January 11, 2018 order, the GPSC stated if certain conditions change and assumptions upon which Georgia Power's VCM 17 Report are based do not materialize, the GPSC reserved the right to reconsider the decision to continue construction.

10. Fuel Purchase and Purchased Power Commitments (continued)

During the latter part of the second quarter through the early part of the third quarter of 2018, Georgia Power advised the other Vogtle co-owners that it had become aware that certain estimated future Vogtle project costs were projected to exceed the corresponding budgeted amounts. The base capital costs estimated to complete construction were expected to increase by approximately $1,400,000 (the aggregate 22.7% shares of the Vogtle Units 3 and 4 Project Entities were estimated at $317,800). Georgia Power stated that although it believed these increased costs to be reasonable and necessary to complete the project, Georgia Power did not intend to seek rate recovery for these cost increases included in the current base capital cost forecast (or any related financing costs). As a result of the increase in the total project capital cost forecast and Georgia Power's decision not to seek rate recovery of its allocation of the increase in the costs as described above, the holders of at least 90% of the ownership interests in Plant Vogtle Units 3 and 4 were required to vote to continue construction. MEAG, and the other Vogtle Co-Owners, are evaluating these increased capital costs along with a project-level contingency estimated by Georgia Power in a preliminary amount of $800,000 (the aggregate 22.7% shares of the Vogtle Units 3 & 4 Project Entities estimated at $182,000). In connection with future Vogtle Construction Monitoring filings, Georgia Power may request the GPSC to evaluate costs currently included in the construction contingency estimate for rate recovery as and when they are appropriately included in the base capital cost forecast.

On September 26, 2018, the co-owners received the required vote to continue construction of Plant Vogtle Units 3 and 4. In connection with the vote to continue construction, Georgia Power entered into (i) a binding term sheet (the Vogtle Owner Term Sheet) with the other co-owners to take certain actions which partially mitigate potential financial exposure for the other co-owners, including amendments to the Vogtle Joint Ownership Agreements and the purchase of production tax credits (PTCs) from the other co-owners, and (ii) a binding term sheet (the MEAG Term Sheet and, together with the Vogtle Owner Term Sheet, the "Term Sheets") with MEAG and the Project J Entity to provide funding with respect to the Project J Entity's ownership interest in Plant Vogtle Units 3 and 4 under certain circumstances.

Under the Vogtle Owner Term Sheet, among other amendments to the Vogtle Joint Ownership Agreements, provisions of the Vogtle Joint Ownership Agreements requiring that co-owners holding 90% of the ownership interests in Plant Vogtle Units 3 and 4 vote to continue construction following certain adverse events would be amended. In particular, an increase in the construction cost estimate for Plant Vogtle Units 3 and 4 would no longer constitute an adverse event and thus would no longer require a vote. In addition, the adverse event relating to disallowances of cost recovery by Georgia Power would be amended to exclude any additional amounts paid by Georgia Power on behalf of the other co-owners pursuant to certain Vogtle Owner Term Sheet provisions and the first 6% of costs during any six-month VCM reporting period that are disallowed by the GPSC for recovery, or for which Georgia Power elects not to seek cost recovery, through retail rates. In addition, the Vogtle Owner Term Sheet provides that the Vogtle Joint Ownership Agreements would be revised to provide that Georgia Power may cancel the project at any time in its sole discretion.

10. Fuel Purchase and Purchased Power Commitments (continued)

Pursuant to the MEAG Term Sheet[1], if the Project J Entity is unable to make its payments due under the Vogtle Joint Ownership Agreements solely because (i) the conduct of JEA, such as JEA's continuation of its litigation challenging its obligations under the Additional Vogtle Units PPA, materially impedes access to capital markets for MEAG for Project J, or (ii) the Additional Vogtle Units PPA is declared void by a court of competent jurisdiction or rejected by JEA under the applicable provisions of the United States Bankruptcy Code (each of (i) and (ii), a JEA Default), Georgia Power will purchase from the Project J Entity the rights to PTCs attributable to the Project J Entity's share of Plant Vogtle Units 3 and 4 (approximately 206 MW) at varying prices dependent upon the stage of construction of Plant Vogtle Units 3 and 4.

At the option of MEAG, as an alternative or supplement to Georgia Power's purchase of PTCs as described above, Georgia Power has agreed to provide up to $250,000 in funding to MEAG for Project J in the form of loans (either advances under the Vogtle Joint Ownership Agreements or the purchase of Project J Bonds), subject to any required approvals of the GPSC and the DOE.

In the event the Project J Entity certifies to Georgia Power that it is unable to fund its obligations under the Vogtle Joint Ownership Agreements as a result of a JEA Default and Georgia Power becomes obligated to provide funding as described above, MEAG is required to (i) assign to Georgia Power its right to vote on any future adverse event and (ii) diligently pursue JEA for its breach of the Project J PPA.

Under the terms of the MEAG Term Sheet, Georgia Power may decline to provide any funding in the form of loans, including in the event of a failure to receive any required GPSC or DOE approvals, and cancel the project in lieu of providing such loan funding.

Litigation and Regulatory Proceedings

Litigation – As noted in the Overview section, on September 11, 2018, both MEAG and JEA filed court actions seeking declaratory judgment on the enforceability of the Additional Vogtle Units PPA. MEAG filed its action in the United States District Court for the Northern District of Georgia, Civil Action No.: 1:18-CV-04295-MHC and JEA and the City filed their action in the Circuit Court, Fourth Judicial Circuit, Duval County, Florida, Case No.: 16-2018-CA-006197-XXXX-CV-G, removed to the United States District Court for the Middle District of Florida, Case No.: 3:18-cv-174-J-39JRK. Both cases are engaged in extensive procedural litigation over the forum in which the substantive issues will be tried. JEA will vigorously defend and prosecute these actions, but provides no assurances regarding the outcome or consequences of the litigation.

[1] Information provided regarding the MEAG Term Sheet is based on information filed by MEAG with the Municipal Securities Rulemaking Board (the "MSRB"), through the MSRB's Electronic Municipal Market Access ("EMMA") website currently located at http://emma.msrb.org. JEA has not been able to independently review the MEAG Term Sheet.

10. Fuel Purchase and Purchased Power Commitments (continued)

Regulatory Proceedings – On September 17, 2018, JEA filed a petition with the Federal Energy Regulatory Commission (FERC) seeking a determination that FERC has exclusive jurisdiction pursuant to the Federal Power Act (FPA) over the Additional Vogtle Units PPA (FERC Petition). If FERC grants jurisdiction over the Additional Vogtle Units PPA, FERC will determine the validity of the Additional Vogtle Units PPA terms and conditions under the "just and reasonable" standard set forth in the FPA. Numerous entities, including MEAG, public utilities, municipalities, and trade groups, have filed comments with FERC challenging the theories of law and arguments raised in the FERC Petition. There is no deadline for FERC to render a decision on the FERC Petition.

Option to Purchase Interest in Lee Nuclear Station

On February 1, 2011, JEA entered into an option agreement with Duke Energy Carolinas, LLC (Duke Carolinas), a wholly owned subsidiary of Duke Energy Corporation, pursuant to which JEA has the option (but not the obligation) to purchase an undivided ownership interest of not less than 5% and not more than 20% of the proposed two-unit nuclear station currently known as William States Lee III Nuclear Station, Units 1 and 2 to be constructed at a site in Cherokee County, South Carolina (the Lee Project). The Lee Project planned to have 2,234 MW of electric generating capacity with a projected on-line date of 2026 with respect to Unit 1 and 2028 with respect to Unit 2. The total cost of the option was $7,500, payment of which has been completed. JEA obtained this option in furtherance of its 2010 policy target to acquire up to 30% of JEA's energy requirements from nuclear sources by 2030.

The option agreement requires that JEA and Duke Carolinas complete negotiation of an ownership agreement and an operation and maintenance agreement for the Lee Project prior to JEA exercising the option. The option exercise period will be opened by Duke Carolinas after it (i) receives NRC approval of the COL for the Lee Project and (ii) executes an engineering, procurement, and construction agreement for the Lee Project. The Lee Project COL was received from the NRC in December 2016. In August 2017, Duke Carolinas filed with the North Carolina Utilities Commission and the South Carolina Public Service Commission to cancel the plant. This cancellation allows Duke Carolinas to seek cost recovery for the expenditures on licensing the plant, however, the NRC license remains active and the cancellation is not permanent. There is currently no schedule for negotiating an EPC agreement.

Once the exercise period is opened, JEA will have 90 days within which to exercise the option, and, if it does exercise the option, it must specify the percentage undivided ownership interest in the Lee Project that it will acquire.

After JEA exercises the option (should it elect to do so) and various regulatory approvals are obtained, JEA must pay Duke Carolinas the exercise price for the option. Such price is generally JEA's pro rata share, based on its percentage ownership interest in the Lee Project, of the development and pre construction cost for the Lee Project incurred by Duke Carolinas from the beginning of the Lee Project through the closing date of the option exercise. JEA is undecided as to the financing structure it would employ to finance its interest in the Lee Project, should it elect to exercise its option.

Under certain circumstances, should the Lee Project be terminated by Duke Carolinas, Duke may be obligated to provide JEA with options for alternative resources (but not necessarily from nuclear resources) to replace JEA's optionable portion of the projected Lee Project capacity.

10. Fuel Purchase and Purchased Power Commitments (continued)

Such alternative resources are to be available to JEA within two years of the projected online date for the Lee Project, once such date is set. No alternative resource for the Lee Project has yet been proposed by Duke Carolinas.

Solar Projects

In 2009, JEA entered into a 30-year purchased power agreement with Jacksonville Solar, LLC for the produced energy, as well as the associated environmental attributes from a solar farm, Jacksonville Solar, which has been constructed in JEA's service territory. The facility, which consists of 200,000 photovoltaic panels on a JEA-leased 100-acre site, is owned by PSEG Solar Source, LLC and generated approximately 18,391 MWh of electricity in 2018 and 20,074 MWh of electricity in 2017. JEA pays only for the energy produced. Purchases of energy were $3,592 for fiscal year 2018 and $3,819 in 2017.

As part of JEA's continued commitment to the environment, and to increase JEA's level of carbon-free renewable energy generation, in December 2014, the Board established a solar policy to add up to 38 MWac of solar photovoltaic capacity. To support this policy, JEA issued Requests for Proposals for Power Purchase Agreements (PPAs) in December 2014 and April 2015. Seven PPAs, representing 27 MWac, have been finalized. One other PPA, which had been finalized, was terminated due to the failure of the awardee (SunEdison) to establish site control within the time allowed by the contract. The solar PPAs are distributed around JEA's service territory.

The projects for this 2014 initiative are scheduled for completion in 2018. As of the end of fiscal year 2018, five of the seven projects had been completed: NW Jacksonville Solar, Old Plank Road Solar, Starratt Solar, Simmons Solar, and Blair Road Solar. JEA entered into 20-25 year purchased power agreements for the energy and the associate environmental attributes from each solar farm. The solar facilities generated approximately 36,755 MWh in 2018 and 5,394 MWh in 2017. JEA pays only for the energy produced. Purchases of energy were $2,703 for fiscal year 2018 and $354 in 2017.

The JEA Board approved a further solar expansion consisting of five 50 MWac solar facilities to be constructed on JEA owned property. These projects, totaling 250 MWac, will be structured as PPAs. EDF-DS was selected as the vendor for the sites and contract negotiations are currently underway. It is expected the facilities will be phased into service with all sites completed by 2022.

Trail Ridge Landfill

JEA purchases energy from two landfill gas-to-energy facilities through PPA agreements with Landfill Energy Systems (LES). Each agreement is for 9.6 MWs. Currently, JEA purchases 9.6 MW from Trail Ridge Landfill in Jacksonville, FL and 6.4 MW from Sarasota Landfill in Sarasota, FL. LES can supply the remaining 3.2 MW from Sarasota if it is expanded and becomes available. JEA pays only for the energy produced. LES pays all transmission and ancillary charges associated with transmitting the energy from Sarasota to Jacksonville, which came online in January 2015. Purchases of landfill energy were 76,821 MWh for $4,554 in fiscal year 2018 and 89,682 MWh for $3,671 in 2017.

11. Energy Market Risk Management Program

The energy market risk management program is intended to help manage the risk of changes in the market prices of fuel consumed by JEA for electric generation. In December 2017, JEA entered into a financial swap that locked in the monthly commodity price of natural gas for calendar year 2018 for approximately 40% of its expected annual natural gas requirements. In August and September 2018, JEA entered into financial swaps that locked in the monthly commodity price of natural gas for December 2019 through December 2021 for approximately 45% of its expected annual natural gas requirements in those years. There was no additional activity in the program during fiscal year 2017.

JEA executes over-the-counter forward purchase and sale contracts and swaps. For effective derivative transactions, hedge accounting is applied in accordance with GASB Statement No. 53 and the fair market value changes are recorded on the accompanying statements of net position as either a deferred charge or a deferred credit until such time that the transactions end. Deferred charges of $1,851 were included in deferred inflows of resources on the statements of net position at September 30, 2018 and $0 at 2017. The related settled gains and losses from these transactions are recognized as fuel expenses on the accompanying statements of revenues, expenses, and changes in net position. For the year ended September 30, 2018, there was a realized gain included in fuel expense of $4,191 and a realized loss of $323 in 2017.

12. Pension Plans

Substantially all employees of the Electric System and Water and Sewer System participate in and contribute to the City of Jacksonville General Employee Retirement Plan (GERP), as amended. The GERP is a cost-sharing, multiple-employer contributory defined benefit pension plan with a defined contribution alternative. GERP, based on laws outlined in the City of Jacksonville Ordinance Code and applicable Florida statutes, provides for retirement, survivor, death, and disability benefits. Its latest financial statements and required supplementary information are included in the 2017 Comprehensive Annual Financial Report of the City of Jacksonville, Florida. This report may be obtained at: http://www.coj.net/departments/finance/docs/accounting/city-of-jacksonville-2017-cafr-secure.aspx or by writing to the City of Jacksonville, Florida, Department of Administration and Finance, Room 300, City Hall, 117 West Duval Street, Jacksonville, Florida 32202-3418.

The first phase of pension reform was approved by the City of Jacksonville in April 2017. The reform provides for a dedicated funding source for the GERP, Corrections Officers Plan, and Police and Fire Pension Plan through the extension of the Better Jacksonville Plan half-cent sales tax. The surtax will remain in effect until the earlier of December 31, 2060 or when it is determined by the actuarial report to the Florida Department of Management Services that the funding level of each of the City's three defined benefit retirement plans, which are funded by surtax, is expected to reach or exceed 100%.

In order for the plan to benefit from the sales tax revenue, the GERP was closed to new members and employees as of September 30, 2017.

12. Pension Plans (continued)

Plan Benefits Provided – Participation in the GERP is mandatory for all full-time employees of JEA, Jacksonville Housing Authority, North Florida Transportation Planning Authority, and the City of Jacksonville, other than police officers and firefighters. Appointed officials and permanent employees not in the civil service system may opt to become members of GERP. Elected officials are members of the Florida Retirement System Elected Officer Class. Members of the GERP are eligible to retire with a normal pension benefit upon achieving one of the following: (a) completing 30 years of credited service, regardless of age; (b) attaining age 55 with 20 years of credited service; or (c) attaining age 65 with five years of credited service. There is no mandatory retirement age.

Upon reaching one of the three conditions for retirement described above, a member is entitled to a retirement benefit of 2.5% of final average compensation, multiplied by the number of years of credited service, up to a maximum benefit of 80% of final monthly compensation. A time service retirement benefit is payable bi-weekly, to commence upon the first payday coincident with or next payday following the member's actual retirement, and will continue until death.

Each member and survivor is entitled to a cost of living adjustment (COLA). The COLA consists of a 3% increase of the retiree's or survivor's pension benefits, which compounds annually. The COLA commences in the first full pay period of April occurring at least 4.5 years (and no more than 5.5 years) after retirement. In addition, there is a supplemental benefit. The supplemental benefit is equal to five dollars ($5) multiplied by the number of years of credited service. This benefit may not exceed $150 per month.

Contributions – Florida law requires plan contributions be made annually in amounts determined by an actuarial valuation in either dollars or as a percentage of payroll. The Florida Division of Retirement reviews and approves the City's actuarial report to ensure compliance with actuarial standards and appropriateness for funding purposes. In fiscal year 2018, JEA plan members were required to contribute 10% of their annual covered salary. In fiscal year 2017, JEA plan members were required to contribute 8% of their annual covered salary. JEA's contribution of the covered payroll for the JEA plan members was $35,459 (21.09%) in fiscal year 2018 and $48,942 (38.27%) in 2017. Contributions were made in accordance with contribution requirements determined through an actuarial valuation.

Defined Contribution Plan

The City has, by ordinance, a defined contribution (DC) plan within the Jacksonville Retirement System for GERP participants as an employee choice alternative to the defined benefit (DB) plans. Beginning in fiscal year 2011, employees had the option to participate in a DC plan. Employees vest in the employer contributions to the plan at 25% after two years, and 25% per year thereafter until fully vested after five years of service. Employees hired prior to September 30, 2017 can electively change from the DC plan to the DB plan, or vice versa, up to three times within their first five years of participation. All employees hired after September 30, 2017 now enter this plan.

In fiscal years 2018 and 2017, JEA plan members of the defined contribution plan were required to contribute 8% of their annual covered salary. JEA's contribution for the members of the defined contribution plan was $1,886 (11.31%) in fiscal year 2018 and $982 (8%) in 2017. Any contribution forfeitures were used to offset plan expenses.

12. Pension Plans (continued)

Disability Program Fund

All contributions for both the defined contribution and defined benefit plans of the City of Jacksonville were separated between the pension contribution and a disability program fund. Due to this change, a physical exam is not required to participate in the plans.

Pension Liabilities, Pension Expense, Deferred Outflows of Resources, and Deferred Inflow of Resources Related to Pensions

Net Pension Liability – JEA's net pension liability at September 30, 2018 and September 30, 2017 was measured based on an actuarial valuation as of September 30, 2017 and September 30, 2016, respectively. JEA's allocated share of the net pension liability is $527,680 (51.68%) as of September 30, 2018, based on an allocation proportional to the actual contributions paid during the year ended September 30, 2017. JEA's allocated share of the net pension liability as of September 30, 2017 was $541,025 (50.37%), based on an allocation proportional to the actual contributions paid during the year ended September 30, 2016.

For the year ended September 30, 2018 and 2017, JEA's recognized pension expense is $77,111 and $74,849, respectively. As JEA has implemented regulatory accounting for pensions, the difference between the recognized pension expense and the cash contributions paid has been deferred as a regulatory asset. See note 2, Regulatory Deferrals, for additional details.

(Dollars in Thousands)

12. Pension Plans (continued)

JEA reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

	September 30	
	2018	**2017**
Deferred outflows of resources		
Changes in assumptions	**$ 59,741**	$ 49,859
Contributions subsequent to the measurement date	**35,459**	48,942
Differences between expected and actual experience	**25,477**	24,354
Net difference between projected and actual earnings on pension investments	**–**	24,319
Changes in proportion	**16,452**	9,599
Total	**$ 137,129**	$ 157,073
Deferred inflows of resources		
Net difference between projected and actual earnings on pension investments	**$ (37,760)**	$ –
Changes in assumptions	**(3,730)**	(5,454)
Differences between expected and actual experience	**(1,543)**	(2,525)
Total	**$ (43,033)**	$ (7,979)

Contributions of $35,459 were reported as deferred outflows of resources related to pensions resulting from JEA contributions subsequent to the September 30, 2017 measurement date and will be recognized as a reduction of the net pension liability in the year ended September 30, 2019. Other amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows:

Year Ended September 30	**Recognition of Deferred Outflows (Inflows)**
2019	$ 28,251
2020	24,888
2021	8,622
2022	(3,124)
Total	$ 58,637

(Dollars in Thousands)

12. Pension Plans (continued)

Actuarial Assumptions – The total pension liability was determined by an actuarial valuation as of September 30, 2017, using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation	2.75%
Salary increases assumption	3.00%-6.00%, of which 2.75% is the Plan's long-term payroll inflation
Investment rate of return	7.20%, net of pension plan investment expense, including inflation
Healthy pre-retirement mortality rates	50% RP2000 Combined Healthy White Collar and 50% RP2000 Combined Healthy Blue Collar, set forward 2.5 years, projected generationally with Scale BB for males; RP2000 Combined Healthy White Collar, set forward 2.5 years, projected generationally with Scale BB for females.
Healthy post-retirement mortality rates	50% RP2000 White Collar Annuitant and 50% RP2000 Blue Collar Annuitant, set forward 2.5 years, projected generationally with Scale BB for males; RP2000 White Collar Annuitant, set forward 2.5 years, projected generationally with Scale BB for females.
Disabled mortality rates	RP-2000 Disabled Retiree Mortality Table, setback four years for males and set forward two years for females

The actuarial assumptions used in the valuations were based on the results of an experience study for the period October 1, 2007 to September 30, 2012. Data from the experience study is reviewed in conjunction with each annual valuation, and updates to the mortality improvement scale and discount rate have been made as of September 30, 2017.

(Dollars in Thousands)

12. Pension Plans (continued)

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentages and by adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in the pension plan's target asset allocation as of September 30, 2017, are summarized in the following table. The long-term expected real rates of return are based on 20-year projections of capital market assumptions provided by Segal Marco Advisors.

Asset Class	Target Allocation	Long-term Expected Real Rate of Return
Domestic equity	35%	6.40%
International equity	20%	7.40%
Real estate	25%	5.10%
Fixed income	19%	1.75%
Cash	1%	1.10%
Total	100%	

Discount Rate – The discount rate used to measure the total pension liability is 7.20%. The projection of cash flows used to determine the discount rate assumed plan member contributions would be made at their applicable contribution rates and that City contributions would be made at rates equal to the actuarially determined contribution rates. Based on these assumptions, the Plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on the Plan's investments was applied to all periods of projected benefit payments to determine the total pension liability. Cash flow projections were run for a 120-year period.

Sensitivity of the Net Pension Liability to Changes in the Discount Rate – The following presents the net pension liability of the Jacksonville GERP, calculated using the discount rate of 7.20% for 2018 and 7.40% for 2017, as well as what the Jacksonville GERP's net pension liability would be if it were calculated using a discount rate that is 1% lower or 1% higher than the discount rate used:

	Net Pension Liability 2018	Net Pension Liability 2017
1% decrease	**$ 713,777**	$ 713,190
Current discount	**527,680**	541,025
1% increase	**372,518**	397,385

Pension Plan Fiduciary Net Position – Detailed information about the pension plan's fiduciary net position is included in the 2017 Comprehensive Annual Financial Report of the City of Jacksonville, Florida.

12. Pension Plans (continued)

St. Johns River Power Park Plan Description

Plan Description – The SJRPP Plan is a single employer contributory defined benefit plan that covers employees of SJRPP. The SJRPP Plan provides for pension, death, and disability benefits. Participation in the SJRPP Plan is required as a condition of employment. The SJRPP Plan is subject to provisions of Chapter 112 of the State of Florida Statutes and the oversight of the Florida Division of Retirement. The SJRPP Plan is governed by a five-member pension committee (Pension Committee). As part of the Asset Transfer Agreement with FPL related to the shutdown of SJRPP, JEA assumed all payment obligations and other liabilities related to separation benefits for the qualifying SJRPP employees and any amounts required to be deposited in SJRPP Pension Fund.

The SJRPP Plan periodically issues stand-alone financial statements, with the most recent report issued for the year ended September 30, 2017. This report may be obtained at https://www.jea.com/About/Investor_Relations/Financial_Reports/SJRPP_Pension.

Pursuant to the February 25, 2013 amendment, the SJRPP Plan consists of two tiers: Tier One is the Defined Benefits Tier and Tier Two is the Cash Balance Tier. Tier One participants will remain in the traditional defined benefit plan, and Tier Two employees (defined as employees with less than 20 years of experience) will participate in a modified defined benefit plan, or "cash balance" plan, with an employer match provided for any Tier Two employee who contributes to the 457 Plan. Participants hired after February 25, 2013 are only eligible to accrue Tier Two benefits.

Plan Benefits Provided – Members of the SJRPP Plan are eligible to retire with a normal pension benefit upon achieving one of the following: (a) completing 30 years of credited service, regardless of age; (b) attaining age 55 with 20 years of credited service; or (c) attaining age 65 with five years of credited service. There is no mandatory retirement age.

Upon reaching one of the three conditions for retirement described above, a member in Tier One is entitled to a retirement benefit of:

- 2.0% of final average earnings (FAE) multiplied by the number of years of credited service, not to exceed 15 years

- plus 2.4% of FAE multiplied by the number of years of credited service in excess of 15 years, but not to exceed 30 years

- plus .65% of the excess FAE over the Social Security Average Wages multiplied by years of credited service, not to exceed 35 years

FAE is the annual average of a participant's earnings over the highest 36 consecutive complete months out of the last 120 months of participation immediately preceding retirement or termination. Retirement benefits are payable bi-weekly beginning on the first day of the month following or coincident with the participant's Earliest Retirement Age.

(Dollars in Thousands)

12. Pension Plans (continued)

As of February 25, 2013, the accrued benefits in Tier One of newly classified Tier Two participants were frozen. Distribution of frozen Tier One Benefits is governed by the provisions applicable to Tier One. Tier Two Benefits employees receive annual pay credits to their Cash Balance accounts in the amount of 6.0% of earnings between February 25, 2013 and September 30, 2015 and 8.5% of earnings on or after October 1, 2015. Cash Balance Accounts are credited with interest at the rate of 4% per year. Benefits may be distributed as a lump sum, by rollover in accordance with the Internal Revenue Service Code or as an annuity, at the election of the participant.

For participants retired on or after October 1, 2003, each member and survivor of Tier One is entitled to a COLA. The COLA consists of a 1% increase of the retiree's or survivor's pension benefits, which compounds annually. The COLA commences each October 1 following the fifth anniversary of payment commencement.

Employees Covered by Benefit Terms – At September 30, 2018 and September 30, 2017, the following employees were covered by the benefit terms:

	2018	2017
Inactive Plan Members or Beneficiaries Currently Receiving Benefits	**309**	299
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	**54**	49
Active Plan Members	**159**	209
Total Plan Members	**522**	557

Contributions – The SJRPP Plan's funding policy provides for biweekly employer contributions at actuarially determined rates that, expressed as percentages of annual covered payroll, are sufficient to accumulate assets to pay benefits when due. In fiscal years 2018 and 2017, SJRPP plan members were required to contribute 4% of their annual covered salary, and SJRPP employer's contribution to the SJRPP Plan was $26,409 (454.62%) in 2018 and $8,039 (51.47%) in 2017.

Net Pension Liability – SJRPP's net pension liability at September 30, 2018 and September 30, 2017 was measured based on an actuarial valuation as of September 30, 2017 and September 30, 2016, respectively.

(Dollars in Thousands)

12. Pension Plans (continued)

Actuarial Assumptions –The total pension liability in the October 1, 2017 actuarial valuation was determined using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation	2.50%
Salary increases	2.5%–12.5% per year, including inflation
Investment rate of return	7.00%
Mortality rates	Mortality Rates used by the Florida Retirement System for classes other than Special Risk, described as follows:

Healthy Mortality (Pre-Retirement and Post-Retirement) rates used:

Females: RP2000 Healthy Annuitant rates with 100% White Collar adjustment, generationally projected from year 2000 using Scale BB.

Males: RP2000 Healthy Annuitant rates with 50% White Collar/50% Blue Collar adjustment, generationally projected from year 2000 using Scale BB.

The actuarial assumptions used in the October 1, 2017 valuation were based on the demographic experience from 2004 through 2012 and economic forecasts available at the time the report was issued. Mortality rates were developed by the Florida Retirement System in a recent experience study and are mandated by the State Statutes for funding valuations.

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in the pension plan's target asset allocation at the measurement date of September 30, 2017, are summarized in the following table.

(Dollars in Thousands)

12. Pension Plans (continued)

The target allocation and the best estimates of the rate of return for each major asset class are summarized in the following table:

Asset Class	Target Allocation	Long-term Expected Real Rate of Return
Domestic equity	47%	6.56%
Fixed income	45%	2.20%
International equity	8%	5.50%
Total	100%	

Discount Rate – The discount rate used to measure the total pension liability is 7.0%. The projection of cash flows used to determine the discount rate assumed plan member contributions will be made at their applicable contribution rates and that the employer's contributions will be made at rates equal to the actuarially determined contribution rates. Based on these assumptions, the Plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on the Plan's investments was applied to all periods of projected benefit payments to determine the total pension liability.

Sensitivity of the Net Pension Liability to Changes in the Discount Rate – The following presents the net pension liability of SJRPP, calculated using a discount rate of 7.0%, as well as what the net pension liability would be if it were calculated using a discount rate that is 1% lower or 1% higher than the current rate:

	2018	2017
1% decrease	**$ 33,976**	$ 33,650
Current discount rate	**16,523**	16,640
1% increase	**1,896**	2,206

(Dollars in Thousands)

12. Pension Plans (continued)

Changes in the net pension liability are detailed below.

	2017	2016
Total pension liability		
Beginning balance	**$ 158,926**	$ 155,143
Service cost	**1,032**	1,210
Interest on the total pension liability	**10,768**	10,514
Changes in benefit terms	**–**	(59)
Difference between expected and actual experience	**10,826**	4,444
Changes in assumptions	**26**	–
Benefit payments	**(12,257)**	(12,326)
Ending balance	**169,321**	158,926
Plan fiduciary net postion		
Beginning balance	**142,286**	138,902
Employer contributions	**8,039**	2,142
Employee contributions	**625**	629
Pension plan net investment income (loss)	**14,571**	13,379
Benefit payments	**(12,257)**	(12,326)
Administrative expense	**(466)**	(440)
Ending balance	**152,798**	142,286
Net pension liability	**$ 16,523**	$ 16,640

Plan Assets – Cash balances are amounts on deposit with the SJRPP Plan's trust bank, as well as amounts held in various money market funds as authorized in the Investment Policy Statement (Policy). All investments shall comply with the Policy as approved by the Pension Committee, and with the fiduciary standards set forth by the Employee Retirement Income Security Act and requirements set forth by the Florida Statutes. The trust bank balances are collateralized and subject to the Florida Security for Public Deposits Act of Chapter 280, Florida Statutes.

The Plan follows GASB Statement No. 31, *Accounting and Financial Reporting for Certain Investments and for External Investment Pools*. Investments are presented at fair value, which is based on available or equivalent market values. The money market mutual fund is a 2a-7 fund registered with the SEC and, therefore is presented at actual pooled share price, which approximates fair value.

(Dollars in Thousands)

12. Pension Plans (continued)

At September 30, 2017, the SJRPP Plan's cash and cash equivalents consist of the following:

Cash on hand	$	1
Cash equivalents:		
Wells Fargo Treasury Plus Money Market Account		3,365
Total cash and cash equivalents	$	3,366

The Policy specifies investment objectives and guidelines for the SJRPP Plan's investment portfolio and provides asset allocation targets for various asset classes.

At September 30, 2017, investments controlled by the SJRPP Plan that represent 5% or more of the SJRPP Plan's net position were the Alliance Domestic Passive Collective Trust with a basis of $17,581 and a fair market value of $44,328. This investment represent 29% of the fiduciary net position available for benefits.

Risk

In accordance with GASB Statement No. 40, investments also require certain disclosures regarding policies and practices with respect to the risks associated with them (see discussion in the following paragraphs).

Interest Rate Risk

Interest rate risk is the risk that changes in the market interest rates will adversely affect the fair value of an investment. Generally speaking, the longer the maturity of an investment, the greater the sensitivity of its fair value to changes in market interest rates. As a means of limiting its exposure to interest rate risk, the SJRPP Plan's fixed income portfolio manager monitors the duration of the fixed maturity securities portfolio as part of the strategy to manage interest rate risk. As of September 30, 2017, the average modified duration of the managed fixed securities portfolio was 4.8 years.

Credit risk

Credit risk is the risk that a security or a portfolio will lose some or all of its value due to real or perceived changes in the ability of the issuer to repay its debt. The SJRPP Plan's rated debt instruments as of September 30, 2017 were rated by Standard & Poor's and/or an equivalent nationally recognized statistical rating organization.

The fixed income managers limit their investments to securities with an investment grade rating (BBB or equivalent) and the overall weighted average composite quality rating of the managed fixed income portfolio was Aa3.

(Dollars in Thousands)

12. Pension Plans (continued)

Custodial Credit Risk

Custodial credit risk is the risk that, in the event of the failure of the counterparty, the SJRPP Plan will not be able to recover the value of its investments or collateral securities that are in the possession of an outside party. All the SJRPP Plan's investments are held by the SJRPP Plan's directed trustee and custodian in the SJRPP Plan's name, or by an agent in the SJRPP Plan's name.

Concentration of Credit Risk

Concentration of credit risk is the risk of loss attributed to the magnitude of a government's investments in a single issuer. The Policy specifies an overall target allocation of 55% equities and 45% fixed income, including cash. The Policy further specifies target allocations for the equity investments among several asset classes.

The fair value of the asset classes and portfolio as of September 30, 2017, and specific target allocations are as follows:

	Fair Value	Actual Percent	Target Percent
U.S. Government Securities and Agencies	$ 28,258	19%	N/A
Corporate bonds – non-convertible	30,658	20%	N/A
Money Market/Cash	3,366	2%	N/A
Total fixed income	62,282	41%	45%
S&P 500 Index Fund	44,328	29%	28%
S&P 400 Mid-Cap Index Fund	18,428	12%	15%
Small and Mid-Cap Value Fund	13,652	9%	4%
International equities	13,920	9%	8%
Total equities	$ 90,328	59%	55%
Total	$ 152,610		

The Policy allows the percentage allocation to each asset class to vary by plus or minus 5% depending upon market conditions.

For the year ended September 30, 2017, the annual money-weighted rate of return on pension plan investments was 10.39%. This reflects the changing amounts actually invested.

(Dollars in Thousands)

12. Pension Plans (continued)

Foreign Currency Risk

Foreign currency risk is the risk that changes in the exchange rates will adversely affect the fair market value of the investment or a deposit. The Plan is exposed to foreign currency risk through its investments in an international equity mutual fund. Investments in international equities are limited by the Policy's target asset allocation for that asset class. The target for international equities is 8% of the total portfolio. The international fund comprised 9% of total investments as of September 30, 2017.

Fair Value Disclosures

GASB Statement No. 72, *Fair Value Measurement and Application*, addresses accounting and financial reporting issues related to fair value measurements. It provides guidance for applying fair value to certain investments and disclosures related to all fair value measurements.

The SJRPP Plan categorizes its fair value measurements within the fair value hierarchy established by generally accepted accounting principles. The hierarchy is based on the valuation inputs used to measure the fair value of the asset or liability.

- Level 1 – quoted prices (unadjusted) for identical assets or liabilities in active markets that are accessible at the measurement date
- Level 2 – Inputs – other than quoted prices included within Level 1 – that are observable for an asset or liability, either directly or indirectly
- Level 3 – unobservable inputs for an asset or liability

The table below summarizes the SJRPP Plan's investments. Level 1 investments are valued using prices quoted in active markets for those securities. Level 2 investments are valued using direct market observations combined with quantitative pricing models to generate prices.

	Level 1	Level 2	Total
U.S. Government Securities and Agencies	$ 16,662	$ 11,596	$ 28,258
Corporate bonds - non-convertible	–	30,658	30,658
Money Market/Cash	3,366	–	3,366
Total fixed income	20,028	42,254	62,282
S&P 500 Index Fund	44,328	–	44,328
S&P 400 Mid-Cap Index Fund	17,852	576	18,428
Small and Mid-Cap Value Fund	12,430	1,222	13,652
International equities	–	13,920	13,920
Total equities	74,610	15,718	90,328
Total	$ 94,638	$ 57,972	$ 152,610

(Dollars in Thousands)

12. Pension Plans (continued)

Pension Plan Fiduciary Net Position – Detailed information about the pension plan's fiduciary net position is available in the separately issued SJRPP Pension Plan financial report.

Pension Liabilities, Pension Expense, Deferred Outflows of Resources, and Deferred Inflows of Resources Related to the Pension

Net Pension Liability – SJRPP's net pension liability at September 30, 2018 and September 30, 2017 was measured based on an actuarial valuation as of September 30, 2017 and September 30, 2016, respectively. SJRPP's net pension liability is $16,523 as of September 30, 2018 and $16,640 as of September 30, 2017. As discussed in note 3, St. Johns River Power Park, during fiscal year 2018, JEA assumed FPL's portion of the pension obligation in accordance with the shutdown agreement.

For the year ended September 30, 2018 and 2017, SJRPP recognized pension expense is $14,408 and $4,785, respectively. As JEA has implemented regulatory accounting for pensions, the difference between the recognized pension expense and the cash contributions paid has been deferred as a regulatory asset. See note 2, Regulatory Deferrals, for additional details.

SJRPP Plan reported deferred outflows of resources and deferred inflows of resources related to pension from the following sources:

	September 30	
	2018	**2017**
Deferred outflows of resources		
Contributions subsequent to the measurement date	**$ 26,641**	$ 8,664
Net difference between projected and actual earnings on pension plan investments	**4,091**	6,136
Differences between expected and actual experience	**2,451**	4,022
Changes in assumptions	**1,055**	1,809
Total	**$ 34,238**	$ 20,631
Deferred inflows of resources		
Net difference between projected and actual earnings on pension plan investments	**$ (7,091)**	$ (4,976)
Total	**$ (7,091)**	$ (4,976)

(Dollars in Thousands)

12. Pension Plans (continued)

Contributions of $26,641 were reported as deferred outflows of resources related to pensions resulting from contributions subsequent to the September 30, 2017 measurement date and will be recognized as a reduction of the net pension liability in the year ended September 30, 2019. Other amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows:

Year Ended September 30	Recognition of Deferred Outflows (Inflows)
2019	$ 1,421
2020	1,679
2021	(1,643)
2022	(951)
Total	$ 506

13. Other Postemployment Benefits

Plan Description

Plan administration – JEA maintains a medical benefits plan (OPEB Plan) that it makes available to its retirees. The medical plan is a single-employer, experience rated insurance contract plan that provides medical benefits to employees and eligible retirees and their beneficiaries.

JEA currently determines the eligibility, benefit provisions, and changes to those provisions applicable to eligible retirees. The OPEB Plan does not issue separate financial statements.

Plan membership – As of September 30, 2017 (the actuarial valuation date), the OPEB Plan membership consisted of the following:

Inactive plan members or beneficiaries currently receiving benefit payments	502
Active plan members	2,041
Total	2,543

(Dollars in Thousands)

13. Other Postemployment Benefits (continued)

Benefits provided – The postretirement benefit portion of the benefits plan (OPEB Plan) refers to the benefits applicable to current and future retirees and their beneficiaries. In addition, retirees are eligible to continue life insurance coverage through the plan sponsored by JEA. Premiums for the first $5,000 of coverage are being subsidized by the employer and, as such, are considered as other postemployment benefits for purposes of GASB Statement No. 75. As of January 1, 2017, the PPO plan out of pocket maximums increased to $5,000/$10,000, the deductible increased to $500 per year, the coinsurance changed to 80%/50%, and the specialist copay increased to $60. The HRA out of pocket maximum increased to $5,000/$10,000. The HSA deductible was set to $1,500 for in network and $2,500 for out of network. The copays for prescription drug benefits under all plan options increased to $10/$40/$60 and copays for specialty drugs increased to $250. Under the HSA Plan, the deductible must be satisfied before the prescription co-pay requirements. The table below outlines other key components of the OPEB plan.

	PPO		HRA		HSA	
	In-Network	Out-of-Network	In-Network	Out-of-Network	In-Network	Out-of-Network
Annual deductible	$ 500	$ 1,000	$ 1,500	$ 3,000	$ 1,500	$ 2,500
Primary Care Physician co-pay	$ 25	40%	$ 25	40%	20%*	40%*
Specialist co-pay	$ 60	40%	$ 60	40%	20%*	40%*
Co-insurance	20%	40%	20%	40%	20%*	40%*

*After the annual deductible is met

Contributions – Retired members pay the full premium associated with the health coverage elected. There is no direct JEA subsidy currently applicable; however, there is an implicit cost. Spouses and other dependents are also eligible for coverage and the member is responsible for payment of the applicable premiums.

Florida law prohibits JEA from separately rating retirees and active employees. Therefore, JEA assigns to both groups blended-rate premiums.

In 2008, JEA began to advance-fund the OPEB obligation. This was accomplished by establishing a separate trust into which JEA makes periodic deposits and withdrawals to reimburse operations for costs incurred on a pay-as-you-go basis.

(Dollars in Thousands)

13. Other Postemployment Benefits (continued)

Actuarial assumptions – The total OPEB liability in the October 1, 2017 and October 1, 2016 actuarial valuation was determined using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation	2.50%
Salary increases	2.5%–12.5%, including inflation; varies by years of service
Investment rate of return	7.00%
Healthcare cost trend rates	Based on the Getzen Model, with trend starting at 7.00% and gradually decreasing to an ultimate trend rate of 4.57% as of October 1, 2017 and 4.59% as of October 1, 2016 (including the impact of the excise tax).
Mortality rates	Mortality tables used for Regular Class members in the July 1, 2016 actuarial valuation of the Florida Retirement System. They are based on the results of a state wide experience study covering the period 2008 through 2013.

The long-term expected rate of return on OPEB plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of OPEB plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in the OPEB plan's target asset allocation at the measurement date of September 30, 2017 and September 30, 2016, are summarized in the following table.

The target allocation and the best estimates of the rate of return for each major asset class are summarized in the following table:

	2017		2016	
Asset Class	**Target Allocation**	**Long-term Expected Nominal Rate of Return**	**Target Allocation**	**Long-term Expected Nominal Rate of Return**
Large cap domestic equity	**34%**	**8.0%**	39%	9.0%
Global fixed income	**18%**	**4.6%**	24%	4.0%
International equity	**15%**	**8.5%**	10%	9.8%
Domestic fixed income	**12%**	**4.3%**	16%	3.5%
Small cap domestic equity	**11%**	**8.5%**	11%	9.8%
Real estate	**10%**	**7.4%**	0%	N/A
Total	**100%**		100%	

(Dollars in Thousands)

13. Other Postemployment Benefits (continued)

Discount Rate – GASB Statement No. 75 includes a specific requirement for the discount rate that is used for the purpose of the measurement of the Total OPEB Liability. This rate considers the ability of the fund to meet benefit obligations in the future. To make this determination, employer contributions, employee contributions, benefit payments, expenses and investment returns are projected into the future. The Plan Net Position (assets) in future years can then be determined and compared to its obligation to make benefit payments in those years. As the assets are projected to be sufficient to meet benefit payments, the assumed valuation discount rate of 7.00% was used.

Sensitivity of the Net OPEB Liability to Changes in the Discount Rate – The following presents the net OPEB liability, calculated using a discount rate of 7.0%, as well as what the net OPEB liability would be if it were calculated using a rate that is 1% lower or 1% higher than the current rate:

	2018	2017
1% decrease	**$ 23,779**	$ 46,273
Current discount rate	**18,835**	39,508
1% increase	**14,662**	33,799

Healthcare Cost Trend Rate – JEA followed the Getzen model with trend rates for costs and premiums declining over a 22-year period from 7.00% assumed for the year 2018 to the ultimate level of 4.57%.

Sensitivity of the Net OPEB Liability to Changes in the Healthcare Cost Trend Rate – The following presents the net OPEB liability, calculated using a healthcare cost trend rate of 7.0% down to 4.57%, as well as what the net OPEB liability would be if it were calculated using a trend rate that is 1% lower or 1% higher than the current trend rate:

	2018	2017
1% decrease	**$ 14,401**	$ 33,442
Current healthcare cost trend rate	**18,835**	39,508
1% increase	**24,098**	46,709

(Dollars in Thousands)

13. Other Postemployment Benefits (continued)

Changes in the net OPEB liability are detailed below.

	2018	2017
Total OPEB liability		
Beginning balance	**$ 60,949**	$ 62,554
Service cost	**811**	781
Interest on the total OPEB liability	**4,253**	4,203
Changes in benefit terms	**(11,556)**	–
Difference between expected and actual experience	**(7,891)**	–
Benefit payments	**(2,019)**	(6,589)
Ending balance	**44,547**	60,949
Plan fiduciary net postion		
Beginning balance	**21,441**	18,156
Employer contributions	**5,240**	5,061
Net investment income	**2,942**	2,135
Reimbursements to employer	**(3,911)**	(3,911)
Ending balance	**25,712**	21,441
Net OPEB liability	**$ 18,835**	$ 39,508
Plan fiduciary net position as a percentage of the total OPEB liability	**57.72%**	35.18%
Covered payroll	**$155,326**	$150,073
Net OPEB liability as a percentage of covered payroll	**12.13%**	26.33%

Plan Assets – The assets of the plan consist of shares held in the Florida Municipal Investment Trust (FMIT), which is administered by the Florida League of Cities. The FMIT is an interlocal governmental entity created under the laws of the State of Florida and an Authorized Investment under Sec. 163.01 Florida Statutes. It is considered an external investment pool for reporting purposes. JEA owns shares in the OPEB Fund A as directed in the Master Trust Agreement. OPEB Fund A target asset allocation is 60% equities and 40% fixed income.

At September 30, 2017 and September 30, 2016, the OPEB Plan's cash and money market balance within the OPEB Fund A was $309 and $322, respectively.

Risk

In accordance with GASB Statement No. 40, investments also require certain disclosures regarding policies and practices with respect to the risks associated with them (see discussion in the following paragraphs).

(Dollars in Thousands)

13. Other Postemployment Benefits (continued)

Interest Rate Risk

Interest rate risk is the risk that changes in the market interest rates will adversely affect the fair value of an investment. Generally speaking, the longer the maturity of an investment, the greater the sensitivity of its fair value to changes in market interest rates. The table below details the interest rate risk in years for investments in the trust.

	September 30, 2017		September 30, 2016	
Fixed Income Fund	**Modified Duration**	**Weighted Average Maturity**	**Modified Duration**	**Weighted Average Maturity**
FMIT Broad Market High Quality Bond Fund	**4.74**	**6.10**	4.45	5.90
FMIT Core Plus Fixed Income Fund	**2.24**	**7.40**	2.04	6.84

Credit risk

Credit risk is the risk that a security or a portfolio will lose some or all of its value due to real or perceived changes in the ability of the issuer to repay its debt. The FMIT Broad Market High Quality Bond Fund was rated by Fitch as AAf/S4 as of September 30, 2017 and September 30, 2016. The remaining funds of the trust are unrated.

Money-Weighted rates of return

The money-weighted rates of return for the fiscal years ended September 30, 2017 and September 30, 2016 are listed below.

Year Ended	Return
2016	7.90%
2017	13.35%

(Dollars in Thousands)

13. Other Postemployment Benefits (continued)

Fair Value Disclosures

The table below summarizes the OPEB Plan's investments. Level 1 investments are valued using prices quoted in active markets for those securities. Level 2 investments are valued using direct market observations combined with quantitative pricing models to generate prices. JEA's investment is in shares of the FMIT OPEB Fund A. The disclosure below is based on the asset allocation provided by the FMIT of those investments held by OPEB Fund A.

	September 30, 2017			September 30, 2016		
	Level 2	Level 3	Total	Level 2	Level 3	Total
FMIT Broad Market High Quality Bond Fund	$ 3,831	$ –	$ 3,831	$ 3,280	$ –	$ 3,280
FMIT Core Plus Fixed Income Fund	–	5,785	5,785	–	4,996	4,996
Total fixed income	3,831	5,785	9,616	3,280	4,996	8,276
FMIT High Quality Growth Portfolio	2,057	–	2,057	1,630	–	1,630
FMIT Large Cap Diversified Value Portfolio	2,160	–	2,160	1,758	–	1,758
FMIT Russell 1000 Enhanced Index Portfolio	5,991	–	5,991	4,803	–	4,803
FMIT Diversified Small to Mid Cap Equity Portfolio	2,905	–	2,905	2,444	–	2,444
FMIT International Equity Portfolio	2,674	–	2,674	2,208	–	2,208
Total equities	15,787	–	15,787	12,843	–	12,843
Total	$ 19,618	$ 5,785	$ 25,403	$ 16,123	$ 4,996	$ 21,119

OPEB Liabilities, OPEB Expense, Deferred Outflows of Resources, and Deferred Inflows of Resources Related to the OPEB

Net OPEB Liability – JEA's net OPEB liability at September 30, 2018 and September 30, 2017 was measured based on an actuarial valuation as of and with the measurement dates of September 30, 2017 and September 30, 2016, respectively. JEA's net OPEB liability is $18,835 as of September 30, 2018 and $39,508 as of September 30, 2017.

For the year ended September 30, 2018 and 2017, JEA recognized OPEB expense is ($9,272) and $3,508, respectively. As JEA has implemented regulatory accounting for OPEB, the difference between the recognized OPEB expense and the cash contributions paid has been deferred as a regulatory asset. See note 2, Regulatory Deferrals, for additional details.

(Dollars in Thousands)

13. Other Postemployment Benefits (continued)

The JEA Plan recorded deferred outflows of resources and deferred inflows of resources related to OPEB as detailed in the table below.

	September 30 2018	September 30 2017
Deferred outflows of resources		
Contributions subsequent to the measurement date	**$ 4,078**	$ 5,240
Total	**$ 4,078**	$ 5,240
Deferred inflows of resources		
Differences between expected and actual experience	**$ (7,102)**	$ –
Net difference between projected and actual earnings on pension plan investments	**(1,610)**	(659)
Total	**$ (8,712)**	$ (659)

Contributions of $4,078 were reported as deferred outflows of resources related to OPEB resulting from contributions subsequent to the September 30, 2017 measurement date and will be recognized as a reduction of the net OPEB liability in the year ended September 30, 2019. Other amounts reported as deferred outflows of resources and deferred inflows of resources related to OPEB will be recognized in OPEB expense as follows:

Year Ended September 30	Recognition of Deferred Outflows (Inflows)
2019	$ (1,233)
2020	(1,233)
2021	(1,233)
2022	(1,068)
2023	(789)
Thereafter	(3,156)
Total	$ (8,712)

(Dollars in Thousands)

14. Fair Value Measurements

GASB Statement No. 72, *Fair Value Measurement and Application*, addresses accounting and financial reporting issues related to fair value measurements. It provides guidance for applying fair value to certain investments and disclosures related to all fair value measurements. For JEA, this statement applies to certain investments, interest rate swap agreements, and natural gas cash flow hedges.

JEA categorizes its fair value measurements within the fair value hierarchy established by GAAP. The hierarchy is based on the valuation inputs used to measure the fair value of the asset or liability.

- Level 1 – quoted prices (unadjusted) for identical assets or liabilities in active markets that a government can access at the measurement date
- Level 2 – Inputs – other than quoted prices included within Level 1 – that are observable for an asset or liability, either directly or indirectly
- Level 3 – unobservable inputs for an asset or liability

Investments

JEA's investments are summarized in the table below. Level 1 investments are valued using prices quoted in active markets for those securities. Level 2 investments are valued using direct market observations combined with quantitative pricing models to generate prices. Money market mutual funds are managed to meet the requirements of Rule 2a-7 under the Investment Company Act of 1940, as amended, and are recorded at net asset value (NAV). The local government investment pools transact with participants at a stable NAV and are recorded at NAV. Certain U.S. Treasury and government agency securities and commercial paper are measured at cost.

	2018			
	Total	Level 1	Level 2	Level 3
Investments by fair value level				
U.S. Treasury and government agency securities	$ 453,060	$ 453,060	$ –	$ –
State and local government securities	223,845	–	223,845	–
Total investments by fair value level	$ 676,905	$ 453,060	$ 223,845	$ –
Investments measured at NAV				
Local government investment pools	194,786			
Money market mutual funds	23,208			
Total investments measured at fair value	894,899			
Investments measured at cost				
Commercial paper	133,074			
U.S. Treasury and government agency securities	9,837			
Total investments by cost	142,911			
Total investments per statement of net position	$ 1,037,810			

(Dollars in Thousands)

14. Fair Value Measurements (continued)

	2017			
	Total	Level 1	Level 2	Level 3
Investments by fair value level				
U.S. Treasury and government agency securities	$ 420,524	$ 420,524	$ –	$ –
State and local government securities	323,507	54,923	268,584	–
Total investments by fair value level	$ 744,031	$ 475,447	$ 268,584	$ –
Investments measured at NAV				
Local government investment pools	138,207			
Money market mutual funds	51,460			
Total investments measured at fair value	933,698			
Investments measured at cost				
Commercial paper	170,829			
U.S. Treasury and government agency securities	118,363			
Total investments by cost	289,192			
Total investments per statement of net position	$ 1,222,890			

Interest Rate Swap Agreements

JEA's interest rate swap agreements are valued using market rates as of September 30, 2018 and 2017 and standard cash flow present valuing techniques, which places them at Level 2 in the fair value hierarchy. The agreements are recorded at fair value as part of long-term debt in the statements of net position. The fair value of the interest rate swap agreements is detailed below.

	2018	2017
Electric	**$ (70,103)**	$ (101,350)
Water and Sewer	**(16,253)**	(23,919)
Total	**$ (86,356)**	$ (125,269)

Natural Gas Cash Flow Hedges

JEA's natural gas cash flow hedges consisted of swap agreements for either a 3-month or 12-month period, covering calendar year 2018 and December 2019 through December 2021. These hedges were valued using prices observed on commodities exchanges and/or using industry-standard valuation techniques, such as option modeling or discounted cash flows techniques, incorporating both observable and unobservable valuation inputs, which placed them at Level 3 in the fair value hierarchy. The fair market value changes in the hedges were recorded on a net basis in the statements of net position as either a deferred charge or a deferred credit until such time that the transactions end. At September 30, 2018 and 2017, deferred credits of $2,536 and $0 were included in deferred inflows of resources on the statements of net position, respectively.

15. Commitments and Contingent Liabilities

Grants

JEA participates in various federal and state assisted grant programs that are subject to review and audit by the grantor agencies. Entitlements to these resources are generally conditional upon compliance with the terms and conditions of grant agreements and applicable federal and state regulations, including the expenditure of resources for allowable purposes. Any disallowance resulting from a federal or state audit may become a liability of JEA. It is management's opinion that the results of these audits will have no material adverse effect on JEA's financial position or results of operations.

Regulatory Initiatives

The electric industry and water and wastewater industry have been and will continue to be affected by a number of legislative and regulatory initiatives. The following summarizes the key regulations affecting JEA:

Electric Enterprise System – On August 3, 2015, the Environmental Protection Agency (EPA) issued concurrently three separate rules pertaining to emissions of carbon dioxide (CO2) fossil fuel-fired electric generating units (EGUs):

- The Final Clean Power Plan (CPP), applicable to existing fossil fuel-fired electric EGUs.
- The Final Carbon Pollution Standards Rule (CPS), applicable to new, modified and reconstructed fossil fuel-fired EGUs.
- The Proposed Federal Plan applicable to states that fail to submit an approvable plan that achieves CPP goals.

On February 9, 2016, the United States Supreme Court (SCOTUS) issued an order staying implementation of the CPP. The SCOTUS granted the applications of numerous parties to stay the CPP pending judicial review of the rule. On March 28, 2017, President Trump issued an Executive Order establishing a national policy "in favor of energy independence, economic growth, and the rule of law". The President has directed agencies to review existing regulations that potentially burden the development of domestic energy resources, and appropriately suspend, revise, or rescind regulations that unduly burden the development of U.S. energy resources beyond what is necessary to protect the public interest or otherwise comply with the law. The Executive Order specifically directed EPA to review and, if appropriate, initiate reconsideration proceedings to suspend, revise or rescind the new EPA Final Rules pertaining to CO^2 emissions. EPA initially obtained temporary court orders to hold the court challenge of the CPP and the CPS in abeyance, pending the completion of EPA's review of the rules. EPA subsequently petitioned the court to pause the litigation indefinitely while EPA promulgates new rules.

15. Commitments and Contingent Liabilities (continued)

On August 30, 2018, EPA a proposed rule to replace the CPP. The proposed rule is titled the Affordable and Clean Energy (ACE) Rule. ACE proposes new Existing Source Performance Standards (ESPS) to regulate CO2 emissions from fossil-fueled boilers. The ACE standards are significantly less stringent than the CPP standards. ACE also proposes to simplify and remove considerable ambiguity from EPA's New Source Review (NSR) rules applicable to major improvements to generating units. EPA has also promulgated but not issued proposed New Source Performance Standards (NSPS) for fossil-fueled units. Provisions of ACE are anticipated to be complied with without significant capital expenditure and do not represent significant cost exposure for JEA. Similarly, since JEA is not presently anticipating construction of any electric generation units that would be impacted by a new NSPS, the pending rule likewise does not represent significant cost exposure for JEA. Because these rules are either proposed or pending issuance, it is difficult to know when or if the rules will become "final" and enforceable. For this reason, JEA is unable, at this time, to definitively ascertain the impact to JEA to come from prospective regulation of CO2 emissions.

On July 6, 2011, the EPA released the Cross-State Air Pollution Rule (CSAPR), which is intended as a substitute for the invalidated Clean Air Interstate Rule (CAIR). In the CSAPR, the EPA determined that 27 states in the eastern United States are in violation of the Clean Air Act, because they significantly contribute to nonattainment or interference with the maintenance of attainment of three National Ambient Air Quality Standards (NAAQS) in one or more downwind states. The three air quality standards addressed in the CSAPR are the 1997 and 2006 fine particulate matter ($PM_{2.5}$), NAAQS, and the 1997 ozone NAAQS. To address these violations, the CSAPR imposes Federal Implementation Plans (FIPs) that establish state budgets for SO2 and NOx emissions from EGUs. The EPA targeted these two pollutants, because they are precursors to the formation of $PM_{2.5}$ and ozone in the atmosphere. The budgets are allocated to individual EGUs in the form of allowances and the CSAPR permits limited interstate emissions trading and unlimited intrastate emissions trading as a means of compliance. States became subject to the emission budgets in 2012 with more stringent limits taking effect in 2014. In April 2014, the SCOTUS upheld the rule, but remanded back certain legal issues to the DCA to address. On July 28, 2015, the DCA issued an order and opinion remanding, without vacatur, certain state budgets under the CSAPR for reconsideration by the EPA, including the ozone-season NOx emissions budget for Florida. On September 7, 2016, the EPA issued a final updated CSAPR rule that removed Florida and two other eastern states from the rule. However, the EPA has made known that it is in the early stages of developing a supplemental rule (CSAPR Update II) to address the 2015 ozone and $PM_{2.5}$ NAAQS. It is possible that the CSAPR Update II may mandate deeper emission reductions and an expansion of the geographic area for regulation, possibly to again include Florida. The EPA has not established a rulemaking schedule for the CSAPR Update II. Consequently, JEA is not able to estimate any impacts from the CSAPR Update II.

On December 21, 2011, the EPA issued its Mercury and Air Toxics Standards (MATS) rule, setting forth maximum achievable control technology (MACT) standards for coal and oil generating stations. The new standards regulate four categories of hazardous air pollutants (HAPS) emitted by coal- or oil-fired EGUs, namely mercury, HAP metals, acid gases, and organic HAP.

The compliance deadline for affected sources to have all necessary pollution controls installed was April 2015. JEA's units that are regulated under MATS comply with all rule requirements.

15. Commitments and Contingent Liabilities (continued)

In April 2015, the EPA finalized rules to regulate the disposal and management of coal combustion residuals (CCRs), meaning fly ash, bottom ash, boiler slag, and flue gas desulfurization materials, destined for disposal from coal-fired power plants. The new rule became effective on October 19, 2015 and established technical requirements for surface impoundments and landfills. The rule requires protective controls, such as liners and groundwater monitoring, at landfills and surface impoundments that store CCRs. The rule, as adopted by the EPA, is enforced only by citizen-initiated lawsuits, rather than by the EPA. However, with passage of the WIIN Act in 2016, the rule can now be reformed to provide the following: 1) conversion from a "self-implementing" program to a permit program the states or EPA would have primary responsibility to administer and enforce; and, 2) flexibility for state programs to adjust and tailor federal CCR requirements to meet local, case-specific situations, so long as they are adequately protective of federal CCR requirements.

The rule applies to CCR management practices at SJRPP and Scherer. The rule does not apply to management of CCRs at Northside Generating Station (NGS) as long as it continues to burn a fuel mix with less than 50% coal. The currently operating cell within Area B of SJRPP does not have to be lined, but must comply with the operating and monitoring requirements of the rule even after the plant was decommissioned in 2018. SJRPP's two closed byproduct storage areas (Areas I and II) are not affected by this rule. SJRPP has no regulated surface impoundments. Existing surface impoundments, like that at Scherer, are required to meet increased and more restrictive technical and operating criteria or close. Georgia Power has decided to close the surface impoundment at Scherer instead of pursuing a retrofit and the timeline for closure activities is currently projected to run through 2030.

The EPA left in place the Bevill exemption for beneficial uses of CCRs in which CCRs are recycled as components of products instead of placed in impoundments or landfills. Large quantities of CCRs are used today in concrete, cement, wallboard, and other contained applications that should not involve any exposure by the public to unsafe contaminants.

On November 22, 2010, the EPA entered into a settlement agreement with Riverkeeper, Inc. regarding rule-making dates for the EPA to set technology standards for cooling water intake systems for existing facilities under Section 316(b) of the Federal Clean Water Act. Section 316(b) requires that standards for the location, design, construction and capacity of cooling water intake systems reflect the best technology available for minimizing adverse environmental impacts. The EPA announced proposed standards for cooling water intake systems on March 28, 2011. Under the proposal, existing facilities are required to conduct studies to help their respective permitting authorities determine whether and what site-specific controls, if any, would be required to reduce the number of aquatic organisms that are captured in cooling water intake systems.

15. Commitments and Contingent Liabilities (continued)

With few changes to the proposed rule, the EPA published the final rule in the Federal Register in August 2015. The new standards will not affect any JEA facilities other than NGS. NGS is one of more than 1,260 existing facilities that use large volumes of cooling water from lakes, rivers, estuaries, or oceans to cool their plants. The new standards will likely require upgrades to the system, varying from establishment of existing facilities as the Best Technology Available (BTA) to improvements to the existing screening facilities or installation of cooling towers. A full two-year biological study is required to evaluate site-specific conditions and form a basis for assessing BTA and was initiated in 2018. Estimated final compliance deadlines are not expected until after 2024 and will depend on the level of upgrade ultimately required. Accordingly, costs of compliance have not been determined for NGS and are not included in JEA's capital program for the Electric System.

On September 30, 2016, the EPA issued the Effluent Limitation Guidelines for Steam Electric Power Plants. In setting the new and more stringent standards, the EPA evaluated the technologies and costs to remove metals and other parameters from individual wastewater streams generated by steam electric power plants and identify the BAT to affect their control. The new requirements for existing power plants must be phased in as soon as possible on or after November 1, 2018, but no later than December 31, 2023. The costs of compliance at NGS and Scherer have been evaluated and are anticipated in operating budgets and in JEA's five-year capital program for the Electric System.

Water Supply System Regulatory Initiatives – JEA was issued a 20-year Consumptive Use Permit (CUP) in May 2011 from the St. Johns River Water Management District (SJRWMD), which allows for aquifer withdrawals sufficient to completely satisfy customer demands until 2031 if certain permit conditions are met. JEA evaluates its total water management plan annually to continuously understand changes in demand and how to balance investments in a three-part program: (1) continued expansion of the reuse system, (2) measured conservation program and (3) water transfers from areas with a higher supply on JEA's north grid to areas with a lower supply on JEA's south grid via river-crossing pipelines. In North Florida, the Suwannee River Water Management District (SRWMD), Florida Department of Environmental Protection (FDEP), and the SJRWMD have set or are setting/revising Minimum Flows and Levels (MFLs) for water bodies in the region. MFLs are intended to assess the potential for ecological resource risks from water withdrawals and ensure sustainable supplies. In 2015, MFLs were adopted in the SRWMD and a determination required a recovery strategy. By permit, JEA will participate to the extent of its proportionate impact in prevention and recovery strategies that may be developed to ensure the groundwater resource remains sustainable.

15. Commitments and Contingent Liabilities (continued)

Wastewater Treatment System Regulatory Initiatives – The Sewer System is regulated by the EPA under provisions of the Federal Clean Water Act and the Federal Water Pollution Act. In Florida, the EPA has delegated the wastewater regulatory program to FDEP. The FDEP has implemented a Total Maximum Daily Load regulation (TMDL) defining the mass of nitrogen and phosphorus that can be assimilated by the St. Johns River, to which 8 of JEA's 11 wastewater treatment plants discharge. This state rule limits the amount of nitrogen and phosphorus that these eight wastewater treatment facilities are allowed to discharge by permit. JEA is meeting these limits as the result of past capital improvements to its wastewater facilities, expansion of the reclaimed water system, and phase-out of smaller old technology wastewater facilities. By virtue of exceeding its own regulatory obligation, JEA has generated nutrient reduction credits and has assisted the City in meeting a portion of their Municipal Separate Storm System nutrient requirements by transferring 33.44 short tons per year. This was recognized in JEA's annual contribution agreement negotiated in 2016. In 2013, both the FDEP and EPA reaffirmed the site-specific nutrient standard that is codified in the Lower St. Johns River TMDL.

Pollution Remediation Obligations

JEA is subject to numerous federal, state, and local environmental regulations resulting in environmental liabilities due to compliance costs associated with new regulatory initiatives, enforcement actions, legal actions, and contaminated site assessment and remediation. Based on an analysis of the cost of cleanup and other identified environmental contingencies, JEA has accrued a liability associated with the remediation efforts. In accordance with GASB No. 49, *Accounting and Financial Reporting for Pollution Remediation Obligations*, based on project estimates and probabilities, the liability is estimated to be $20,726 at September 30, 2018. The accrual is related to the following environmental matters: Kennedy Generating Station RCRA Corrective Action for former wood preserving site; Sans Souci Substation remedial activities; Pearl Street Electric Shop remedial activities; WSSC PCB Issue, Northside Generating Station RCRA Corrective Action program; and remediation at a number of miscellaneous petroleum sites. Of the $20,726 that JEA has accrued as environmental liabilities, approximately $15,795 is associated with the expected cost of remediating the former wood preserving facility at the Kennedy Generating Facility. Following are other environmental matters that could have an impact on JEA; however, the resolution of these matters is uncertain and no accurate prediction of range of loss is possible at this time: Pickettville Road Landfill CERCLA site post-closure activities and the Ellis Road CERCLA site. Although uncertainties associated with these recognized environmental liabilities remain, JEA believes that the current provision for such costs is adequate and additional costs, if any, will not have a material adverse effect upon its financial position, results of operations, or liquidity. Costs associated with these obligations that were expensed prior to the approval of regulatory accounting for environmental projects are recorded in other noncurrent liabilities and total $16,818. The remaining liability is recognized as part of revenues to be used for future costs.

15. Commitments and Contingent Liabilities (continued)

Northside Generating Station Byproduct

JEA Northside Generating Station (NGS) Units 1 and 2 produce byproducts that consist of fly ash and bed ash. JEA has obtained a permit from FDEP to beneficially use the processed byproduct material in the State of Florida, subject to certain restrictions. These ash products are processed into materials marketed as EZBase and EZSorb. The expansion of rail capacity, the ability to load rail cars directly from the storage silos, and direct leasing of railcars has enabled JEA to become a full-service marketer, delivering products by truck or rail. EZSorb is currently being transported by truck and rail to leachate solidification and environmental remediation/stabilization projects in several southeastern states.

The Byproducts Storage Area is an FDEP permitted, Class I lined storage facility at NGS. JEA received a new 20-year permit effective May 4, 2015.

A case is pending in the Second Judicial Circuit in Harrison County, Mississippi. Plaintiff is suing multiple defendants seeking damages allegedly resulting from construction defects at The Promenade, a retail shopping mall in D'Iberville, Mississippi. Plaintiff amended the complaint in April 2010 to add JEA as a defendant on various product liability theories, claiming that JEA's ash byproduct was allegedly incorporated as a component of the product of another party defendant and used by other party defendants at the subject project. Plaintiff seeks injunctive relief, to remediate the site, and damages. Multiple third party claims and cross claims were raised and remain pending. JEA believes it has good and meritorious defenses in this action and will vigorously defend the case. The plaintiff is seeking approximately $75,000; however, the trial court ruled that JEA is entitled to a sovereign immunity cap of $500. Plaintiff has appealed this ruling and the pre-trial rulings are currently being heard by the Mississippi Supreme Court.

General Litigation

JEA is party to various pending or threatened legal actions in connection with its normal operations. In the opinion of management, any ultimate liabilities that may arise from these actions are not expected to materially affect JEA's financial position, results of operations, or liquidity.

16. Storm Costs

Hurricane Matthew tracked parallel along the coast of Florida on October 7, 2016 and Hurricane Irma passed to the west of Jacksonville as a tropical storm on September 11, 2017, causing extensive damage within the JEA service territory. Damage to JEA property was primarily to the transmission and distribution systems. Because of the extensive damage, Jacksonville was declared a federal major disaster area, making JEA eligible to receive reimbursement from FEMA. Requests for Public Assistance for both declared disasters were filed and accepted.

(Dollars in Thousands)

16. Storm Costs (continued)

JEA is in the midst of the cost reimbursement process through FEMA, which allows cost share of 87.5% of eligible cost (75.0% from FEMA and 12.5% from the State of Florida) of those costs not covered by insurance. As a result, $27,999 of the eligible costs were deferred as costs to be recovered from future revenues in the statement of net position with the 12.5%, or $4,000, being recognized in the maintenance and other operating expenses financial statement line item in the statement of revenues, expenses and changes in net position in fiscal year 2017. Through September 30, 2018, JEA has received $9,033, which reduced the deferred costs to be recovered from future revenues. Of the $9,033 received, $6,970 was from insurance and $2,063 from FEMA. JEA believes it is probable that reimbursement from either insurance or FEMA will be received for the eligible cost incurred that is remaining.

17. Segment Information

The financial statements of JEA contain four segments, as the Electric System and Bulk Power Supply System, the SJRPP System, the Water and Sewer System, and DES represent separate identifiable activities. These systems have debt outstanding with a revenue stream pledged in support of the debt. In addition, the activities are required to be accounted for separately. JEA's Electric System and Bulk Power Supply System segment consists of an electric utility engaged in the generation, purchase, transmission, distribution, and sale of electricity primarily in Northeast Florida. JEA's SJRPP System segment consists of a generation facility that is 80% owned by JEA, which is currently in the process of being decommissioned as discussed in note 2, St. Johns River Power Park. JEA's Water and Sewer System segment consists of water collection, distribution, and wastewater treatment in Northeast Florida. The DES consists of chilled water activities.

Intercompany billing is employed between the Electric System, the Water and Sewer System, and DES and includes purchases of electricity, water, sewer, and chilled water services and the rental of inventory and buildings. The utility charges between entities are based on a commercial customer rate. All intercompany billings are eliminated in the financial statements. See intercompany charges detailed below.

	2018			2017		
	Electric	**W&S**	**DES**	**Electric**	**W&S**	**DES**
Electricity services	N/A	$ 13,422	$ 3,282	N/A	$ 13,324	$ 3,351
Water and sewer services	505	N/A	136	147	N/A	144
Chilled water services	–	408	N/A	–	507	N/A

The Electric System shares certain administrative functions with the Water and Sewer System. Generally, these costs are charged to the Electric System and the costs of these functions are allocated to the Water and Sewer System based on the benefits provided. Operating expense allocated to the Water and Sewer System was $45,869 for fiscal year 2018 and $43,327 for 2017.

17. Segment Information (continued)

In September 1999, the Water and Sewer System purchased the inventory owned by the Electric System for $32,929. This was initiated to increase the utilization of its assets between the Electric System and the Water and Sewer System. A monthly inventory carrying charge is paid by the Electric System based on the value of the inventory multiplied by one-twelfth of the prior year's Water and Sewer average cost of debt. Inventory carrying charges were $784 for fiscal year 2018 and $280 for 2017.

In July 1999 and July 2004, the Electric System transferred several buildings to the Water and Sewer System in the amounts of $22,940 and $6,284, respectively, an amount equal to the net book value of the assets. Monthly, the Electric System reimburses the Water and Sewer System for their equitable allocation. Annual rent paid by the Electric System to the Water and Sewer System for use of these buildings was $2,030 for fiscal year 2018 and $1,999 for 2017.

To utilize the efficiencies in the Customer Account Information billing system and reduce the administrative efforts in recording deposits, customer deposits are recorded to one Service Agreement per account. Deposits are allocated to the Electric System or Water and Sewer System based on revenues. When the deposits are credited to customer accounts, they are allocated between the service agreements.

(Dollars in Thousands)

17. Segment Information (continued)

Segment information for these activities for the fiscal years ended September 30, 2018 and 2017 was as follows:

	Electric System and Bulk Power Supply System		SJRPP System		Water and Sewer		DES	
	2018	**2017**	**2018**	**2017**	**2018**	**2017**	**2018**	**2017**
Condensed statements of net position								
Total current assets	**$ 603,965**	$ 604,305	**$ 70,352**	$ 117,017	**$ 196,938**	$ 204,171	**$ 4,396**	$ 4,355
Total noncurrent assets	**740,394**	754,337	**358,767**	276,865	**574,441**	589,523	**3,445**	3,257
Net capital assets	**2,652,224**	2,687,232	**10,144**	474,437	**2,682,864**	2,615,950	**35,027**	36,180
Deferred outflows of resources	**241,405**	278,864	**67,596**	27,339	**125,501**	131,037	**194**	203
Total assets and deferred outflows of resources	**$ 4,237,988**	$ 4,324,738	**$ 506,859**	$ 895,658	**$ 3,579,744**	$ 3,540,681	**$ 43,062**	$ 43,995
Total current liabilities	**$ 163,168**	$ 145,154	**$ 7,668**	$ 11,722	**$ 37,101**	$ 35,426	**$ 103**	$ 89
Total current liabilities payable from restricted assets	**184,899**	191,785	**63,435**	157,877	**117,447**	120,756	**2,601**	2,445
Total noncurrent liabilities	**373,718**	393,733	**39,049**	14,865	**221,990**	235,258	**34**	11
Total long-term debt	**2,166,201**	2,328,211	**281,359**	420,060	**1,570,576**	1,625,187	**34,791**	36,446
Total liabilities	**2,887,986**	3,058,883	**391,511**	604,524	**1,947,114**	2,016,627	**37,529**	38,991
Deferred inflows of resources	**283,185**	282,821	**17,715**	151,613	**47,304**	22,791	**–**	–
Net investment in (divestment of) capital assets	**530,479**	425,023	**2,138**	(3,751)	**1,325,600**	1,202,706	**(1,492)**	(1,818)
Restricted net position	**316,700**	336,210	**26,164**	39,530	**195,319**	211,166	**2,738**	2,539
Unrestricted net position	**219,638**	221,801	**69,331**	103,742	**64,407**	87,391	**4,287**	4,283
Total net position	**1,066,817**	983,034	**97,633**	139,521	**1,585,326**	1,501,263	**5,533**	5,004
Total liabilities, deferred inflows of resources, and net position	**$ 4,237,988**	$ 4,324,738	**$ 506,859**	$ 895,658	**$ 3,579,744**	$ 3,540,681	**$ 43,062**	$ 43,995
Condensed statements of revenues, expenses, and changes in net position information								
Total operating revenues	**$ 1,275,255**	$ 1,299,592	**$ 147,838**	$ 268,899	**$ 435,682**	$ 457,908	**$ 8,756**	$ 8,692
Depreciation	**203,075**	199,743	**10,987**	42,754	**144,144**	141,838	**2,403**	2,364
Other operating expenses	**829,441**	782,778	**115,612**	203,273	**166,291**	163,293	**4,603**	4,570
Operating income	**242,739**	317,071	**21,239**	22,872	**125,247**	152,777	**1,750**	1,758
Total nonoperating expenses, net	**(67,484)**	(72,558)	**(18,028)**	(22,153)	**(44,079)**	(52,807)	**(1,221)**	(1,322)
Total contributions, net	**(91,472)**	(92,271)	**–**	–	**2,895**	1,254	**–**	–
Total special items	**–**	–	**(45,099)**	–	**–**	–	**–**	–
Changes in net position	**83,783**	152,242	**(41,888)**	719	**84,063**	101,224	**529**	436
Net position, beginning of year	**983,034**	832,508	**139,521**	138,802	**1,501,263**	1,401,047	**5,004**	4,568
Effect of adoption of GASB Statement No. 75	**–**	(1,716)	**–**	–	**–**	(1,008)	**–**	–
Net position, beginning of year, restated	**983,034**	830,792	**139,521**	138,802	**1,501,263**	1,400,039	**5,004**	4,568
Net position, end of year	**$ 1,066,817**	$ 983,034	**$ 97,633**	$ 139,521	**$ 1,585,326**	$ 1,501,263	**$ 5,533**	$ 5,004
Condensed statements of cash flow information								
Net cash provided by operating activities	**$ 457,242**	$ 447,104	**$ 38,185**	$ 37,578	**$ 276,662**	$ 287,362	**$ 3,880**	$ 3,588
Net cash used in noncapital and related financing activities	**(91,538)**	(92,225)	**–**	–	**(25,031)**	(23,469)	**–**	–
Net cash used in capital and related financing activities	**(389,543)**	(396,544)	**(193,269)**	(63,622)	**(291,095)**	(259,443)	**(4,064)**	(5,139)
Net cash provided by (used in) investing activities	**(30,410)**	86,505	**174,010**	17,053	**16,616**	(21,679)	**103**	45
Net change in cash and cash equivalents	**(54,249)**	44,840	**18,926**	(8,991)	**(22,848)**	(17,229)	**(81)**	(1,506)
Cash and cash equivalents at beginning of year	**340,063**	295,223	**121,027**	130,018	**145,909**	163,138	**7,035**	8,541
Cash and cash equivalents at end of year	**$ 285,814**	$ 340,063	**$ 139,953**	$ 121,027	**$ 123,061**	$ 145,909	**$ 6,954**	$ 7,035

18. Subsequent Events

On October 11, 2018, Moody's Investors Service lowered its ratings with respect to the Bonds of JEA as follows:

(a) with respect to Electric System Revenue Bonds, Bulk Power Supply System Revenue Bonds, and SJRPP System Revenue Bonds, the long-term debt ratings were lowered from "Aa2" to "A2";

(b) with respect to Electric System Subordinated Revenue Bonds, the long-term ratings were lowered from "Aa3" to "A3";

(c) with respect to Water and Sewer Revenue Bonds and Water and Sewer Subordinated Revenue Bonds, the long-term ratings were lowered from "Aa2" to "A2"; and

(d) with respect to DES Revenue Bonds, the long-term ratings were lowered from "Aa3" to "A3".

As a result of the ratings change above, commitment fees related to Electric System VRDOs changed from a range of 0.38% to 0.40% to a range of 0.48% to 0.55% and commitment fees related to Water and Sewer System VRDOs remained unchanged within a range of 0.38% to 0.42%.

On November 1, 2018, as a result of the ratings change, the interest rate related to the Direct Purchased Bonds changed from SIFMA plus 40 basis points to SIFMA plus 55 basis points.

On November 1, 2018, JEA amended the revolving credit agreement to increase the maximum principal amount of the credit facility available for the Electric System by $200,000, for a total unsecured amount of $500,000.

On November 2, 2018, the revolving credit agreement was drawn upon by the Water and Sewer System for $2,000, with $495,000 available to be drawn.

On November 7, 2018, JEA extended the existing irrevocable direct-pay letter of credit and reimbursement agreement related to the Water and Sewer System 2008 Series A-2 VRDO to a stated expiration date of December 1, 2023. The new commitment fee is 0.42%.

REQUIRED SUPPLEMENTARY INFORMATION

JEA

Required Supplementary Information – Pension
(Dollars in Thousands)

September 30, 2018

Schedules of Required Supplementary Information

Schedule of JEA's Proportionate Share of the Net Pension Liability

City of Jacksonville General Employees Retirement Plan

Last Five Fiscal Years*

	2018	2017	2016	2015	2014
Proportional share percentage	**51.68%**	50.37%	49.15%	48.85%	48.85%
Net pension liability	**$ 527,680**	$ 541,025	$ 480,353	$ 404,466	$ 386,789
Covered payroll	**$ 134,443**	$ 126,808	$ 127,440	$ 128,084	$ 129,922
Net pension liability as a percentage of covered payroll	**392.49%**	426.65%	376.92%	315.78%	297.71%
Plan fiduciary net pension as a percentage of the total pension liability	**63.71%**	63.00%	64.03%	69.06%	68.64%

Schedule of JEA Contributions

City of Jacksonville General Employees Retirement Plan

Last Ten Fiscal Years*

Fiscal Year Ending September 30,	Actuarially Determined Contribution	Actual Contribution	Contribution Deficiency (Excess)	Covered Payroll*	Actual Contribution as a % of Covered Payroll
2009	$ 13,280	$ 13,280	$ –	$ 120,727	11.00%
2010	16,257	16,257	–	125,054	13.00%
2011	17,195	17,195	–	132,269	13.00%
2012	22,301	22,301	–	127,434	17.50%
2013	27,038	27,038	–	129,990	20.80%
2014	34,149	34,149	–	129,922	26.28%
2015	40,179	40,179	–	128,084	31.37%
2016	43,156	43,156	–	127,440	33.86%
2017	48,942	48,942	–	126,808	38.60%
2018	35,459	35,459	–	134,443	26.37%

* All information is on measurement year basis.

Required Supplementary Information – Pension (continued)
(Dollars in Thousands)

Notes to Schedule of Contributions

Valuation date:	October 1, 2017

Methods and Assumptions Used to Determine Contribution Rates:

Actuarial cost method	Entry Age Normal Cost Method
Amortization method	Level Percent of Payroll, using 1.14% Annual Increases*
Remaining amortization period	All new bases are amortized over 30 years.
Asset valuation method	Market value of assets less unrecognized returns in each of the last five years. Unrecognized return is equal to the difference between the actual market return and the expected return on the market value and is recognized over a five-year period, further adjusted, if necessary, to be within 20% of the market value.

Actual assumptions:

Investment rate of return	7.50%, including inflation, net of pension plan investment expense
Inflation rate	2.75%*
Projected salary increases	3.00% – 6.00%, of which 2.75% is the Plan's long-term payroll inflation assumption
Cost-of-living adjustments	The Plan provision contains a 3.00% COLA.

* The Fund's payroll inflation assumption is 2.75%. However, based on Part VII, Chapter 112.64(5)(a) of *Florida Statutes*, an assumption of 1.14% was used for amortization purposes in the valuation.

Required Supplementary Information – Pension (continued)
(Dollars in Thousands)

SJRPP Plan – Schedule of Changes in Net Pension Liability and Related Ratios*

	2017	2016	2015	2014
Total Pension Liability				
Beginning balance	**$ 158,926**	$ 155,143	$ 150,629	$ 146,521
Service cost	**1,032**	1,210	1,275	1,470
Interest	**10,768**	10,514	10,271	10,026
Changes in benefit terms	**–**	(59)	–	–
Difference between actual and expected experience	**10,826**	714	3,316	2,121
Changes in assumptions	**26**	3,730	–	–
Benefit payments	**(12,257)**	(12,326)	(10,348)	(9,509)
Total pension liability – ending	**$ 169,321**	$ 158,926	$ 155,143	$ 150,629
Plan Fiduciary Net Position				
Beginning balance	**$ 142,286**	$ 138,902	$ 145,425	$ 135,019
Contributions – employer	**8,039**	2,142	3,509	5,559
Contributions – employee	**625**	629	648	655
Net investment income	**14,571**	13,379	(266)	13,763
Benefit payments	**(12,257)**	(12,326)	(10,348)	(9,509)
Administrative expense	**(466)**	(440)	(66)	(62)
Plan fiduciary net position – ending	**$ 152,798**	$ 142,286	$ 138,902	$ 145,425
Net Pension Liability – Ending	**$ 16,523**	$ 16,640	$ 16,241	$ 5,204
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	**90.24%**	89.53%	89.53%	96.55%
Covered Payroll	**$ 15,621**	$ 15,730	$ 16,665	$ 21,304
Net Pension Liability as a Percentage of Covered Payroll	**105.78%**	105.79%	97.46%	24.43%

* These schedules are presented to illustrate the requirement to share information for ten years. However, until a full ten-year trend is compiled, only available information is shown. All information is on a measurement year basis.

SJRPP Plan – Investment Returns

Year Ended	Return
2008	-12.67%
2009	7.60%
2010	10.14%
2011	0.41%
2012	17.17%
2013	12.64%
2014	10.32%
2015	-0.19%
2016	9.99%
2017	10.39%

Required Supplementary Information – Pension (continued)
(Dollars in Thousands)

SJRPP Plan – Schedule of Contributions

Fiscal Year Ending September 30,	Actuarially Determined Contribution	Actual Contribution	Contribution Deficiency (Excess)	Covered Payroll	Actual Contribution as a % of Covered Payroll
2009	10,239	10,398	(159)	21,327	48.76%
2010	13,453	13,565	(112)	19,431	69.81%
2011	8,919	9,028	(109)	19,895	45.38%
2012	7,995	8,005	(10)	19,318	41.44%
2013	11,845	11,885	(40)	17,761	66.92%
2014	5,397	5,559	(162)	21,304	26.09%
2015	3,414	3,509	(95)	16,665	21.06%
2016	2,050	2,142	(92)	15,730	13.62%
2017	7,967	8,039	(72)	15,621	51.46%
2018	7,727	26,409	(18,682)	5,809	454.62%

Required Supplementary Information – Pension (continued)
(Dollars in Thousands)

Notes to Schedule of Contributions

Valuation date:	October 1, 2017
Methods and Assumptions Used to Determine Contribution Rates:	
Actuarial cost method	Entry Age Normal
Amortization method	Level Dollar, Closed
Remaining amortization period	2 years
Asset valuation method	Market value of assets
Actual assumptions:	
Investment rate of return	7.00% per year, compounded annually, net of investment expenses
Inflation rate	2.5%
Projected salary increases	2.5% – 12.5%, per year, including inflation
Retirement age	Experience-based table of rates based on year of eligibility.
Mortality	Mortality tables used for Regular Class and Special Risk Class members in the July 1, 2016 actuarial valuation of the Florida Retirement System. They are based on the results of a statewide experience study covering the period 2008 through 2013.

Required Supplementary Information – OPEB
(Dollars in Thousands)

September 30, 2018

OPEB Plan – Schedule of Changes in Net OPEB Liability and Related Ratios*

	2017	2016
Total OPEB Liability		
Beginning balance	**$ 60,949**	$ 62,554
Service cost	**811**	781
Interest on the total OPEB liability	**4,253**	4,203
Changes in benefit terms	**(11,556)**	–
Difference between actual and expected experience	**(7,891)**	–
Benefit payments	**(2,019)**	(6,589)
Total OPEB liability – ending	**$ 44,547**	$ 60,949
Plan Fiduciary Net Position		
Beginning balance	**$ 21,441**	$ 18,156
Employer contributions	**5,240**	5,061
Net investment income	**2,942**	2,135
Reimbursements to employer	**(3,911)**	(3,911)
Plan fiduciary net position – ending	**$ 25,712**	$ 21,441
Net OPEB Liability – Ending	**$ 18,835**	$ 39,508
Plan Fiduciary Net Position as a Percentage of Total OPEB Liability	**57.72%**	35.18%
Covered Payroll	**$ 155,326**	$ 150,073
Net OPEB Liability as a Percentage of Covered Payroll	**12.13%**	26.33%

* This schedule is presented to illustrate the requirement to share information for ten years. However, until a full ten-year trend is compiled, only available information is shown. All information is on a measurement year basis.

OPEB Plan – Investment Returns

All information is on a measurement year basis

Year Ended	Return
2008	0.03%
2009	1.44%
2010	6.74%
2011	-1.41%
2012	15.84%
2013	11.93%
2014	8.22%
2015	-0.46%
2016	7.90%
2017	13.35%

Required Supplementary Information – OPEB (continued)

(Dollars in Thousands)

OPEB Plan – Schedule of Contributions*

Fiscal Year Ending September 30,	Actuarially Determined Contribution	Actual Contribution	Contribution Deficiency (Excess)	Covered Payroll	Actual Contribution as a % of Covered Payroll
2009	$ 5,779	$ 4,023	$ 1,756	N/A	N/A
2010	5,126	5,236	(110)	138,093	3.79%
2011	5,344	6,601	(1,257)	N/A	N/A
2012	5,211	5,423	(212)	150,714	3.60%
2013	5,433	6,185	(752)	N/A	N/A
2014	4,819	4,382	437	148,617	2.95%
2015	5,011	7,255	(2,244)	N/A	N/A
2016	5,061	7,739	(2,678)	150,073	5.16%
2017	4,138	5,240	(1,102)	155,326	3.37%
2018	3,885	4,078	(193)	161,602	2.52%

* This schedule is presented to illustrate the requirement to share information for ten years. However, until a full ten-year trend is compiled, only available information is shown.

Required Supplementary Information – OPEB
(Dollars in Thousands)

Notes to Schedule of Contributions

Actuarial valuations are performed as of the beginning of the fiscal year and assumptions below pertain to all years presented unless otherwise noted.

Methods and Assumptions Used to Determine Contribution Rates:

Actuarial cost method	Entry Age Normal
Inflation	2.50%
Discount rate	7.00%
Salary increases	2.5% – 12.5% per year, including inflation; varies by years of service
Retirement age	Experience-based table of rates that are specific to the type of eligibility condition
Mortality	Mortality tables used for Regular Class members in the July 1, 2016 actuarial valuation of the Florida Retirement System. They are based on the results of a statewide experience study covering the period 2008 through 2013.
Healthcare cost trend rates	Based on the Getzen Model, with trend starting at 7.00% and gradually decreasing to an ultimate trend rate of 4.57% as of October 1, 2017 and 4.59% as of October 1, 2016 (including the impact of the excise tax). The decrease is a result of the decrease in the load for excise tax.
Aging factors	Based on the 2013 SOA Study "Health Care Costs – From Birth to Death".
Expenses	Investment returns are net of the investment expenses; and, administrative expenses related to operation of the health plan are included in the premium costs.

Other information:

Notes	Health-related assumptions are based on experience over the plan year ending December 31, 2017.

JEA

Combining Statement of Net Position
(In Thousands)

September 30, 2018

	Electric System and Bulk Power Supply System	SJRPP System	Elimination of intercompany transactions	Total Electric Enterprise Fund	Water and Sewer Enterprise Fund	District Energy System Fund	Total JEA
Assets							
Current assets:							
Cash and cash equivalents	$ 285,611	$ 65,840	$ –	$ 351,451	$ 86,219	$ 3,536	$ 441,206
Investments	83,268	2,042	–	85,310	–	–	85,310
Accounts and interest receivable, net of allowance of $1,830	197,041	790	(1,912)	195,919	54,369	860	251,148
Inventories:							
Fuel	35,856	1,015	–	36,871	–	–	36,871
Materials and supplies	2,189	665	–	2,854	56,350	–	59,204
Total current assets	603,965	70,352	(1,912)	672,405	196,938	4,396	873,739
Noncurrent assets:							
Restricted assets:							
Cash and cash equivalents	203	74,113	–	74,316	36,842	3,418	114,576
Investments	419,536	23,330	–	442,866	288,761	–	731,627
Accounts and interest receivable	7	47	–	54	8	–	62
Total restricted assets	419,746	97,490	–	517,236	325,611	3,418	846,265
Costs to be recovered from future revenues	301,805	261,277	–	563,082	244,987	27	808,096
Investment in The Energy Authority	6,811	–	–	6,811	–	–	6,811
Other assets	12,032	–	–	12,032	3,843	–	15,875
Total noncurrent assets	740,394	358,767	–	1,099,161	574,441	3,445	1,677,047
Net capital assets	2,652,224	10,144	–	2,662,368	2,682,864	35,027	5,380,259
Total assets	3,996,583	439,263	(1,912)	4,433,934	3,454,243	42,868	7,931,045
Deferred outflows of resources							
Unrealized pension contributions and losses	83,649	34,238	–	117,887	53,480	–	171,367
Unamortized deferred losses on refundings	85,165	4,185	–	89,350	54,178	194	143,722
Accumulated decrease in fair value of hedging derivatives	70,103	–	–	70,103	16,253	–	86,356
Unrealized asset retirement obligation	–	29,173	–	29,173	–	–	29,173
Unrealized OPEB contributions and losses	2,488	–	–	2,488	1,590	–	4,078
Total deferred outflows of resources	241,405	67,596	–	309,001	125,501	194	434,696
Total assets and deferred outflows of resources	$ 4,237,988	$ 506,859	$ (1,912)	$ 4,742,935	$ 3,579,744	$ 43,062	$ 8,365,741
Liabilities							
Current liabilities:							
Accounts and accrued expenses payable	$ 118,901	$ 7,668	$ (796)	$ 125,773	$ 21,485	$ 103	$ 147,361
Customer deposits	44,267	–	–	44,267	15,616	–	59,883
Total current liabilities	163,168	7,668	(796)	170,040	37,101	103	207,244
Current liabilities payable from restricted assets:							
Debt due within one year	130,690	1,720	–	132,410	51,720	1,660	185,790
Renewal and replacement reserve	–	54,370	–	54,370	–	–	54,370
Interest payable	37,613	5,603	–	43,216	29,841	680	73,737
Construction contracts and accounts payable	16,596	1,742	(1,116)	17,222	35,886	261	53,369
Total current liabilities payable from restricted assets	184,899	63,435	(1,116)	247,218	117,447	2,601	367,266
Noncurrent liabilities:							
Net pension liability	321,885	16,523	–	338,408	205,795	–	544,203
Asset retirement obligation	–	22,526	–	22,526	–	–	22,526
Net OPEB liability	11,489	–	–	11,489	7,346	–	18,835
Other liabilities	40,344	–	–	40,344	8,849	34	49,227
Total noncurrent liabilities	373,718	39,049	–	412,767	221,990	34	634,791
Long-term debt:							
Debt payable, less current portion	2,019,350	278,885	–	2,298,235	1,480,620	34,825	3,813,680
Unamortized premium (discount), net	76,748	2,474	–	79,222	73,703	(34)	152,891
Fair value of debt management strategy instruments	70,103	–	–	70,103	16,253	–	86,356
Total long-term debt	2,166,201	281,359	–	2,447,560	1,570,576	34,791	4,052,927
Total liabilities	2,887,986	391,511	(1,912)	3,277,585	1,947,114	37,529	5,262,228
Deferred inflows of resources							
Revenues to be used for future costs	249,085	10,624	–	259,709	27,123	–	286,832
Unrealized pension gains	26,250	7,091	–	33,341	16,783	–	50,124
Unrealized OPEB gains	5,314	–	–	5,314	3,398	–	8,712
Accumulated increase in fair value of hedging derivatives	2,536	–	–	2,536	–	–	2,536
Total deferred inflows of resources	283,185	17,715	–	300,900	47,304	–	348,204
Net position							
Net investment in (divestment of) capital assets	530,479	2,138	–	532,617	1,325,600	(1,492)	1,856,725
Restricted							
Debt service	130,072	1,843		131,915	53,799	1,660	187,374
Other purposes	186,628	24,321	1,116	212,065	141,520	1,078	354,663
Unrestricted	219,638	69,331	(1,116)	287,853	64,407	4,287	356,547
Total net position	1,066,817	97,633	–	1,164,450	1,585,326	5,533	2,755,309
Total liabilities, deferred inflows of resources, and net position	$ 4,237,988	$ 506,859	$ (1,912)	$ 4,742,935	$ 3,579,744	$ 43,062	$ 8,365,741

JEA

Combining Statement of Net Position

(In Thousands)

September 30, 2017

	Electric System and Bulk Power Supply System	SJRPP System	Elimination of intercompany transactions	Total Electric Enterprise Fund	Water and Sewer Enterprise Fund	District Energy System Fund	Total JEA
Assets							
Current assets:							
Cash and cash equivalents	$ 340,063	$ 41,950	$ –	$ 382,013	$ 103,741	$ 3,805	$ 489,559
Investments	20,629	4,493	–	25,122	–	–	25,122
Accounts and interest receivable, net of allowance of $2,101	203,433	16,597	(27,230)	192,800	52,094	550	245,444
Inventories:							
Fuel	38,044	34,728	–	72,772	–	–	72,772
Materials and supplies	2,136	19,249	–	21,385	48,336	–	69,721
Total current assets	604,305	117,017	(27,230)	694,092	204,171	4,355	902,618
Noncurrent assets:							
Restricted assets:							
Cash and cash equivalents	–	79,077	–	79,077	42,168	3,230	124,475
Investments	442,080	192,794	–	634,874	301,834	–	936,708
Accounts and interest receivable	20	952	–	972	12	–	984
Total restricted assets	442,100	272,823	–	714,923	344,014	3,230	1,062,167
Costs to be recovered from future revenues	297,241	4,042	–	301,283	239,711	27	541,021
Investment in The Energy Authority	6,283	–	–	6,283	–	–	6,283
Other assets	8,713	–	–	8,713	5,798	–	14,511
Total noncurrent assets	754,337	276,865	–	1,031,202	589,523	3,257	1,623,982
Net capital assets	2,687,232	474,437	–	3,161,669	2,615,950	36,180	5,813,799
Total assets	4,045,874	868,319	(27,230)	4,886,963	3,409,644	43,792	8,340,399
Deferred outflows of resources							
Unrealized pension contributions and losses	95,814	16,505	–	112,319	61,259	–	173,578
Unamortized deferred losses on refundings	78,503	10,834	–	89,337	43,816	203	133,356
Accumulated decrease in fair value of hedging derivatives	101,350	–	–	101,350	23,919	–	125,269
Unrealized OPEB contributions and losses	3,197	–	–	3,197	2,043	–	5,240
Total deferred outflows of resources	278,864	27,339	–	306,203	131,037	203	437,443
Total assets and deferred outflows of resources	$ 4,324,738	$ 895,658	$ (27,230)	$ 5,193,166	$ 3,540,681	$ 43,995	$ 8,777,842
Liabilities							
Current liabilities:							
Accounts and accrued expenses payable	$ 102,962	$ 11,722	$ (3,221)	$ 111,463	$ 20,340	$ 89	$ 131,892
Customer deposits	42,192	–	–	42,192	15,086	–	57,278
Total current liabilities	145,154	11,722	(3,221)	153,655	35,426	89	189,170
Current liabilities payable from restricted assets:							
Debt due within one year	135,105	41,330	–	176,435	51,020	1,640	229,095
Renewal and replacement reserve	–	82,577	–	82,577	–	–	82,577
Interest payable	40,458	9,571	–	50,029	31,501	691	82,221
Construction contracts and accounts payable	16,222	24,399	(24,009)	16,612	38,235	114	54,961
Total current liabilities payable from restricted assets	191,785	157,877	(24,009)	325,653	120,756	2,445	448,854
Noncurrent liabilities:							
Net pension liability	330,025	13,312	–	343,337	211,000	–	554,337
Net OPEB liability	24,100	–	–	24,100	15,408	–	39,508
Other liabilities	39,608	1,553	–	41,161	8,850	11	50,022
Total noncurrent liabilities	393,733	14,865	–	408,598	235,258	11	643,867
Long-term debt:							
Debt payable, less current portion	2,171,305	408,885	–	2,580,190	1,555,485	36,485	4,172,160
Unamortized premium (discount), net	55,556	11,175	–	66,731	45,783	(39)	112,475
Fair value of debt management strategy instruments	101,350	–	–	101,350	23,919	–	125,269
Total long-term debt	2,328,211	420,060	–	2,748,271	1,625,187	36,446	4,409,904
Total liabilities	3,058,883	604,524	(27,230)	3,636,177	2,016,627	38,991	5,691,795
Deferred inflows of resources							
Revenues to be used for future costs	277,552	147,632	–	425,184	19,422	–	444,606
Unrealized pension gains	4,867	3,981	–	8,848	3,112	–	11,960
Unrealized OPEB gains	402	–	–	402	257	–	659
Total deferred inflows of resources	282,821	151,613	–	434,434	22,791	–	457,225
Net position							
Net investment in (divestment of) capital assets	425,023	(3,751)	–	421,272	1,202,706	(1,818)	1,622,160
Restricted							
Debt service	134,071	41,709	–	175,780	56,848	1,640	234,268
Other purposes	202,139	(2,179)	24,009	223,969	154,318	899	379,186
Unrestricted	221,801	103,742	(24,009)	301,534	87,391	4,283	393,208
Total net position	983,034	139,521	–	1,122,555	1,501,263	5,004	2,628,822
Total liabilities, deferred inflows of resources, and net position	$ 4,324,738	$ 895,658	$ (27,230)	$ 5,193,166	$ 3,540,681	$ 43,995	$ 8,777,842

JEA

Combining Statement of Revenues, Expenses, and Changes in Net Position
(In Thousands)

Year Ended September 30, 2018

	Electric System and Bulk Power Supply System	SJRPP System	Elimination of intercompany transactions	Total Electric Enterprise Fund	Water and Sewer Enterprise Fund	District Energy System Fund	Eliminations	Total JEA
Operating revenues								
Electric	$ 1,253,139	$ 87,749	$ (56,982)	$ 1,283,906	$ –	$ –	$ (16,704)	$ 1,267,202
Water and sewer	–	–	–	–	424,121	–	(641)	423,480
District energy system	–	–	–	–	–	8,756	(408)	8,348
Other	22,116	60,089	–	82,205	11,561	–	(2,814)	90,952
Total operating revenues	1,275,255	147,838	(56,982)	1,366,111	435,682	8,756	(20,567)	1,789,982
Operating expenses								
Operations and maintenance:								
Fuel	356,877	64,175	–	421,052	–	–	–	421,052
Purchased power	166,176	–	(56,982)	109,194	–	–	–	109,194
Maintenance and other operating expenses	244,011	52,296	–	296,307	149,646	4,603	(20,567)	429,989
Depreciation	203,075	10,987	–	214,062	144,144	2,403	–	360,609
State utility and franchise taxes	60,831	–	–	60,831	10,476	–	–	71,307
Recognition of deferred costs and revenues, net	1,546	(859)	–	687	6,169	–	–	6,856
Total operating expenses	1,032,516	126,599	(56,982)	1,102,133	310,435	7,006	(20,567)	1,399,007
Operating income	242,739	21,239	–	263,978	125,247	1,750	–	390,975
Nonoperating revenues (expenses)								
Interest on debt	(86,808)	(20,292)	–	(107,100)	(58,034)	(1,374)	–	(166,508)
Investment income	6,910	1,196	–	8,106	3,617	103	–	11,826
Allowance for funds used during construction	3,912	–	–	3,912	7,802	50	–	11,764
Other nonoperating income, net	6,025	1,068	–	7,093	2,764	–	–	9,857
Earnings from The Energy Authority	4,074	–	–	4,074	–	–	–	4,074
Other interest, net	(1,597)	–	–	(1,597)	(228)	–	–	(1,825)
Total nonoperating expenses, net	(67,484)	(18,028)	–	(85,512)	(44,079)	(1,221)	–	(130,812)
Income before contributions	175,255	3,211	–	178,466	81,168	529	–	260,163
Contributions (to) from								
General Fund, City of Jacksonville, Florida	(91,472)	–	–	(91,472)	(25,148)	–	–	(116,620)
Developers and other	1,597	–	–	1,597	80,560	–	–	82,157
Reduction of plant cost through contributions	(1,597)	–	–	(1,597)	(52,517)	–	–	(54,114)
Total contributions, net	(91,472)	–	–	(91,472)	2,895	–	–	(88,577)
Special items								
SJRPP deferred revenues, net	–	451,037	–	451,037	–	–	–	451,037
SJRPP impairment loss	–	(496,136)	–	(496,136)	–	–	–	(496,136)
Total special items	–	(45,099)	–	(45,099)	–	–	–	(45,099)
Change in net position	83,783	(41,888)	–	41,895	84,063	529	–	126,487
Net position, beginning of year	983,034	139,521	–	1,122,555	1,501,263	5,004	–	2,628,822
Net position, end of year	1,066,817	97,633	–	1,164,450	1,585,326	5,533	–	2,755,309

JEA

Combining Statement of Revenues, Expenses, and Changes in Net Position
(In Thousands)

Year Ended September 30, 2017

	Electric System and Bulk Power Supply System	SJRPP System	Elimination of intercompany transactions	Total Electric Enterprise Fund	Water and Sewer Enterprise Fund	District Energy System Fund	Eliminations	Total JEA
Operating revenues								
Electric	$ 1,270,144	$ 268,899	$ (140,162)	$ 1,398,881	$ –	$ –	$ (16,675)	$ 1,382,206
Water and sewer	–	–	–	–	448,348	–	(291)	448,057
District energy system	–	–	–	–	–	8,692	(507)	8,185
Other	29,448	–	–	29,448	9,560	–	(2,279)	36,729
Total operating revenues	1,299,592	268,899	(140,162)	1,428,329	457,908	8,692	(19,752)	1,875,177
Operating expenses								
Operations and maintenance:								
Fuel	289,949	168,845	–	458,794	–	–	–	458,794
Purchased power	217,618	–	(140,162)	77,456	–	–	–	77,456
Maintenance and other operating expenses	219,434	46,445	–	265,879	141,445	4,570	(19,752)	392,142
Depreciation	199,743	42,754	–	242,497	141,838	2,364	–	386,699
State utility and franchise taxes	59,121	–	–	59,121	10,562	–	–	69,683
Recognition of deferred costs and revenues, net	(3,344)	(12,017)	–	(15,361)	11,286	–	–	(4,075)
Total operating expenses	982,521	246,027	(140,162)	1,088,386	305,131	6,934	(19,752)	1,380,699
Operating income	317,071	22,872	–	339,943	152,777	1,758	–	494,478
Nonoperating revenues (expenses)								
Interest on debt	(94,350)	(24,064)	–	(118,414)	(63,183)	(1,395)	–	(182,992)
Investment income	5,177	1,522	–	6,699	3,832	45	–	10,576
Allowance for funds used during construction	6,102	–	–	6,102	5,644	28	–	11,774
Other nonoperating income, net	4,595	389	–	4,984	934	–	–	5,918
Earnings from The Energy Authority	6,335	–	–	6,335	–	–	–	6,335
Other interest, net	(417)	–	–	(417)	(34)	–	–	(451)
Total nonoperating expenses, net	(72,558)	(22,153)	–	(94,711)	(52,807)	(1,322)	–	(148,840)
Income before contributions	244,513	719	–	245,232	99,970	436	–	345,638
Contributions (to) from								
General Fund, City of Jacksonville, Florida	(92,271)	–	–	(92,271)	(23,552)	–	–	(115,823)
Developers and other	906	–	–	906	65,969	–	–	66,875
Reduction of plant cost through contributions	(906)	–	–	(906)	(41,163)	–	–	(42,069)
Total contributions, net	(92,271)	–	–	(92,271)	1,254	–	–	(91,017)
Change in net position	152,242	719	–	152,961	101,224	436	–	254,621
Net position, beginning of year	832,508	138,802	–	971,310	1,401,047	4,568	–	2,376,925
Effect of adoption of GASB Statement No. 75	(1,716)	–	–	(1,716)	(1,008)	–	–	(2,724)
Net position, beginning of year, as restated	830,792	138,802	–	969,594	1,400,039	4,568	–	2,374,201
Net position, end of year	983,034	139,521	–	1,122,555	1,501,263	5,004	–	2,628,822

JEA

Combining Statement of Cash Flows
(In Thousands)

Year Ended September 30, 2018

	Electric System and Bulk Power Supply System	SJRPP System	Elimination of intercompany transactions	Total Electric Enterprise Fund	Water and Sewer Enterprise Fund	District Energy System Fund	Elimination of intercompany transactions	Total JEA
Operating activities								
Receipts from customers	$ 1,249,048	$ 104,261	$ (34,089)	$ 1,319,220	$ 430,685	$ 8,446	$ (17,753)	$ 1,740,598
Payments to suppliers	(655,986)	(81,496)	34,089	(703,393)	(104,124)	(4,012)	20,567	(790,962)
Payments to employees	(160,943)	(44,669)	–	(205,612)	(61,403)	(554)	–	(267,569)
Other operating activities	25,123	60,089	–	85,212	11,504	–	(2,814)	93,902
Net cash provided by operating activities	457,242	38,185	–	495,427	276,662	3,880	–	775,969
Noncapital and related financing activities								
Contribution to General Fund, City of Jacksonville, Florida	(91,538)	–	–	(91,538)	(25,031)	–	–	(116,569)
Net cash used in noncapital and related financing activities	(91,538)	–	–	(91,538)	(25,031)	–	–	(116,569)
Capital and related financing activities								
Defeasance of debt	(405,105)	(128,280)	–	(533,385)	(460,305)	–	–	(993,690)
Proceeds from issuance of debt, net	383,840	–	–	383,840	437,160	–	–	821,000
Acquisition and construction of capital assets	(180,050)	–	–	(180,050)	(203,474)	(1,053)	–	(384,577)
Repayment of debt principal	(135,105)	(41,330)	–	(176,435)	(51,020)	(1,640)	–	(229,095)
Interest paid on debt	(97,134)	(16,685)	–	(113,819)	(67,659)	(1,371)	–	(182,849)
Capital contributions	–	–	–	–	28,043	–	–	28,043
Other capital financing activities	44,011	(6,974)	–	37,037	26,160	–	–	63,197
Net cash used in capital and related financing activities	(389,543)	(193,269)	–	(582,812)	(291,095)	(4,064)	–	(877,971)
Investing activities								
Purchase of investments	(506,359)	(252,593)	–	(758,952)	(279,014)	–	–	(1,037,966)
Proceeds from sale and maturity of investments	462,211	428,653	–	890,864	288,607	–	–	1,179,471
Investment income	10,225	(2,050)	–	8,175	7,023	103	–	15,301
Distributions from The Energy Authority	3,513	–	–	3,513	–	–	–	3,513
Net cash provided by (used in) investing activities	(30,410)	174,010	–	143,600	16,616	103	–	160,319
Net change in cash and cash equivalents	(54,249)	18,926	–	(35,323)	(22,848)	(81)	–	(58,252)
Cash and cash equivalents at beginning of year	340,063	121,027	–	461,090	145,909	7,035	–	614,034
Cash and cash equivalents at end of year	$ 285,814	$ 139,953	$ –	$ 425,767	$ 123,061	$ 6,954	$ –	$ 555,782
Reconciliation of operating income to net cash provided by operating activities								
Operating income	$ 242,739	$ 21,239	$ –	$ 263,978	$ 125,247	$ 1,750	$ –	$ 390,975
Adjustments:								
Depreciation and amortization	203,075	10,987	–	214,062	145,424	2,403	–	361,889
Recognition of deferred costs and revenues, net	1,546	(859)	–	687	6,169	–	–	6,856
Other nonoperating income, net	103	700	–	803	270	–	–	1,073
Changes in noncash assets and noncash liabilities:								
Accounts receivable	13,184	15,812	–	28,996	(2,200)	(310)	–	26,486
Accounts receivable, restricted	13	–	–	13	3	–	–	16
Inventories	2,136	52,297	–	54,433	(8,014)	–	–	46,419
Other assets	5,688	–	–	5,688	733	–	–	6,421
Accounts and accrued expenses payable	10,076	(10,441)	–	(365)	1,330	14	–	979
Current liabilities payable from restricted liabilities	–	(49,998)	–	(49,998)	–	–	–	(49,998)
Other noncurrent liabilities and deferred inflows	(21,318)	(1,552)	–	(22,870)	7,700	23	–	(15,147)
Net cash provided by operating activities	$ 457,242	$ 38,185	$ –	$ 495,427	$ 276,662	$ 3,880	$ –	$ 775,969
Non-cash activity								
Contribution of capital assets from developers	$ 1,597	$ –	$ –	$ 1,597	$ 52,517	$ –	$ –	$ 54,114
Unrealized gains (losses) on fair value of investments	$ (4,052)	$ 4,146	$ –	$ 94	$ (3,480)	$ –	$ –	$ (3,386)

JEA

Combining Statement of Cash Flows
(In Thousands)

Year Ended September 30, 2017

	Electric System and Bulk Power Supply System	SJRPP System	Elimination of intercompany transactions	Total Electric Enterprise Fund	Water and Sewer Enterprise Fund	District Energy System Fund	Elimination of intercompany transactions	Total JEA
Operating activities								
Receipts from customers	$ 1,207,855	$ 269,957	$ (143,764)	$ 1,334,048	$ 433,658	$ 8,282	$ (17,473)	$ 1,758,515
Payments to suppliers	(605,225)	(201,043)	143,764	(662,504)	(91,308)	(4,171)	19,752	(738,231)
Payments to employees	(159,127)	(31,336)	–	(190,463)	(58,234)	(496)	–	(249,193)
Other operating activities	3,601	–	–	3,601	3,246	(27)	(2,279)	4,541
Net cash provided by operating activities	447,104	37,578	–	484,682	287,362	3,588	–	775,632
Noncapital and related financing activities								
Contribution to General Fund, City of Jacksonville, Florida	(92,225)	–	–	(92,225)	(23,469)	–	–	(115,694)
Net cash used in noncapital and related financing activities	(92,225)	–	–	(92,225)	(23,469)	–	–	(115,694)
Capital and related financing activities								
Defeasance of debt	(153,210)	–	–	(153,210)	(6,135)	–	–	(159,345)
Proceeds from issuance of debt, net	90,405	–	–	90,405	–	–	–	90,405
Acquisition and construction of capital assets	(128,665)	–	–	(128,665)	(177,345)	(2,123)	–	(308,133)
Repayment of debt principal	(102,240)	(43,785)	–	(146,025)	(33,875)	(1,625)	–	(181,525)
Interest paid on debt	(102,667)	(20,226)	–	(122,893)	(69,199)	(1,391)	–	(193,483)
Capital contributions	–	–	–	–	24,805	–	–	24,805
Other capital financing activities	(167)	389	–	222	2,306	–	–	2,528
Net cash used in capital and related financing activities	(396,544)	(63,622)	–	(460,166)	(259,443)	(5,139)	–	(724,748)
Investing activities								
Purchase of investments	(641,438)	(572,124)	–	(1,213,562)	(589,885)	–	–	(1,803,447)
Proceeds from sale and maturity of investments	714,603	585,322	–	1,299,925	561,671	–	–	1,861,596
Investment income	7,158	3,855	–	11,013	6,535	45	–	17,593
Distributions from The Energy Authority	6,182	–	–	6,182	–	–	–	6,182
Net cash provided by (used in) investing activities	86,505	17,053	–	103,558	(21,679)	45	–	81,924
Net change in cash and cash equivalents	44,840	(8,991)	–	35,849	(17,229)	(1,506)	–	17,114
Cash and cash equivalents at beginning of year	295,223	130,018	–	425,241	163,138	8,541	–	596,920
Cash and cash equivalents at end of year	$ 340,063	$ 121,027	$ –	$ 461,090	$ 145,909	$ 7,035	$ –	$ 614,034
Reconciliation of operating income to net cash provided by operating activities								
Operating income	$ 317,071	$ 22,872	$ –	$ 339,943	$ 152,777	$ 1,758	$ –	$ 494,478
Adjustments:								
Depreciation and amortization	199,743	42,754	–	242,497	143,179	2,364	–	388,040
Recognition of deferred costs and revenues, net	(3,344)	(12,017)	–	(15,361)	11,286	–	–	(4,075)
Other nonoperating income, net	45	–	–	45	(1,117)	–	–	(1,072)
Changes in noncash assets and noncash liabilities:								
Accounts receivable	(2,083)	1,058	–	(1,025)	(12,751)	(409)	–	(14,185)
Accounts receivable, restricted	28	–	–	28	4	–	–	32
Inventories	(1,582)	(19,603)	–	(21,185)	(3,507)	–	–	(24,692)
Other assets	(23,056)	–	–	(23,056)	(4,542)	(27)	–	(27,625)
Accounts and accrued expenses payable	21,878	(2,327)	–	19,551	3,780	(69)	–	23,262
Current liabilities payable from restricted liabilities	–	4,409	–	4,409	–	–	–	4,409
Other noncurrent liabilities and deferred inflows	(61,596)	432	–	(61,164)	(1,747)	(29)	–	(62,940)
Net cash provided by operating activities	$ 447,104	$ 37,578	$ –	$ 484,682	$ 287,362	$ 3,588	$ –	$ 775,632
Non-cash activity								
Contribution of capital assets from developers	$ 906	$ –	$ –	$ 906	$ 41,163	$ –	$ –	$ 42,069
Unrealized losses on fair value of investments	$ (2,193)	$ (2,556)	$ –	$ (4,749)	$ (2,961)	$ –	$ –	$ (7,710)

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Report of Independent Auditors on Internal Control Over Financial Reporting and on Compliance and Other Matters Based on an Audit of Financial Statements Performed in Accordance with *Government Auditing Standards*

The Board of Directors
JEA
Jacksonville, Florida

We have audited, in accordance with auditing standards generally accepted in the United States and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States, the financial statements of JEA, which comprise the statement of net position as of September 30, 2018, and the related statements of revenues, expenses and changes in net position and cash flows for the year then ended, and the related notes to the financial statements, and have issued our report thereon dated December 3, 2018.

Internal Control Over Financial Reporting

In planning and performing our audit of the financial statements, we considered JEA's internal control over financial reporting (internal control) to determine the audit procedures that are appropriate in the circumstances for the purpose of expressing our opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of JEA's internal control. Accordingly, we do not express an opinion on the effectiveness of JEA's internal control.

A *deficiency in internal control* exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct misstatements on a timely basis. A *material weakness* is a deficiency, or combination of deficiencies, in internal control, such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected on a timely basis. A *significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

Compliance and Other Matters

As part of obtaining reasonable assurance about whether JEA's financial statements are free of material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts and grant agreements, noncompliance with which could have a direct and material effect on the determination of financial statement amounts. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

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Purpose of this Report

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the result of that testing, and not to provide an opinion on the effectiveness of the entity's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the entity's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

Ernst & Young LLP

December 3, 2018

BOND COMPLIANCE INFORMATION

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Report of Independent Auditors on Schedules of Debt Service Coverage

The Board of Directors
JEA
Jacksonville, Florida

We have audited, in accordance with auditing standards generally accepted in the United States, the accompanying schedules of debt service coverage (as specified in the respective JEA Bond Resolutions) of the JEA Electric System, the JEA Bulk Power Supply System, the JEA St. Johns River Power Park System, the JEA Water and Sewer System and the JEA District Energy System for the years ended September 30, 2018 and 2017, based on the financial statements referred to in the Report on Financial Statements as of September 30, 2018 and 2017 paragraph below.

Management's Responsibility for the Schedules

Management is responsible for the preparation and fair presentation of the schedules of debt service coverage in conformity with the respective JEA Bond Resolutions. Management also is responsible for the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of the schedules of debt service coverage that are free of material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on the schedules of debt service coverage based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the schedules of debt service coverage are free of material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the schedules of debt service coverage. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the schedules of debt service coverage, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the schedules of debt service coverage in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the schedules of debt service coverage.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the schedules referred to above present fairly, in all material respects, the debt service coverage of the JEA Electric System, the JEA Bulk Power Supply System, the JEA St. Johns River Power Park System, the JEA Water and Sewer System, and the JEA District Energy System for the years ended September 30, 2018 and 2017, in conformity with the basis specified in the respective JEA Bond Resolutions.

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Contractual Basis of Accounting

The method of calculating the schedules of debt service coverage is prescribed by the applicable JEA Bond Resolutions, which require the maintenance of certain minimum debt service coverage ratios. Our opinion is not modified with respect to this matter.

Report on Financial Statements as of September 30, 2018 and 2017

We have audited, in accordance with auditing standards generally accepted in the United States, the basic financial statements of JEA as of and for the years ended September 30, 2018 and 2017, and have issued our report, with an unmodified opinion thereon, dated December 3, 2018.

Restrictions on Use

This report is intended solely for the information and use of management and the board of directors of JEA, and the bond trustees and is not intended to be and should not be used by anyone other than these specified parties.

Ernst & Young LLP

December 3, 2018

JEA Electric System

Schedule of Debt Service Coverage

(In Thousands)

	Year Ended September 30 2018	2017
Revenues		
Electric	**$ 1,229,625**	$ 1,206,919
Investment income (1)	**9,525**	5,939
Earnings from The Energy Authority	**4,074**	6,335
Other, net (2)	**22,216**	29,490
Plus: amounts paid from the rate stabilization fund into the revenue fund	**88,415**	79,216
Less: amounts paid from the revenue fund into the rate stabilization fund	**(64,901)**	(15,991)
Total revenues	**1,288,954**	1,311,908
Operating expenses (3)		
Fuel	**328,160**	253,204
Purchased power (4)	**244,478**	284,436
Other operations and maintenance	**204,982**	199,511
State utility taxes and franchise fees	**59,551**	57,951
Total operating expenses	**837,171**	795,102
Net revenues	**$ 451,783**	$ 516,806
Debt service	**$ 71,890**	$ 71,557
Less: investment income on sinking fund	**(1,436)**	(1,431)
Less: Build America Bonds subsidy	**(1,521)**	(1,516)
Debt service requirement	**$ 68,933**	$ 68,610
Senior debt service coverage (5), (min 1.20x)	**6.55 x**	7.53 x
Net revenues (from above)	**$ 451,783**	$ 516,806
Debt service requirement (from above)	**$ 68,933**	$ 68,610
Plus: aggregate subordinated debt service on outstanding subordinated bonds	**129,469**	137,892
Less: Build America Bonds subsidy	**(2,045)**	(2,070)
Total debt service requirement and aggregate subordinated debt service	**$ 196,357**	$ 204,432
Senior and subordinated debt service coverage (6), (min 1.15x)	**2.30 x**	2.53 x

(1) Excludes investment income on sinking funds.
(2) Excludes the Build America Bonds subsidy.
(3) Excludes depreciation and recognition of deferred costs and revenues, net.
(4) In accordance with the requirements of the Electric System Resolution, all the contract debt payments from the Electric System to the SJRPP and Bulk Power Supply System with respect to the use by the Electric System of the capacity and output of the SJRPP and Bulk Power Systems are reflected as a purchased power expense on these schedules. These schedules do not include revenues of the SJRPP and Bulk Power Supply System, except that the purchased power expense is net of interest income on funds maintained under the SJRPP and Bulk Power Supply System resolutions.
(5) Net revenues divided by debt service requirement. Minimum annual coverage is 1.20x.
(6) Net revenues divided by total debt service requirement and aggregate subordinated debt service. Minimum annual coverage is 1.15x

JEA Bulk Power Supply System

Schedule of Debt Service Coverage
(In Thousands)

	Year ended September 30 2018	2017
Revenues		
Operating	**$ 78,302**	$ 66,818
Investment income	**162**	150
Total revenues	**78,464**	66,968
Operating expenses (1)		
Fuel	**28,717**	36,745
Other operations and maintenance	**17,545**	14,522
Total operating expenses	**46,262**	51,267
Net revenues	**$ 32,202**	$ 15,701
Aggregate debt service	**$ 9,943**	$ 9,679
Less: Build America Bonds subsidy	**(667)**	(699)
Aggregate debt service	**$ 9,276**	$ 8,980
Debt service coverage (2)	**3.47 x**	1.75 x

(1) Excludes depreciation and recognition of deferred costs and revenues, net.

(2) Net revenues divided by aggregate debt service. Minimum annual coverage is 1.15x.

JEA St. Johns River Power Park System, Second Resolution

Schedule of Debt Service Coverage
(In Thousands)

	Year Ended September 30 2018	2017
Revenues		
Operating	**$ 34,196**	$ 14,572
Investment income	**1,339**	250
Total revenues	**35,535**	14,822
Operating expenses (1)	**15,389**	–
Net revenues	**$ 20,146**	$ 14,822
Aggregate debt service	**$ 12,925**	$ 12,950
Less: Build America Bonds subsidy	**(367)**	(389)
Aggregate debt service	**$ 12,558**	$ 12,561
Debt service coverage (2)	**1.60 x**	1.18 x

(1) Excludes depreciation and recognition of deferred costs and revenues, net.

(2) Net revenues divided by aggregate debt service. Minimum annual coverage is 1.15x.

JEA Water and Sewer System

Schedule of Debt Service Coverage

(In Thousands)

	Year Ended September 30 2018	2017
Revenues		
Water	**$ 171,216**	$ 181,313
Water capacity fees	**9,730**	8,859
Sewer	**260,606**	264,469
Sewer capacity fees	**18,268**	15,916
Investment income	**7,097**	6,793
Other (1)	**11,831**	9,560
Plus: amounts paid from the rate stabilization fund into the revenue fund	**16,128**	26,842
Less: amounts paid from the revenue fund into the rate stabilization fund	**(23,829)**	(24,276)
Total revenues	**471,047**	489,476
Operating expenses		
Operations and maintenance (2)	**160,122**	152,007
Total operating expenses	**160,122**	152,007
Net revenues	**$ 310,925**	$ 337,469
Aggregate debt service	**$ 95,818**	$ 97,699
Less: Build America Bonds subsidy	**(2,495)**	(2,500)
Aggregate debt service	**$ 93,323**	$ 95,199
Senior debt service coverage (3), (min 1.25x)	**3.33 x**	3.54 x
Net revenues (from above)	**$ 310,925**	$ 337,469
Aggregate debt service (from above)	**$ 93,323**	$ 95,199
Plus: aggregate subordinated debt service on outstanding subordinated debt	**18,084**	17,592
Total aggregate debt service and aggregate subordinated debt service	**$ 111,407**	$ 112,791
Senior and subordinated debt service coverage excluding capacity fees (4)	**2.54 x**	2.77 x
Senior and subordinated debt service coverage including capacity fees (4)	**2.79 x**	2.99 x

(1) Excludes the Build America Bonds subsidy.

(2) Excludes depreciation and recognition of deferred costs and revenues, net.

(3) Net revenues divided by aggregate debt service. Minimum annual coverage is 1.25x.

(4) Net revenues divided by total aggregate debt service and aggregate subordinated debt service. Minimum annual coverage is either 1.00x aggregate debt service and aggregate subordinated debt service (excluding capacity charges) or the sum of 1.00x aggregate debt service and 1.20x aggregate subordinated debt service (including capacity charges).

JEA District Energy System

Schedule of Debt Service Coverage

(In Thousands)

	Year Ended September 30	
	2018	2017
Revenues		
Service revenues	**$ 8,756**	$ 8,692
Investment income	**103**	45
Total revenues	**8,859**	8,737
Operating expenses (1)		
Operations and maintenance	**4,603**	4,570
Total operating expenses	**4,603**	4,570
Net revenues	**$ 4,256**	$ 4,167
Aggregate debt service (2)	**$ 3,019**	$ 3,022
Debt service coverage (3), (min 1.15x)	**1.41 x**	1.38 x

(1) Excludes depreciation.

(2) On June 19, 2013, the closing date of the District Energy System Refunding Revenue Bonds, 2013 Series A, the JEA covenanted to deposit into the 2013 Series A Bonds Subaccount from Available Water and Sewer System Revenues an amount equal to the Aggregate DES Debt Service Deficiency that exists with respect to the 2013 Series A Bonds, in the event that the amount on deposit in the Debt Service Account in the Debt Service Fund in accordance with the District Energy System Resolution is less than Accrued Aggregate Debt Service as of the last business day of the then current month.

(3) Net revenues divided by aggregate debt service. Minimum annual coverage is 1.15x.

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SUMMARY OF CERTAIN PROVISIONS OF THE ELECTRIC SYSTEM RESOLUTION

The following is a summary of certain provisions of the Electric System Resolution. Summaries of certain definitions contained in the Electric System Resolution are set forth below. Other terms defined in the Electric System Resolution for which summary definitions are not set forth are indicated by capitalization. The summary does not purport to be a complete description of the terms of the Electric System Resolution and, accordingly, is qualified by reference thereto and is subject to the full text thereof.

As more fully described under the caption "FINANCIAL INFORMATION RELATING TO ELECTRIC UTILITY FUNCTIONS – Debt Relating to Electric Utility Functions – *Proposed Amendments to the Electric System Resolution - May 1998 Amending Resolution*" in the Annual Disclosure Report to which this summary is attached, on May 19, 1998, JEA adopted a resolution (as amended, the "May 1998 Amending Resolution") for the purpose of making certain material amendments to the Electric System Resolution. Certain of those amendments have become effective and are reflected in the following summary of the Electric System Resolution. The remainder of the amendments contained in the May 1998 Amending Resolution will become effective upon the occurrence of certain events, as more particularly described under "Proposed Amendments to the Electric System Resolution - *May 1998 Amending Resolution*" below, which events include the consent thereto in writing of certain percentages of the holders of the outstanding Electric System Bonds, the Power Park Issue Two Bonds, and the Power Park Issue Three Bonds. At such times as such amendments described in this paragraph become effective, they will apply to all of the Electric System Bonds then outstanding. As of the date of the Annual Disclosure Report to which this Appendix is attached, JEA has not solicited any consents to such amendments and currently has no intention of soliciting any such consents in the future.

The Electric System Resolution, as heretofore amended, is available for viewing and downloading on JEA's website at https://www.jea.com/About/Investor_Relations/Bonds/. Copies of the Electric System Resolution (as so amended) and the May 1998 Amending Resolution also may be obtained from JEA; *provided* that a reasonable charge may be imposed for the cost of reproduction. The term "Electric System Bonds" as used in this summary has the same meaning as the term "Electric System Bonds" as used in the Annual Disclosure Report to which this summary is attached.

Definitions

The following are summaries of certain definitions in the Electric System Resolution:

Accreted Value shall mean, as of any date of computation with respect to any Capital Appreciation Bond, an amount equal to the principal amount of such Bond plus the interest accrued on such Bond from the date of original issuance of such Bond to the periodic compounding date therefor specified in the resolution of JEA supplemental to the Electric System Resolution authorizing such Capital Appreciation Bond (hereinafter, a "Periodic Compounding Date") next preceding the date of computation or the date of computation if a Periodic Compounding Date, such interest to accrue at the interest rate per annum of the Capital Appreciation Bonds set forth in such resolution authorizing such Bonds, compounded periodically on each Periodic Compounding Date, plus, if such date of computation shall not be a Periodic Compounding Date, a portion of the difference between the Accreted Value as of the immediately preceding Periodic Compounding Date (or the date of original issuance if the date of computation is prior to the first Periodic Compounding Date succeeding the date of original issuance) and the Accreted Value as of the immediately succeeding Periodic Compounding Date, calculated based upon an assumption that, unless otherwise provided in such resolution authorizing such Capital Appreciation Bonds, Accreted Value accrues in equal daily amounts on the basis of a year consisting of twelve 30-day months.

Additional Parity Obligations shall mean additional obligations issued in compliance with the terms, conditions and limitations contained in the Electric System Resolution and which shall have an equal lien on the Net Revenues as therein defined and other amounts pledged under the Electric System Resolution, and rank equally in all respects with the Electric System Bonds initially issued thereunder.

Additionally Secured Bonds shall mean (a) all Electric System Bonds Outstanding on the date on which the amendments to the Electric System Resolution affected by Article I of the Amending Resolution became effective (February 29, 2000) and (b) the Electric System Bonds of any series issued after such effective date for which the payment of the principal or sinking fund redemption price, if any, of, and interest on, the Electric System Bonds of such series shall be secured, in addition to the pledge created pursuant to the Electric System Resolution in favor of all of the Electric System Bonds, by amounts on deposit in a separate subaccount to be designated therefor in the Debt Service Reserve Account in the Sinking Fund.

Adjusted Debt Service Requirement for any period, as applied to the Electric System Bonds of any series, shall mean, as of any date of calculation, the Debt Service Requirement for such Electric System Bonds for such period, except that if such series includes any Outstanding Refundable Bonds, Adjusted Debt Service Requirement shall mean the Debt Service Requirement for such Bonds determined (i) in the case of Refundable Bonds other than Commercial Paper Notes and Medium-Term Notes, as if each such Refundable Bond would be payable, over a period extending from the maturity date of such Bond through the later of (x) the 30th anniversary of the issuance of such Bond or (y) the 10th anniversary of the maturity date of such Refundable Bond, in installments which would have required equal annual payments of principal and interest over such period and (ii) in the case of Commercial Paper Notes or Medium-Term Notes, in accordance with the then current Commercial Paper Payment Plan or Medium-Term Note Payment Plan, as applicable, with respect thereto. Interest deemed payable in any period after the actual maturity date of any Refundable Bond shall be calculated at such rate of interest as JEA, or a banking or financial institution selected by JEA, determines would be a reasonable estimate of the rate of interest that would be borne on Electric System Bonds maturing at the times determined in accordance with the provisions of the preceding sentence.

Alternate Variable Rate Taxable Index shall mean such index as, at the time, is in general use as a proxy for short-term interest rates on debt obligations of state and local governments the interest on which is not excluded from gross income for federal income tax purposes, as determined by an authorized officer of JEA.

Alternate Variable Rate Tax-Exempt Index shall mean such index as, at the time, is in general use as a proxy for short-term interest rates on debt obligations of state and local governments the interest on which is excluded from gross income for federal income tax purposes, as determined by an authorized officer of JEA.

Amortization Installment shall mean the amount established for the payment on any date of the principal of any Term Bonds and, for any Term Bonds issued as Capital Appreciation Bonds or Deferred Interest Bonds, the Accreted Value or Appreciated Value, as applicable, as of the date of such payment, as designated by resolution of JEA supplemental to the Electric System Resolution adopted on or prior to the Issuance Date of such Term Bonds.

Appreciated Value shall mean, (i) as of any date of computation with respect to any Deferred Interest Bond prior to the Current Interest Commencement Date, an amount equal to the principal amount of such Bond plus the interest accrued on such Bond from the date of original issuance of such Bond to the periodic date specified in the resolution of JEA supplemental to the Electric System Resolution authorizing such Deferred Interest Bond on which interest on such Bond is to be compounded (hereinafter, a "Periodic Compounding Date") next preceding the date of computation or the date of computation if a Periodic

Compounding Date, such interest to accrue at the interest rate per annum of the Deferred Interest Bonds set forth in such resolution authorizing such Bonds, compounded periodically on each Periodic Compounding Date, plus, if such date of computation shall not be a Periodic Compounding Date, a portion of the difference between the Appreciated Value as of the immediately preceding Periodic Compounding Date (or the date of original issuance if the date of computation is prior to the first Periodic Compounding Date succeeding the date of original issuance) and the Appreciated Value as of the immediately succeeding Periodic Compounding Date, calculated based upon an assumption that, unless otherwise provided in such resolution authorizing such Deferred Interest Bonds, Appreciated Value accrues in equal daily amounts on the basis of a year consisting of twelve 30-day months and (ii) as of any date of computation on and after the Current Interest Commencement Date, the Appreciated Value on the Current Interest Commencement Date.

Authorized Investments shall mean and include any securities, obligations or investments that, at the time, shall be permitted by Florida law for investment of JEA's funds.

Bank Bonds shall mean any Electric System Bonds issued in accordance with the provisions of subsection M of Section 13 of the Electric System Resolution.

BMA Municipal Swap Index shall mean the rate determined on the basis of an index based upon the weekly interest rates of tax-exempt variable rate issues included in a database maintained by Municipal Market Data or any successor indexing agent which meets specific criteria established by The Bond Market Association.

Build America Bonds shall mean any Bonds with respect to which JEA has irrevocably elected, pursuant to Section 54AA(g) of the Code or any similar federal program creating subsidies for municipal borrowers for which JEA qualifies, to receive cash subsidy payments from the U.S. Treasury equal to a portion of the interest payable on such Bonds.

Capital Appreciation Bonds shall mean shall mean any Electric System Bonds as to which interest is (i) compounded periodically on dates that are specified in the resolution authorizing such Capital Appreciation Bonds and (ii) payable only at the maturity, earlier redemption or other payment thereof.

Certified Interest Rate shall mean, as of any date of determination:

(i) with respect to (A) any Commercial Paper Notes or Medium-Term Notes or (B) any Variable Rate Bonds maturing on a particular date, in each of the foregoing cases, that were, at the date of the original issuance thereof, the subject of an opinion of nationally recognized bond counsel to the effect that the interest thereon is excluded from gross income for federal income tax purposes pursuant to Section 103 of the Code, a rate of interest equal to the lesser of (1) the average of the Variable Rate Tax-Exempt Index for the five years preceding such date of determination and (2) the average rate of interest borne by such Commercial Paper Notes, Medium-Term Notes or Variable Rate Bonds, as the case may be, for the twelve months preceding such date of determination; *provided, however*, if such Commercial Paper Notes, Medium-Term Notes or Variable Rate Bonds, as the case may be, are then being issued or shall not have been Outstanding for twelve months, then the rate of interest determined pursuant to this clause (i) shall be the rate determined pursuant to the foregoing subclause (1),

(ii) with respect to (A) any Commercial Paper Notes or Medium-Term Notes or (B) any Variable Rate Bonds maturing on a particular date, in each of the foregoing cases, that were not, at the date of the original issuance thereof, the subject of an opinion of nationally recognized bond counsel to the effect that the interest thereon is excluded from gross income for federal income tax purposes pursuant to Section 103 of the Code, a rate of interest equal to the lesser of (a) the average of the Variable Rate Taxable Index for the five years preceding such date of determination and (b) the average rate of interest borne by such Commercial Paper Notes, Medium-Term Notes or Variable Rate Bonds, as the case may be, for the twelve months preceding such date of determination; *provided*, *however*, if such Commercial Paper Notes, Medium-Term Notes or Variable Rate Bonds, as the case may be, are then being issued or shall not have been Outstanding for twelve months, then the rate of interest determined pursuant to this clause (ii) shall be the rate determined pursuant to the foregoing subclause (a) and

(iii) for purposes of calculating the Debt Service Reserve Requirement for any particular subaccount in the Debt Service Reserve Account in the Sinking Fund and with respect to any Commercial Paper Notes or Medium-Term Notes or any Variable Rate Bonds maturing on a particular date, the interest rate set forth in a certificate of an authorized officer of JEA executed on or prior to the date of the initial issuance of such Commercial Paper Notes, Medium-Term Notes or Variable Rate Bonds, as the case may be, as determined as follows: a Certified Interest Rate shall be that rate of interest determined by JEA, or a banking or financial institution or financial advisory firm selected by JEA, (A) in the case of Commercial Paper Notes or Medium-Term Notes, as the rate of interest such Commercial Paper Notes or Medium-Term Notes would bear if such Notes were issued as Electric System Bonds bearing a fixed interest rate and maturing 30 years after the date of issuance thereof and (B) in the case of Variable Rate Bonds, as the rate of interest such Variable Rate Bonds would bear if, assuming the same maturity date, terms and provisions (other than interest rate) as such proposed Variable Rate Bonds, and on the basis of JEA's credit ratings with respect to the Electric System Bonds (other than Electric System Bonds for which credit enhancement is provided by a third party), such proposed Variable Rate Bonds were issued at a fixed interest rate.

Code shall mean the Internal Revenue Code of 1986, or any successor, and the applicable regulations (including final, temporary and proposed) promulgated by the United States Department of the Treasury thereunder, including Treasury Regulations issued pursuant to Sections 103 and 141 through 150, inclusive, of said Internal Revenue Code of 1986.

Commercial Paper Note shall mean any Electric System Bond which (a) has a maturity date which is not more than 365 days after the date of issuance thereof and (b) is designated as a Commercial Paper Note in the resolution of JEA supplemental to the Electric System Resolution authorizing such Bond.

Commercial Paper Payment Plan shall mean, with respect to any installment of Commercial Paper Notes and as of any time, the then current Commercial Paper Payment Plan for such notes contained in a certificate of an authorized officer of JEA delivered on or prior to the date of the first issuance of such Commercial Paper Notes and setting forth the sources of funds expected to be utilized by JEA to pay the principal of and interest on such Commercial Paper Notes or any subsequent certificate of an authorized officer of JEA thereafter executed to reflect changes, if any, in the expectations of JEA with respect to the sources of funds to be utilized to pay principal of and interest on such Commercial Paper Notes; *provided*, *however*, that if any Commercial Paper Payment Plan provides for the refunding of any Commercial Paper Note with proceeds of (a) Electric System Bonds other than Commercial Paper Notes or Medium-Term Notes or (b) Subordinated Electric System Bonds, in either such case, that JEA intends to pay from Revenues, the principal of such Commercial Paper Note shall, for purposes of the Commercial Paper Payment Plan, be assumed to come due over a period commencing with the due date of the Commercial Paper Note and ending not later than the later of (x) the 30th anniversary of the first issuance of Commercial Paper Notes of such installment or (y) the 10th anniversary of the due date of the Commercial Paper Note to be refunded, in installments such that the principal and interest payable on such Commercial

Paper Note in each Fiscal Year in such period will be equal to the principal and interest payable on such Commercial Paper Note in each other Fiscal Year in such period.

Consulting Engineer shall mean such qualified and recognized independent consulting engineer, having favorable repute for skill and experience, with respect to the acts and duties to be provided to JEA, as shall be from time to time retained by JEA to act as such with respect to the Electric System.

Contract Debts shall mean any obligations of JEA under a contract, lease, installment sale agreement, bulk electric power purchase agreement or otherwise to make payments out of Revenues for property, services or commodities whether or not the same are made available, furnished or received, but shall not include (a) payments required to be made in respect of (i) debt service on any obligations incurred by JEA in connection with the financing of any separate bulk power supply utility or system undertaken by JEA and any additional amounts relating to "debt service coverage" with respect thereto and (ii) deposits into any renewal and replacement or other similar fund or account established with respect to any such separate bulk power supply utility or system (in each such case, other than the St. Johns River Power Park System) and (b) payments required to be made in respect of any other arrangement(s) for the supply of power and/or energy to the Electric System for resale as may be determined by JEA to be payable pursuant to clause (4) under the caption "Establishment of Funds and Disposition of Revenues of the Electric System" herein. See "Proposed Amendments to the Electric System Resolution" below for a discussion of a proposed amendment to the foregoing provision.

Cost of Operation and Maintenance of the Electric System shall mean the current expenses, paid or accrued, of operation, maintenance and repair of the Electric System, including administration costs, as calculated in accordance with generally accepted accounting principles, and shall include all Contract Debts, but shall not include any reserve for renewals and replacements or any allowance for depreciation or amortization and there shall be included in the Cost of Operation and Maintenance only that portion of the total administrative, general and other expenses of JEA which are properly allocable to the Electric System.

Credit Enhancement shall mean, with respect to the Electric System Bonds of an installment or a maturity within an installment, the issuance of an insurance policy, letter of credit, surety bond or any other similar obligation, whereby the issuer thereof becomes unconditionally obligated to pay when due, to the extent not paid by JEA or otherwise, the principal of and interest on such Electric System Bonds.

Credit Enhancer shall mean any person or entity which, pursuant to a resolution of JEA supplemental to the Electric System Resolution, is designated as a Credit Enhancer and which provides Credit Enhancement for an installment of the Electric System Bonds or a maturity within an installment.

Current Interest Commencement Date shall mean, with respect to any particular Deferred Interest Bonds, the date specified in the resolution of JEA supplemental to the Electric System Resolution authorizing such Deferred Interest Bonds (which date must be prior to the maturity date for such Deferred Interest Bonds) after which interest accruing on such Deferred Interest Bonds shall be payable periodically on dates specified in such resolution, with the first such payment date being the first such periodic date immediately succeeding such Current Interest Commencement Date.

Debt Service Requirement for any period, as applied to the Electric System Bonds of any series, shall mean the sum of:

> (1) the interest to accrue on all Outstanding Electric System Bonds of such series during such period, except to the extent that such interest shall have been provided by payments into the Debt Service Account in the Sinking Fund out of Electric System Bond or Subordinated Bond proceeds for a specified period of time, or by payments of investment income into the Debt Service Account in the Sinking Fund during such period;

provided, however, that in the event that the Bonds of any series (or any portion thereof) shall constitute Build America Bonds, then in respect of the interest payable on such Bonds, for purposes of this definition, the interest on the Bonds of such series shall be calculated net of the amount of the cash subsidy payments due from the U.S. Treasury. If for whatever reason, JEA no longer receives cash subsidy payments from the U.S. Treasury in respect of the interest payable on such Bonds (other than as a result of the U.S. Treasury reducing a particular payment by offsetting an amount due from JEA to it), for purposes of this definition, the interest on the Bonds of such series shall be calculated without regard to such subsidy,

(2) the principal to accrue on all Outstanding Serial Bonds of such series during such period, and

(3) the Amortization Installments to accrue on all Outstanding Term Bonds of such series during such period.

For purposes of the foregoing, (a) the principal of any Electric System Bond that is a Refundable Bond shall not be taken into account in calculating the Debt Service Requirement, (b) the interest described in clause (1) above shall be deemed to accrue daily in equal amounts since the preceding interest payment date (or if there shall be no such preceding interest payment date, from the dated date of such Electric System Bonds), (c) the principal of Outstanding Serial Bonds described in clause (2) above shall be deemed to accrue daily in equal amounts from a date one year (or, if any such Electric System Bonds are scheduled to mature at intervals of 6 months, 6 months) preceding the due date of such principal or from the date of issuance of such Electric System Bonds, whichever is later, (d) the Amortization Installments described in clause (3) above shall be deemed to accrue daily in equal amounts from a date which is one year preceding the due date of such Amortization Installments or from the date of issuance of such Term Bonds, whichever is later and (e) Bank Bonds shall be deemed to be Serial Bonds, and the principal thereof shall be deemed to be payable in the manner and at the times determined in accordance with the provisions thereof and of the resolution of JEA supplemental to the Electric System Resolution authorizing such Bank Bonds.

For the purpose of the calculation of the Debt Service Requirement for any future period as of any date for any Electric System Bonds bearing interest at a variable or floating rate, any Commercial Paper Notes or any Medium-Term Notes, such Electric System Bonds or Notes, as the case may be, shall be deemed to bear interest at the greater of (i) the actual rate of interest then borne by such Electric System Bonds or Notes, as the case may be, or (ii) the Certified Interest Rate applicable thereto; *provided*, *however*, that whenever an Electric System Bond that bears interest at a variable or floating rate and is convertible to a fixed rate shall be converted to a fixed rate the Debt Service Requirement for all affected Electric System Bonds shall be recalculated as of the conversion date using such fixed rate. Notwithstanding anything to the contrary contained in the Electric System Resolution, (a) if JEA has in connection with any Electric System Bonds entered into a Designated Swap Obligation which provides that, in respect of a notional amount equal to the Outstanding principal amount of such Electric System Bonds, JEA is to pay to a Designated Swap Obligation Provider an amount determined based upon a variable rate of interest and the Designated Swap Obligation Provider is to pay to JEA an amount determined based upon a fixed rate of interest, then, for purposes of calculating the Debt Service Requirement with respect to such Electric System Bonds for purposes of (i) the covenant described under the caption "Rate Covenant" below and (ii) the provisions of the Electric System Resolution relating to the issuance of additional Electric System Bonds described under the caption "Issuance of Additional Electric System Bonds" below, it will be assumed that such Electric System Bonds bear interest at a rate equal to the sum of (1) the lesser of (A) the average of the variable rate payable by JEA pursuant to such Designated Swap Obligation for the five years preceding the date of determination, calculating such rate based upon the method, formula or index with respect thereto set forth in such Designated Swap Obligation and (B) the average of the actual rates paid by JEA pursuant to such Designated Swap Obligation for the twelve months preceding such date of determination; *provided*, *however*, if such Designated Swap Obligation shall not have been in effect for twelve months, then the rate of interest determined pursuant to this clause (1) shall be the rate determined pursuant to the foregoing subclause (A) and (2) the difference (whether positive or negative) between (X) the fixed rate of interest on such Electric System Bonds and (Y) the fixed rate of interest payable to JEA pursuant to such Designated Swap Obligation and (b) if JEA has in connection with any Variable Rate Bonds, Commercial Paper Notes or Medium-Term Notes entered into a Designated Swap Obligation which provides that, in respect of a notional amount equal to the Outstanding principal amount of such Variable Rate Bonds, Commercial Paper Notes or Medium-Term Notes, as the case may be, JEA is to pay to a Designated Swap Obligation Provider an amount determined based upon a fixed rate of interest and the Designated Swap Obligation Provider is to pay to JEA an amount determined based upon a variable rate of interest, then, for purposes of calculating the Debt Service Requirement with respect to such Variable Rate Bonds, Commercial Paper Notes or Medium-Term Notes, as the case may be, for purposes of (i) the covenant described under the caption "Rate Covenant" below and (ii) the provisions of the Electric System Resolution relating to the issuance of additional Electric System Bonds described under the caption "Issuance of Additional Electric System Bonds" below, it will be assumed that such Variable Rate Bonds, Commercial Paper Notes or Medium-Term Notes, as applicable, bear interest at the fixed rate of interest payable by JEA pursuant to such Designated Swap Obligation.

Debt Service Reserve Requirement shall mean (a) with respect to the Initial Subaccount in the Debt Service Reserve Account in the Sinking Fund, as of any date of calculation, an amount equal to the maximum amount of interest to accrue on the Additionally Secured Bonds secured thereby during the then current, or any future, Fiscal Year (assuming, for this purpose, that in the case of any Additionally Secured Bonds secured thereby that bear interest at a variable or floating rate, (i) if the interest rate(s) on all or any portion of such Bonds shall have been converted synthetically to a fixed rate interest rate pursuant to an interest rate swap transaction that has a term equal to, and the notional amount of which amortizes at the same times and in the same amounts as, such Bonds, such Bonds (or such portion thereof) shall be deemed to bear interest during such period at the greater of (A) the fixed rate payable by JEA under such interest rate swap transaction and (B) the Certified Interest Rate applicable to such Bonds and (ii) if the interest rate(s) on such Bonds (or such portion thereof) shall not have been converted synthetically to a fixed interest rate pursuant to such an interest rate swap transaction, such Bonds shall be deemed to bear interest during such period at the greater of (X) the actual rate of interest then borne by such Bonds or (Y) the Certified Interest Rate applicable thereto) and (b) with respect to each additional subaccount, if any, in the Debt Service Reserve Account in the Sinking Fund established after the date on which the amendments to the Resolution effected by Article I of the Amending Resolution shall become effective, the amount specified in the resolution of JEA supplemental hereto pursuant to which such subaccount shall be established.

Notwithstanding anything to the contrary contained in the Resolution, in the event that any Additionally Secured Bonds secured by the Initial Subaccount shall bear interest at a variable or floating rate, if the amount of the Debt Service Reserve Requirement for the Initial Subaccount shall increase as a result of either (x) any termination of any interest rate swap transaction applicable to such Bonds (or such portion thereof) that had been converted synthetically to a fixed interest rate pursuant to an interest rate swap transaction as described in subclause (a)(i) of the preceding paragraph prior to the final maturity date of such Bonds or (y) the actual rate of interest borne by such Bonds (or such portion thereof) that shall not have been converted synthetically to a fixed interest rate pursuant to such an interest rate swap transaction at any time being in excess of the Certified Interest Rate applicable thereto, the amount of such increase shall be required to be funded in equal semi-annual installments over a three (3)-year period, with the first such installment becoming due on the first April 1 or October 1 that is at least six (6) months following the date on which the event resulting in such increase shall have occurred.

For the purpose of the calculation of the Debt Service Reserve Requirement with respect to the Initial Subaccount in the Debt Service Reserve Account in the Sinking Fund in the event that any Additionally Secured Bonds secured thereby shall constitute Build America Bonds, then until such time, if any, as JEA, for whatever reason, no longer receives cash subsidy payments from the U.S. Treasury in respect of the interest payable on such Bonds (other than as a result of the U.S. Treasury reducing a particular payment by offsetting an amount due from JEA to it), the interest on such Bonds shall be calculated net of the amount of such subsidy; provided, however, that if at any time the specified percentage of the interest payable on such Bonds represented by such subsidy shall be permanently reduced, then the amount of such Debt Service Reserve Requirement shall be increased to reflect the amount of interest payable on such Bonds that no longer is payable to JEA by the U.S. Treasury, and the amount of such increase shall be required to be funded in equal semiannual installments over a five (5)-year period, with the first such installment becoming due on the first April 1 or October 1 that is at least six (6) months following the date on which such specified percentage is so reduced, except that if at any time from the commencement of such funding, either (x) any of such Bonds shall cease to be Outstanding or (y) the amount of such Debt Service Reserve Requirement shall be reduced for any reason whatsoever, then the obligation of JEA to make deposits during the balance of such period shall be redetermined (taking into account the amount (if any) of such Bonds that remain Outstanding and the amount (if any) of such reduction in such Debt Service Reserve Requirement) and the resulting reduction in the amount required to be deposited to the Initial Subaccount shall be evenly apportioned over the remainder of such five (5)-year period and provided, further, that in the event that JEA, for whatever reason, ceases to receive cash subsidy payments from the U.S. Treasury in respect of the interest payable on any such Bonds (other than as a result of the U.S. Treasury reducing a particular payment by offsetting an amount due from JEA to it), then the amount of such Debt Service Reserve Requirement shall be increased to reflect the full amount of interest payable on such Bonds, and such increase shall be required to be funded in equal semiannual installments over a five (5)-year period, with the first such installment becoming due on the first April 1 or October 1 that is at least six (6) months following the date on which JEA does not receive the first such cash subsidy payment that it theretofore was qualified to receive, except that if at any time from the commencement of such funding, either (x) any of such Bonds shall cease to be Outstanding or (y) the amount of such Debt Service Reserve Requirement shall be reduced for any reason whatsoever, then the obligation of JEA to make deposits during the balance of such period shall be redetermined (taking into account the amount (if any) of such Bonds that remain Outstanding and the amount (if any) of such reduction in such Debt Service Reserve Requirement) and the resulting reduction in the amount required to be deposited to the Initial Subaccount shall be evenly apportioned over the remainder of such five (5)-year period. Notwithstanding any other provision of this resolution, any one or more installments of any increase in the Debt Service Reserve Requirement with respect to the Initial Subaccount in the Debt Service Reserve Account in the Sinking Fund provided for in the preceding sentence may be prepaid at any time in whole or in part by JEA by designating in JEA's records that such payment(s) is (or are) to be treated as a prepayment.

Deferred Interest Bonds shall mean shall mean any Electric System Bonds as to which interest accruing prior to the Current Interest Commencement Date is (i) compounded periodically on dates specified in the resolution of JEA supplemental to the Electric System Resolution authorizing such Deferred Interest Bonds and (ii) payable only at the maturity, earlier redemption or other payment thereof.

Designated Swap Obligation shall mean, to the extent from time to time permitted by law, any interest rate swap transaction (i) which is entered into by JEA for the purpose of converting synthetically the interest rate on any particular Electric System Bonds from a fixed rate to a variable rate or from a variable rate to a fixed rate (regardless of whether such Designated Swap Obligation shall have a term equal to the remaining term of such Electric System Bonds) and (ii) which has been designated in a certificate of an authorized officer of JEA filed with the records of JEA as such (which certificate shall specify the Electric System Bonds with respect to which such Designated Swap Obligation is entered into).

Designated Swap Obligation Provider shall mean any person with whom JEA enters into a Designated Swap Obligation.

Electric System shall mean the existing electric generating, transmission and distribution system consisting of the existing generating plants and transmission and distribution lines and facilities together with any and all improvements, extensions and additions thereto constructed or acquired, and all lands or interests therein, including buildings, machinery, equipment and all property, real or personal, tangible or intangible, owned and constructed or acquired by JEA as part of said existing electric system; such Electric System shall not be deemed to include (a) any facilities or property constructed, owned or operated by JEA as a part of the St. Johns River Power Park System or the Bulk Power Supply System Projects or any other separate non-competing electric utility or system which JEA elects to acquire, construct and operate as a separate bulk power supply utility or system, (b) the existing water and sewer system owned by JEA or any additional utility functions added to such water and sewer system or (c) any properties or interests in properties of JEA (i) which JEA determines shall not constitute a part of the Electric System for the purpose of the Electric System Resolution at the time of the acquisition thereof by JEA or (ii) as to which JEA shall determine by resolution that the exclusion of such properties or interests in properties from the Electric System will not materially impair the ability of JEA to comply during the current or any future Fiscal Year with the provisions of the rate covenant contained in the Electric System Resolution.

Electric System Bonds shall mean any bonds, notes or other obligations or evidences of indebtedness, as the case may be, authenticated and delivered and Outstanding pursuant to the Electric System Resolution, but shall not mean Subordinated Bonds.

Fiscal Year shall mean the 12-month period established by JEA or provided by law from time to time as the fiscal year for the Electric System, and which initially shall be the 12-month period commencing on October 1 of each year and ending on the succeeding September 30.

Gross Revenues or *Revenues* shall mean all income or earnings, including any income from the investment of funds which is deposited in the Revenue Fund as provided in the Electric System Resolution, derived by JEA from the ownership or operation of the Electric System. Gross Revenues shall not include customers' deposits and any other deposits subject to refund unless such deposits have become property of JEA. For any purpose of the Electric System Resolution that requires the computation of Gross Revenues or Revenues with respect to any period of time, "Gross Revenues" or "Revenues" shall include such amounts derived by JEA from the ownership or operation of the Electric System during such period plus (x) the amounts, if any, paid from the Rate Stabilization Fund into the Revenue Fund during such period (excluding from (x) amounts, if any, included in the Revenues for such period representing interest earnings transferred from the Rate Stabilization Fund to the Revenue Fund pursuant to the Electric System Resolution) and minus (y) the amounts, if any, paid from the Revenue Fund into the Rate Stabilization Fund during such period. Notwithstanding the foregoing, all cash subsidy payments received by JEA from the U.S. Treasury in respect of the interest payable on any Build America Bonds shall not constitute "Gross Revenues" or "Revenues" for any purpose of the Electric System Resolution.

Investment Agreements shall mean agreements or contracts with insurance companies or other financial institutions, or subsidiaries or affiliates thereof (hereinafter in this paragraph referred to as "Providers"), (a) whose outstanding unsecured senior indebtedness or claims-paying ability, as the case may be, shall be rated, or who shall have a "financial programs rating" or other equivalent rating, in the highest whole rating category by at least two nationally recognized statistical rating organizations or (b) whose obligations under such agreements or contracts shall be unconditionally guaranteed by another insurance company or other financial institution, or subsidiary or affiliate thereof, whose outstanding unsecured senior indebtedness or claims-paying ability, as the case may be, shall be rated, or who shall have a "financial programs rating" or other equivalent rating, in the highest whole rating category by at least two nationally recognized statistical rating organizations, pursuant to which agreements or contracts the Provider shall be absolutely, unconditionally and irrevocably obligated to repay the moneys invested by JEA and interest thereon at a guaranteed rate, without any right of recoupment, counterclaim or set off. The Provider may have the right to assign its obligations under any Investment Agreement to any other insurance company or other financial institution, or subsidiary or affiliate thereof; *provided*, *however*, that such assignee also shall be an insurance company or other financial institution, or subsidiary or affiliate thereof, satisfying the requirements set forth in either clause (a) or clause (b) of the preceding sentence.

Maximum Aggregate Adjusted Debt Service Requirement shall mean, as of any particular date of calculation, the greatest amount of the aggregate of the Adjusted Debt Service Requirements for the Electric System Bonds of all series then Outstanding for the then current or any future Fiscal Year.

Medium-Term Note shall mean any Electric System Bond which (a) has a maturity date which is more than 365 days, but not more than 15 years, after the date of issuance thereof and (b) is designated as a Medium-Term Note in the resolution of JEA supplemental to the Electric System Resolution authorizing such Bond.

Medium-Term Note Payment Plan shall mean, with respect to any installment of Medium-Term Notes and as of any time, the then current Medium-Term Note Payment Plan for such notes contained in a certificate of an authorized officer of JEA delivered on or prior to the date of the first issuance of such Medium-Term Notes and setting forth the sources of funds expected to be utilized by JEA to pay the principal of and interest on such Medium-Term Notes or any subsequent certificate of an authorized officer of JEA thereafter executed to reflect changes, if any, in the expectations of JEA with respect to the sources of funds to be utilized to pay principal of and interest on such Medium-Term Notes; *provided*, *however*, that if any Medium-Term Note Payment Plan provides for the refunding of any Medium-Term Note with proceeds of (a) Electric System Bonds other than Commercial Paper Notes or Medium-Term Notes or (b) Subordinated Bonds, in either such case, that JEA intends to pay from Revenues, the principal of such Medium-Term Note shall, for purposes of the Medium-Term Note Payment Plan, be assumed to come due over a period commencing with the due date of the Medium-Term Note and ending not later than the later of (x) the 30th anniversary of the first issuance of Medium-Term Notes of such installment or (y) the 10th anniversary of the due date of the Medium-Term Note to be refunded, in installments such that the principal and interest payable on such Medium-Term Note in each Fiscal Year in such period will be equal to the principal and interest payable on such Medium-Term Note in each other Fiscal Year in such period.

Net Revenues of the Electric System shall mean the Revenues or Gross Revenues after deduction of the Cost of Operation and Maintenance.

One-Month LIBOR Rate shall mean, as of any date of determination, the offered rate for deposits in U.S. dollars for a one-month period which appears on the Telerate Page 3750 at approximately 11:00 A.M., London time, on such date, or if such date is not a date on which dealings in U.S. dollars are transacted in the London interbank market, then on the next preceding day on which such dealings were transacted in such market.

Refundable Bonds shall mean any Electric System Bonds (including, without limitation, Commercial Paper Notes and Medium-Term Notes) the principal of which JEA intends to pay with moneys which are not Revenues; *provided*, *however*, that (i) in the case of Electric System Bonds other than Commercial Paper Notes or Medium-Term Notes, such intent shall have been expressed in the resolution of JEA supplemental to the Electric System Resolution authorizing such Bonds, (ii) in the case of Commercial Paper Notes, such intent shall be expressed in the then current Commercial Paper Payment Plan for such Commercial Paper Notes and (iii) in the case of Medium-Term Notes, such intent shall be expressed in the then current Medium-Term Note Payment Plan for such Medium-Term Notes; and *provided*, *further*, that (i) any such Electric System Bonds other than Commercial Paper Notes and Medium-Term Notes shall be Refundable Bonds only through the penultimate day of the month preceding the month in which the principal thereof is stated to mature or such earlier time as JEA no longer intends to pay such principal with moneys which are not Revenues and (ii) any Commercial Paper Note or Medium-Term Note shall cease to be a Refundable Bond at such time, if any, as shall be provided in the Commercial Paper Payment Plan or Medium-Term Note Payment Plan, as the case may be, applicable thereto.

Serial Bonds shall mean the Electric System Bonds of a series which shall be stated to mature in annual or semiannual installments.

St. Johns River Power Park System shall mean JEA's undivided 80 percent interest in the facilities acquired and constructed jointly with Florida Power & Light Company, a Florida corporation, pursuant to the Agreement for Joint Ownership, Construction and Operation of St. Johns River Power Park, Coal Units #1 and #2, dated as of April 2, 1982, executed by and between JEA and said corporation, as amended, and all renewals, replacements, additions, betterments, modifications and improvements to keep such System in good operating condition or to prevent a loss of revenues therefrom, or to comply with any requirement of a governmental agency exercising jurisdiction over such System, but excluding any additional generating units.

Subordinated Bonds shall mean any bonds, notes or other obligations or evidences of indebtedness, as the case may be, issued in accordance with the provisions of the Electric System Resolution that are, and are expressed to be, junior and subordinate in all respects to the Electric System Bonds, as to lien on and source and security for payment from the Net Revenues.

Term Bonds shall mean the Electric System Bonds of a series which shall be stated to mature on one date and which shall be subject to retirement by operation of the Debt Service Account in the Sinking Fund to satisfy Amortization Installments therefor.

U.S. Treasury shall mean the U.S. Treasury or any party designated by the federal government to issue cash subsidy payments on Build America Bonds.

Variable Rate Bond shall mean any Electric System Bond not bearing interest throughout its term at a specified rate or specified rates determined at the time of initial issuance of such Electric System Bond.

Variable Rate Taxable Index shall mean the One-Month LIBOR Rate or, if the One-Month LIBOR Rate no longer shall be available, the Alternate Variable Rate Taxable Index.

Variable Rate Tax-Exempt Index shall mean the BMA Municipal Swap Index or, if the BMA Municipal Swap Index no longer shall be available, the Alternate Variable Rate Tax-Exempt Index.

Pledge

The payment of the principal of and interest on the Electric System Bonds is secured equally and ratably by an irrevocable first lien on (a) the Net Revenues derived from the operation of the Electric System and (b) the amounts on deposit in the Revenue Fund and the Debt Service Account in the Sinking Fund as may from time to time be available therefor, in each such case, prior and superior to all other liens or encumbrances on such Net Revenues and amounts, subject only to the provisions of the Electric System Resolution permitting the application thereof for the purposes and on the terms and conditions set forth therein, and JEA has irrevocably pledged such Net Revenues from the Electric System and such amounts to the payment of the principal of and interest on the Electric System Bonds. In addition, the payment of the principal of and interest on the Additionally Secured Bonds of each series is additionally secured by the amounts on deposit in the separate subaccount in the Debt Service Reserve Account in the Sinking Fund designated therefor as may from time to time be available therefor, in each such case, prior and superior to all other liens or encumbrances on such amounts, subject only to the provisions of the Electric System

Resolution permitting the application thereof for the purposes and on the terms and conditions set forth therein, and JEA has irrevocably pledged such amounts to the payment of the principal of and interest on the Additionally Secured Bonds of such series.

Establishment of Funds and Disposition of Revenues of the Electric System

JEA covenants in the Electric System Resolution that for so long as any of the principal of and interest on any of the Electric System Bonds shall be outstanding and unpaid or, subject to the defeasance provisions of the Electric System Resolution, until there has been set apart in the Debt Service Account and the Debt Service Reserve Account in the Sinking Fund, a sum sufficient to pay or make provision for payment when due the entire principal of the Electric System Bonds remaining unpaid, together with interest accrued or to accrue thereon, JEA will deposit the entire Gross Revenues derived from the ownership or operation of the Electric System upon receipt thereof into the Revenue Fund created and established by the Electric System Resolution. The Electric System Resolution provides that all Revenues at any time remaining on deposit in the Revenue Fund shall be applied monthly only in the following manner and order of priority:

> (1) Revenues shall first be used to pay the Cost of Operation and Maintenance, including Contract Debts.
>
> (2) From the moneys remaining in the Revenue Fund, the Electric System Resolution provides that JEA shall next deposit into the Sinking Fund created and established by the Electric System Resolution, for credit to the Debt Service Account therein, an amount equal to the aggregate of the Debt Service Requirements for such month for the Electric System Bonds of all series then Outstanding. Such monthly payments shall be reduced proportionately (i) by the amounts of money, if any, which have been deposited in the Debt Service Account out of proceeds from the sale of the Electric System Bonds for the payment of interest thereon and (ii) by the amount of investment income transferred to the Debt Service Account during such month.

The Electric System Resolution further provides that JEA shall pay out of the Debt Service Account to the respective paying agents (i) on or before each interest payment date for any of the Electric System Bonds, the amount required for the interest payable on such date; (ii) on or before the maturity date for any of the Electric System Bonds (other than any Refundable Bonds with respect to which moneys which are not Revenues are available for the payment thereof), the amount required for the principal payable on such date; (iii) on or before the due date for any Amortization Installment, the amount required to pay the redemption price of the Term Bonds required to be redeemed from such Amortization Installment; and (iv) on or before any redemption date for the Electric System Bonds, the amount required for the payment of interest on the Electric System Bonds then to be redeemed. JEA also shall pay out of the Debt Service Account the accrued interest included in the purchase price of Electric System Bonds purchased for retirement.

In the event of the refunding or defeasance of any Electric System Bonds, JEA may withdraw from the Debt Service Account all or any portion of the amount accumulated therein with respect to the Electric System Bonds being refunded or defeased and deposit such amount in the escrow being established for the Electric System Bonds being refunded or defeased; *provided* that such withdrawal shall not be made unless the amount on deposit in the Debt Service Account after such withdrawal and after the deposit of any amount being deposited therein out of the proceeds of any obligations being issued in connection with such refunding or defeasance shall be at least equal to the amount required to be on deposit therein as of the beginning of the month in which such withdrawal is made as provided in this clause (2).

From the moneys remaining in the Revenue Fund, the Electric System Resolution provides that JEA shall next deposit for credit to each separate subaccount established in the Debt Service Reserve Account in the Sinking Fund, such sums as shall be required so that the balance in each such subaccount, after giving effect to the maximum amount available to be drawn under any irrevocable surety bond, insurance policy or letter of credit deposited to any such subaccount, shall equal the Debt Service Reserve Requirement related thereto as of the last day of the then current month.

If on any day on which the principal or sinking fund redemption price of or interest on the Electric System Bonds shall be due, the amount on deposit in the Debt Service Account in the Sinking Fund shall be less than the amount required to pay such principal, redemption price or interest, then JEA shall apply amounts from each separate subaccount in the Debt Service Reserve Account to the extent necessary to cure the deficiency that exists with respect to the Additionally Secured Bonds secured thereby.

The provisions of the Electric System Resolution provide for the creation of an "Initial Subaccount" within the Debt Service Reserve Account, for the benefit of (a) all Electric System Bonds Outstanding on the date on which the amendments to the Electric System Resolution affected by Article I of the Amending Resolution became effective (February 29, 2000) and (b) all Additional Parity Obligations of any series issued after such date, but only to the extent that the resolution of JEA supplemental to the Electric System Resolution authorizing the Additional Parity Obligations of such series shall specify that such Additional Parity Obligations shall be additionally secured by amounts on deposit in such Initial Subaccount; *provided*, *however*, that notwithstanding any other provision of the Electric System Resolution, no Capital Appreciation Bonds or Deferred Interest Bonds may be additionally secured by amounts on deposit in the Initial Subaccount. As of the date of the Annual Disclosure Report to which this Appendix is attached, the Initial Subaccount secures JEA's Outstanding Electric System Revenue Bonds, Series Three 2004A, Series Three 2005B, Series Three 2009D, Series Three 2010A, Series Three 2010C, Series Three 2010D, Series Three 2010E, Series Three 2012A, Series Three 2012B, Series Three 2013A, Series Three 2013B, Series Three 2013C, Series Three 2014A, Series Three 2015A, Series Three 2015B, Series Three 2017A, Series Three 2017B and JEA's Outstanding Variable Rate Electric System Revenue Bonds, Series Three 2008A, Series Three 2008B-1, Series Three 2008B-2, Series Three 2008B-3, Series Three 2008B-4, Series Three 2008C-1, Series Three 2008C-2, Series Three 2008C-3 and Series Three 2008 D-1.

In lieu of maintaining moneys or investments in the Initial Subaccount, JEA at any time may cause to be deposited into the Initial Subaccount for the benefit of the Holders of the Additionally Secured Bonds secured thereby an irrevocable surety bond, an insurance policy or a letter of credit (referred to herein as a "reserve fund credit instrument") satisfying the requirements set forth below in an amount equal to the difference between the Debt Service Reserve Requirement for the Initial Subaccount and the sum of moneys or value of Authorized Investments then on deposit in the Initial Subaccount, if any:

(a) A surety bond or insurance policy issued by an insurance company licensed or otherwise qualified to do business in the State of Florida may be deposited in the Initial Subaccount if the claims-paying ability of the issuer thereof is rated "AAA" by Standard & Poor's Credit Market Services, a division of The McGraw-Hill Companies, Inc. ("S&P"), and "Aaa" by Moody's Investors Service ("Moody's").

(b) An unconditional irrevocable letter of credit issued by a bank may be deposited in the Initial Subaccount if the senior, unsecured long-term debt of the issuer thereof is rated at least "AA" by S&P and "Aa2" by Moody's, and if such letter of credit shall be payable in one or more draws upon presentation by the beneficiary thereof of a sight draft accompanied by its certificate that it then holds insufficient funds to make a required payment of principal or interest on the Additionally Secured Bonds secured by the Initial Subaccount. The draws shall be payable within two days of presentation of the sight draft. The letter of credit shall be for a term of not less than three years. The issuer of the letter of credit shall be required to notify JEA and the beneficiary thereof, not later than 30 months prior to the stated expiration date of the letter of credit, as to whether such expiration date shall be extended, and if so, shall indicate the new expiration date.

(c) If such notice indicates that the expiration date shall not be extended, JEA shall deposit in the Initial Subaccount an amount sufficient to cause the cash or Authorized Investments on deposit in the Initial Subaccount, together with any other qualifying reserve fund credit instruments, to equal the Debt Service Reserve Requirement for the Initial Subaccount, such deposit to be paid in equal installments on at least a semi-annual basis over the remaining term of the letter of credit, unless the reserve fund credit instrument is replaced by a reserve fund credit instrument meeting the requirements in either of clauses (a) or (b) above. The letter of credit shall permit a draw in full not less than two weeks prior to the expiration or termination of such letter of credit if the letter of credit has not been replaced or renewed. The beneficiary of the letter of credit shall draw upon the letter of credit prior to its expiration or termination unless an acceptable replacement is in place or the Initial Subaccount is fully funded in its required amount.

(d) The use of any reserve fund credit instrument pursuant to this paragraph shall be subject to receipt of an opinion of counsel acceptable to an authorized officer of JEA and in form and substance satisfactory to such authorized officer as to the due authorization, execution, delivery and enforceability of such instrument in accordance with its terms, subject to applicable laws affecting creditors' rights generally, and, in the event the issuer of such credit instrument is not a domestic entity, an opinion of foreign counsel in form and substance satisfactory to an authorized officer of JEA. In addition, the use of an irrevocable letter of credit shall be subject to receipt of an opinion of counsel acceptable to an authorized officer of JEA and in form and substance satisfactory to such authorized officer to the effect that payments under such letter of credit would not constitute avoidable preferences under Section 547 of the U.S. Bankruptcy Code or similar state laws with avoidable preference provisions in the event of the filing of a petition for relief under the U.S. Bankruptcy Code or similar state laws by or against JEA.

(e) The obligation to reimburse the issuer of a reserve fund credit instrument for any fees, expenses, claim or draws upon such reserve fund credit instrument shall be subordinate to the payment of debt service on the Electric System Bonds. In addition, the right of the issuer of a reserve fund credit instrument to payment or reimbursement for claims or draws under such reserve fund credit instrument and to payment or reimbursement of its fees and expenses shall be prior to the cash replenishment of the Initial Subaccount.

(f) The reserve fund credit instrument shall provide for a revolving feature under which the amount available thereunder will be reinstated to the extent of any reimbursement of draws or claims paid. If (i) such revolving reinstatement feature is suspended or terminated or (ii) the rating of the claims paying ability of the issuer of the surety bond or insurance policy falls below a S&P "AAA" or a Moody's "Aaa" or (iii) the rating of the issuer of the letter of credit falls below a S&P "AA", JEA shall either (X) deposit into the Initial Subaccount an amount sufficient to cause the cash or Authorized Investments on deposit in the Initial Subaccount to equal the Debt Service Reserve Requirement for the Initial Subaccount, such amount to be paid over the ensuing five years in equal installments deposited at least semi-annually or (Y) replace such instrument with a surety bond, insurance policy or letter of credit meeting the requirements in either of clauses (a) or (b) above within six months of such occurrence. In the event (1) the rating of the claims-paying ability of the issuer of the surety bond or insurance policy falls below "A" or (2) the rating of the issuer of the letter of credit falls below "A" or (3) the issuer of the reserve fund credit instrument defaults in its payment obligations or (4) the issuer of the reserve fund credit instrument becomes insolvent, JEA shall either (X) deposit into the Initial Subaccount an amount sufficient to cause the cash or Authorized Investments on deposit in the Initial Subaccount to equal to Debt Service Reserve Requirement for the Initial Subaccount, such amount to be paid over the ensuing year in equal installments on at least a monthly basis or (Y) replace such instrument with a surety bond, insurance policy or letter of credit meeting the requirements in either of clauses (a) or (b) above within six months of such occurrence.

(g) Where applicable, the amount available for draws or claims under the reserve fund credit instrument may be reduced by the amount of cash or value of Authorized Investments deposited in the Initial Subaccount pursuant to clause (X) of the final sentence of the preceding clause (f).

(h) In the event that a reserve fund credit instrument shall be deposited into the Initial Subaccount as aforesaid, any amounts owed by JEA to the issuer of such reserve fund credit instrument as a result of a draw thereon or a claim thereunder, as appropriate, shall be included in any calculation of debt service requirements required to be made pursuant to the Electric System Resolution for purposes of (i) the covenant described under the caption "Rate Covenant" below and (ii) the provisions of the Electric System Resolution relating to the issuance of additional Electric System Bonds described under the caption "Issuance of Additional Electric System Bonds" below.

(i) The beneficiary of any reserve fund credit instrument shall ascertain the necessity for a claim or draw upon such reserve fund credit instrument and provide notice to the issuer of the reserve fund credit instrument in accordance with its terms not later than three days (or such longer period as may be necessary depending on the permitted time period for honoring a draw under the reserve fund credit instrument) prior to each interest payment date for the Additionally Secured Bonds secured by the Initial Subaccount.

(j) Cash on deposit in the Initial Subaccount shall be used (or investments purchased with such cash shall be liquidated and the proceeds applied as required) prior to any drawing on any reserve fund credit instrument. If and to the extent that more than one reserve fund credit instrument is deposited in the Initial Subaccount, drawings thereunder and repayments of costs associated therewith shall be made on a pro rata basis, calculated by reference to the maximum amounts available thereunder.

On February 27, 2001, simultaneously with the issuance of JEA's Electric System Revenue Bonds, Series Three 2001A and Series Three 2001B, JEA caused Ambac Assurance Corporation ("Ambac Assurance") to issue a surety bond (the "Ambac Surety Bond") for deposit to the credit of the Initial Subaccount in the Debt Service Reserve Account. The Ambac Surety Bond is in an initial amount equal to $32,447,452.51; is non-cancelable; expires on the earlier of (i) October 1, 2035 or (ii) the date on which JEA, to the satisfaction of Ambac Assurance, has made all payments required to be made on all Electric System Bonds that are additionally secured by amounts on deposit in the Initial Subaccount pursuant to the Electric System Resolution; and satisfied the requirements with respect to a reserve fund credit instrument contained in the Electric System Resolution at the time of its deposit to the Initial Subaccount. Because of a rating downgrade of Ambac Assurance, JEA has made deposits to the Initial Subaccount in the amount of the Ambac Surety Bond.

On May 30, 2002, simultaneously with the issuance of JEA's Electric System Revenue Bonds, Series Three 2002A, JEA caused Assured Guaranty Municipal Corp., previously known as Financial Security Assurance Inc. ("FSA") to issue a municipal bond debt service reserve insurance policy (the "Initial FSA Reserve Policy") for deposit to the credit of the Initial Subaccount in the Debt Service Reserve Account. The Initial FSA Reserve Policy is in an initial amount equal to $4,078,745.00; is non-cancelable; terminates on October 1, 2041; and satisfied the requirements with respect to a reserve fund credit instrument contained in the Electric System Resolution at the time of its deposit to the Initial Subaccount.

On May 19, 2004, simultaneously with the issuance of JEA's Electric System Revenue Bonds, Series Three 2004A (the "Series Three 2004A Bonds"), JEA caused FSA to issue a municipal bond debt service reserve insurance policy (the "Second FSA Reserve Policy") for deposit to the credit of the Initial Subaccount in the Debt Service Reserve Account. The Second FSA Reserve Policy is in an initial amount equal to $4,397,006.50, is non-cancelable, terminates on October 1, 2039 or earlier retirement of the Series Three 2004A Bonds (including any Electric System Bonds issued to refund the Series Three 2004A Bonds) and satisfied the requirements with respect to a reserve fund credit instrument contained in the Electric System Resolution at the time of its deposit to the Initial Subaccount.

On January 13, 2005, simultaneously with the issuance of JEA's Electric System Revenue Bonds, Series Three 2005A (the "Series Three 2005A Bonds") and Electric System Revenue Bonds, Series Three 2005B, JEA caused FSA to issue a municipal bond debt service reserve insurance policy (the "Third FSA Reserve Policy") for deposit to the credit of the Initial Subaccount in the Debt Service Reserve Account. The Third FSA Reserve Policy is in an initial amount equal to $3,187,521.69, is non-cancelable, terminates on October 1, 2039 or earlier retirement of the Series Three 2005A Bonds (including any Electric System Bonds issued to refund the Series Three 2005A Bonds) and satisfied the requirements with respect to a reserve fund credit instrument contained in the Electric System Resolution at the time of its deposit to the Initial Subaccount.

On July 28, 2005, simultaneously with the issuance of JEA's Electric System Revenue Bonds, Series Three 2005D (the "Series Three 2005D Bonds"), JEA caused FSA to issue a municipal bond debt service reserve insurance policy (the "Fourth FSA Reserve Policy") for deposit to the credit of the Initial Subaccount in the Debt Service Reserve Account. The Fourth FSA Reserve Policy is in an initial amount equal to $1,404,275.00, is non-cancelable, terminates on October 1, 2035 or earlier retirement of the Series Three 2005D Bonds (including any Electric System Bonds issued to refund the Series Three 2005D Bonds) and satisfied the requirements with respect to a reserve fund credit instrument contained in the Electric System Resolution at the time of its deposit to the Initial Subaccount.

On August 17, 2005, JEA caused FSA to issue a municipal bond debt service reserve insurance policy (the "Fifth FSA Reserve Policy") for deposit to the credit of the Initial Subaccount in the Debt Service Reserve Account. The Fifth FSA Reserve Policy is in an initial amount equal to $4,713,125.05, is non-cancelable, terminates on October 1, 2039 and satisfied the requirements with respect to a reserve fund credit instrument contained in the Electric System Resolution at the time of its deposit to the Initial Subaccount.

On January 26, 2006, simultaneously with the issuance of JEA's Electric System Revenue Bonds, Series Three 2006A (the "Series Three 2006A Bonds"), JEA caused FSA to issue a municipal bond debt service reserve insurance policy (the "Sixth FSA Reserve Policy") for deposit to the credit of the Initial Subaccount in the Debt Service Reserve Account. The Sixth FSA Reserve Policy is in an initial amount equal to $3,856,542.14, is non-cancelable, terminates on October 1, 2041 or earlier retirement of the Series Three 2006A Bonds (including any Electric System Bonds issued to refund the Series Three 2006A Bonds) and satisfied the requirements with respect to a reserve fund credit instrument contained in the Electric System Resolution at the time of its deposit to the Initial Subaccount.

On January 31, 2007, simultaneously with the issuance of JEA's Variable Rate Electric System Revenue Bonds, Series Three 2007A, JEA caused CIFG Assurance North America, Inc. ("CIFG") to issue a surety bond (the "Initial CIFG Surety Bond") for deposit to the credit of the Initial Subaccount in the Debt Service Reserve Account. The Initial CIFG Surety Bond is in an initial amount of $3,449,634.19, is non-cancelable, terminates on October 1, 2041 and satisfied the requirements with respect to a reserve fund credit instrument contained in the Electric System Resolution at the time of its deposit to the Initial Subaccount.

On July 10, 2007, simultaneously with the issuance of JEA's Variable Rate Electric System Revenue Bonds, Series Three 2007B, JEA caused CIFG to issue a surety bond (the "Second CIFG Surety Bond") for deposit to the credit of the Initial Subaccount in the Debt Service Reserve Account. The Second CIFG Surety Bond is in an initial amount of $1,426,000.00, is non-cancelable, terminates on October 1, 2037 and satisfied the requirements with respect to a reserve fund credit instrument contained in the Electric System Resolution at the time of its deposit to the Initial Subaccount.

Because of a rating downgrade of CIFG, JEA has made deposits to the Initial Subaccount in the aggregate amount of the Initial CIFG Surety Bond and the Second CIFG Surety Bond.

On October 25, 2007, simultaneously with the issuance of JEA's Electric System Revenue Bonds, Series Three 2007C, JEA caused MBIA Insurance Corporation ("MBIA") to issue a Debt Service Reserve Fund Surety Bond (the "MBIA Surety Bond") for deposit to the credit of the Initial Subaccount in the Debt Service Reserve Account. The MBIA Surety Bond is in an initial amount equal to $1,136,269.17, is non-cancelable, terminates on October 1, 2042 and satisfied the requirements with respect to a reserve fund credit instrument contained in the Electric System Resolution at the time of its deposit to the Initial Subaccount. Effective as of January 1, 2009, MBIA Inc., parent company of MBIA, restructured MBIA; such restructuring involved the reinsurance and assignment of MBIA's obligations under the MBIA Surety Bond to National Public Finance Guarantee Corporation ("NPFGC") which is a subsidiary of MBIA Inc. Because of a rating downgrade of MBIA, JEA has made deposits to the Initial Subaccount in the amount of the MBIA Surety Bond.

On January 31, 2008, simultaneously with the issuance of JEA's Variable Rate Electric System Revenue Bonds, Series Three 2008A (the "Series Three 2008A Bonds"), JEA caused FSA to issue a municipal bond debt service reserve insurance policy (the "Seventh FSA Reserve Policy") for deposit to the credit of the Initial Subaccount in the Debt Service Reserve Account. The Seventh FSA Reserve Policy is in an initial amount equal to $7,500,000, is non-cancelable, terminates on October 1, 2036 or earlier retirement of the Series Three 2008A Bonds (including any Electric System Bonds issued to refund the Series Three 2008A Bonds) and satisfied the requirements with respect to a reserve fund credit instrument contained in the Electric System Resolution at the time of its deposit to the Initial Subaccount.

Because of a rating downgrade of FSA, JEA has made deposits to the Initial Subaccount in the aggregate amount of the Initial FSA Reserve Policy, the Second FSA Reserve Policy, the Third FSA Reserve Policy, the Fourth FSA Reserve Policy, the Fifth FSA Reserve Policy, the Sixth FSA Reserve Policy and the Seventh FSA Reserve Policy.

JEA may, by supplemental resolution, create within the Debt Service Reserve Account one or more additional subaccounts, for the benefit of such series of Electric System Bonds as may be specified in, or determined pursuant to, such supplemental resolution. In lieu of maintaining moneys or investments in any such subaccount, JEA at any time may cause to be deposited into such subaccount for the benefit of the Holders of the Additionally Secured Bonds secured thereby an irrevocable surety bond, an insurance policy or a letter of credit satisfying the requirements set forth in such supplemental resolution in an amount equal to the difference between the Debt Service Reserve Requirement for such subaccount and the sum of moneys or value of Authorized Investments then on deposit therein, if any.

If by reason of the retirement upon maturity or the refunding or the defeasance of any Additionally Secured Bonds, or for any other reason, there shall be on deposit to the credit of the particular subaccount in the Debt Service Reserve Account securing such Additionally Secured Bonds any surplus of funds over and above the Debt Service Reserve Requirement related thereto, such surplus may be withdrawn therefrom by JEA and deposited in the General Reserve Fund. In the event of the refunding or defeasance of any Additionally Secured Bonds, JEA may withdraw from the particular subaccount in the Debt Service Reserve Account securing such Additionally Secured Bonds all or any portion of the amount accumulated therein with respect to the Additionally Secured Bonds being refunded or defeased and deposit such amount in the escrow being established for such Additionally Secured Bonds being refunded or defeased; *provided* that such withdrawal shall not be made unless the amount on deposit in such subaccount in the Debt Service Reserve Account after such withdrawal and after the deposit of any amount being deposited therein out of the proceeds of any obligations being issued in connection with such refunding or defeasance shall be at least equal to the Debt Service Reserve Requirement related thereto.

JEA shall not be required to make any further payments into the Sinking Fund when the aggregate amount of money in both the Debt Service Account and the Debt Service Reserve Account in the Sinking Fund is at least equal to the entire principal of the Electric System Bonds then Outstanding, together with interest accrued and to accrue thereon, plus the amount of redemption premium, if any, then due and thereafter to become due on such Electric System Bonds then Outstanding by operation of the Debt Service Account to satisfy Amortization Installments.

(4) The Electric System Resolution provides that moneys remaining in the Revenue Fund shall next be used by JEA (a) for payment of the principal and interest and redemption premium, if any, on any Subordinated Bonds, (b) to make payments required to be made in respect of (i) debt service on any obligations incurred by JEA in connection with the financing of any separate bulk power supply utility or system undertaken by JEA and any additional amounts relating to "debt service coverage" with respect thereto and (ii) deposits into any renewal and replacement or other similar fund or account established with respect to any such separate bulk power supply utility or system (in each such case, other than the St. Johns River Power Park System) and (c) to make payments in respect of any other arrangement(s) for the supply of power and/or energy to the Electric System for resale as may be determined by JEA to be payable pursuant to this clause (4). See "Proposed Amendments to the Electric System Resolution" below for a discussion of a proposed amendment to the foregoing provision.

(5) Moneys remaining in the Revenue Fund shall next be used by JEA for transfer to the Rate Stabilization Fund created and established pursuant to the Electric System Resolution, in the amount, if any, budgeted for deposit into such Fund for the then current month as set forth in the then current annual budget for the Electric System or the amount otherwise determined by an authorized officer of JEA to be credited to such Fund for the month.

Each month JEA shall transfer from the Rate Stabilization Fund to the Revenue Fund the amount budgeted for transfer into such Fund for the then current month as set forth in the then current annual budget for the Electric System or the amount otherwise determined by an authorized officer of JEA to be deposited into such Fund for the month.

JEA may, from time to time, withdraw amounts on deposit in the Rate Stabilization Fund and (i) transfer such amounts to any other Fund or Account established under the Electric System Resolution, (ii) use such amounts to purchase or redeem Electric System Bonds and/or Subordinated Bonds and/or indebtedness of JEA incurred in connection with any separate bulk power supply utility or system, (iii) use such amounts to otherwise provide for the payment of Electric System Bonds and/or Subordinated Bonds and/or indebtedness of JEA incurred in connection with any separate bulk power supply utility or system or interest thereon, or (iv) use such amounts for any other lawful purpose in connection with the Electric System. In addition, if on any date on which the principal or sinking fund redemption price of, or interest on, any Electric System Bonds shall be payable and the sum of the amounts attributable to such Electric System Bonds on deposit in the Debt Service Account and, if such Electric System Bonds shall be Additionally Secured Bonds, the separate subaccount in the Debt Service Reserve Account securing such Additionally Secured Bonds, together with (X) the amount, if any, withdrawn from the Renewal and Replacement Fund for such purpose as described in the final sentence of the second paragraph of clause (6) below and (Y) the amount, if any, withdrawn from the General Reserve Fund for such purpose as described in the final sentence of clause (7) below, shall not be sufficient to pay such principal or redemption price and/or interest, then JEA shall withdraw from the Rate Stabilization Fund and apply to such payment the amount of such insufficiency.

(6) Moneys remaining in the Revenue Fund shall next be used by JEA to maintain the Renewal and Replacement Fund, and JEA shall pay into said Fund from the Revenue Fund a sum not less than one-twelfth (1/12) of 10 percent of the net revenues of the Electric System for the preceding Fiscal Year pursuant to, and as said net revenues are defined by, Chapter 22341, Laws of Florida, Acts of 1943 and similarly defined by Chapter 80-515, Laws of Florida. In addition to the foregoing, JEA shall pay such additional monthly amount into the Renewal and Replacement Fund as shall make the total annual payment equal to at least five percent of the Gross Revenues of the Electric System for the preceding Fiscal Year. Said Renewal and Replacement Fund shall be kept separate and apart from all other funds of JEA.

The moneys in the Renewal and Replacement Fund shall be used for the purposes of paying the cost of extensions, enlargements or additions to, or the replacement of capital assets of, the Electric System, the payment of extraordinary operation and maintenance costs and contingencies and payments with respect to the prevention or correction of any unusual loss or damage in connection with all or part of the Electric System, all to the extent not paid as a part of the Cost of Operation and Maintenance or from the proceeds of Electric System Bonds, Subordinated Bonds or other evidences of indebtedness of JEA. Amounts in the Renewal and Replacement Fund also may be applied (a) to the purchase, redemption, payment or provision for payment of Electric System Bonds and/or Subordinated Bonds and/or indebtedness of JEA incurred in connection with any separate bulk power supply utility or system or interest thereon or (b) upon determination of JEA, to the payment of the costs of enlargements, extensions, improvements and replacements of capital assets of any other utility system owned and operated by JEA and not constituting a part of the Electric System. In addition, if on any date on which the principal or sinking fund redemption price of, or interest on, any Electric System Bonds shall be payable and the sum of the amounts attributable to such Electric System Bonds on deposit in the Debt Service Account and, if such Electric System Bonds shall be Additionally Secured Bonds, the separate subaccount in the Debt Service Reserve Account securing such Additionally Secured Bonds, together with the amount, if any, withdrawn from the General Reserve Fund for such purpose as described in the final sentence of clause (7) below, shall not be sufficient to pay such principal or redemption price and/or interest, then JEA shall withdraw from the Renewal and Replacement Fund and apply to such payment the amount of such insufficiency.

Notwithstanding the foregoing provisions of this clause (6), the failure of JEA to make the above described payments into the Renewal and Replacement Fund in any month in any Fiscal Year shall not constitute a default on the part of JEA; *provided* that any deficiencies therefor shall have been restored prior to the end of such Fiscal Year; and *provided*, *further*, that the full amount required to be deposited in said Renewal and Replacement Fund in such Fiscal Year shall have been deposited therein by the end of such Fiscal Year.

(7) The balance of any moneys remaining in the Revenue Fund after the above required payments have been made may, at the option of JEA, be deposited into the General Reserve Fund created and established pursuant to the Electric System Resolution. Moneys in the General Reserve Fund may be used by JEA for any lawful purpose of JEA (including, but not limited to, (a) the purchase, redemption or provision for payment of any of the Electric System Bonds and/or Subordinated Bonds and/or indebtedness of JEA incurred in connection with any separate bulk power supply utility or system and (b) transfers to any utility system owned and/or operated by JEA currently or in the future) not otherwise prohibited by the Electric System Resolution; *provided*, *however*, the Electric System Resolution provides that none of the remaining moneys shall be used for any purpose other than those described in the preceding clauses (1) through (6) unless all current payments, including all deficiencies in prior payments, if any, have been made in full and unless JEA shall have complied fully with all the covenants and provisions of the Electric System Resolution. In addition, if on any date on which the principal or sinking fund redemption price of, or interest on, any Electric System Bonds shall be payable and the sum of the amounts attributable to such Electric System Bonds on deposit in the Debt Service Account and, if such Electric System Bonds shall be Additionally Secured Bonds, the separate subaccount in the Debt Service Reserve Account securing such Additionally Secured Bonds shall not be sufficient to pay such principal or redemption price and/or interest, then JEA shall withdraw from the General Reserve Fund and apply to such payment the amount of such insufficiency.

During any period in which the Debt Service Requirement for any series of Bonds containing Build America Bonds shall be calculated in the manner provided in the *proviso* of clause (1) of the first paragraph of the definition thereof, no later than each interest payment date for such Build America Bonds then Outstanding, JEA shall withdraw from the Revenue Fund and transfer to the Debt Service Account in the Sinking Fund an amount equal to the amount of the cash subsidy payment payable to JEA by the U.S. Treasury in respect of the interest payable on such Build America Bonds on such interest payment date. Any cash subsidy payment received by JEA from the U.S. Treasury in respect of the interest payable on any Build America Bonds shall be deposited by JEA upon the receipt thereof in the Revenue Fund, but no such payment shall constitute Revenues for any purpose of the Electric System Resolution.

The Revenue Fund, the Sinking Fund, the Rate Stabilization Fund, the Renewal and Replacement Fund, the General Reserve Fund and any other special funds and accounts established and created in the Electric System Resolution shall be continuously secured in the same manner as municipal deposits are required to be secured by the laws of the State of Florida.

The Electric System Resolution provides that the designation and establishment of the various funds, accounts and subaccounts in and by the Electric System Resolution shall not be construed to require the establishment of any completely independent, self-balancing funds as such term is commonly defined and used in governmental accounting, but rather is intended solely to constitute an allocation of certain revenues and assets of the Electric System for certain purposes and to establish certain priorities for application of such revenues and assets as provided in the Electric System Resolution. Without limiting the generality of the foregoing, the pledges in favor of the Electric System Bonds established by the Electric

System Resolution shall be limited to those items specified in the Electric System Resolution, and nothing contained in the Electric System Resolution shall be deemed to pledge in favor of the Holders of the Electric System Bonds amounts on deposit in the Rate Stabilization Fund, the Renewal and Replacement Fund or the General Reserve Fund.

Investments

Moneys on deposit in any fund or account established pursuant to the Electric System Resolution may be invested and reinvested in Authorized Investments; *provided* such investments either mature or are redeemable at not less than par at the option of JEA not later than the dates on which such moneys will be needed for the purposes of such fund or account, but in no event shall any such investment mature later than 30 years from the date of its purchase. Unless otherwise determined by an authorized officer of JEA, all income on investments in the Debt Service Account and each separate subaccount in the Debt Service Reserve Account in the Sinking Fund shall be deposited, as received, in the Debt Service Account, all income on investments in the Rate Stabilization Fund, the Renewal and Replacement Fund and the General Reserve Fund shall be deposited, as received, in the Revenue Fund and all income on investments in the Revenue Fund shall be retained therein.

Rate Covenant

JEA covenants to fix, establish, revise from time to time whenever necessary, maintain and collect always such fees, rates, rentals and other charges for the use or the sale of the products, services and facilities of the Electric System which will always provide Revenues in each Fiscal Year sufficient to pay (1) 100 percent of all Costs of Operation and Maintenance, including Contract Debts, of the Electric System in such Fiscal Year, (2) 120 percent of the Debt Service Requirement on all Bonds Outstanding during such Fiscal Year and (3) any additional amount required to make all reserve or other payments required to be made in such Fiscal Year by the Electric System Resolution. For purposes of this covenant, the Electric System Resolution provides that Revenues shall not include any proceeds from the sale of assets of the Electric System or any proceeds of insurance (other than business interruption insurance). Such rates, fees, rentals or other charges shall not be reduced so as to be insufficient to provide adequate revenues for such purposes.

Issuance of Additional Electric System Bonds

Additional Parity Obligations. JEA may issue Additional Parity Obligations for any lawful purpose of JEA relating to the Electric System (other than for the purpose of financing or refinancing the generating facilities of the Electric System) or to refund any of the Electric System Bonds and/or the interest payable thereon issued for any such purpose, upon satisfaction of the following conditions on or prior to the date of the issuance of the first Bonds of a particular series and/or installment:

(1) The Net Revenues for any 12 consecutive month period within the 24 consecutive months immediately preceding the date of sale of such Additional Parity Obligations shall have been at least equal to 1.20 times the Maximum Aggregate Adjusted Debt Service Requirement for all Electric System Bonds then Outstanding and such Additional Parity Obligations. This requirement need not be met if the Additional Parity Obligations are to be issued for the purpose of refunding any Electric System Bonds and/or interest thereon.

(2) The Net Revenues for such 12 month period may be adjusted for the purposes of the calculation required by paragraph (1) above to (a) reflect for such period revisions in the rates, fees, rentals and other charges of JEA for the product and services of the Electric System made after the commencement of such period and preceding the date of

sale of such Additional Parity Obligations; (b) reflect any increase in Net Revenues due to any new facilities of the Electric System having been placed into use and operation subsequent to the commencement of such period and prior to the date of sale of such Additional Parity Obligations; and (c) include an amount equal to the average annual contribution to Net Revenues for the first three full Fiscal Years commencing after the date of completion thereof estimated to be made by the facilities to be acquired and constructed with the proceeds of such Additional Parity Obligations.

(3) Except in the case of any series of refunding Additional Parity Obligations, JEA shall not be in default in performing any of the covenants and obligations assumed under the Electric System Resolution, and all payments required by the Electric System Resolution to have been made into the funds and accounts shall have been made to the full extent required.

For purposes of the foregoing provisions, Net Revenues shall not include any proceeds from the sale of assets of the Electric System or any proceeds of insurance (other than business interruption insurance).

Notwithstanding anything to the contrary contained in the Electric System Resolution, in the event that any Electric System Bonds that bear interest at a variable or floating rate contain provisions that allow the principal amount thereof to be repaid on an accelerated basis in the event that such Electric System Bonds are purchased by the Credit Enhancer therefor or the provider of liquidity support therefor and, in either such case, are not remarketed, for purposes of the foregoing provisions, such accelerated repayment shall not be taken into account, and compliance with such condition shall be determined based upon the scheduled due date(s) of principal of such Electric System Bonds, irrespective of any such accelerated repayment.

Bank Bonds. One or more series of Bank Bonds may be issued prior to or concurrently with the issuance of the Electric System Bonds of an installment for which Credit Enhancement or liquidity support is being provided with respect to such Electric System Bonds (or a maturity or maturities thereof) by a third-party. Such Bank Bonds shall be issued for the purpose of evidencing JEA's obligation to repay any advances or loans made to, or on behalf of, JEA in connection with such Credit Enhancement or liquidity support; *provided*, *however*, that the stated maximum principal amount of any such series of Bank Bonds shall not exceed the aggregate principal amount of the Electric System Bonds with respect to which such Credit Enhancement or liquidity support is being provided, and such number of days' interest thereon as JEA shall determine prior to the issuance thereof, but not in excess of 366 days' interest thereon, computed at the maximum interest rate applicable thereto. Notwithstanding anything to the contrary contained in the Electric System Resolution, Bank Bonds need not be taken into account for purposes of the provisions of the Electric System Resolution relating to the issuance of additional Electric System Bonds described under the caption *"Additional Parity Obligations"* above.

Redemption

The Electric System Bonds or any portions thereof shall be subject to redemption prior to their respective stated dates of maturity, at the option of JEA, at such times and in such manner as shall be determined by resolution of JEA supplemental to the Electric System Resolution adopted prior to the sale thereof.

Unless otherwise provided in such supplemental resolution, notice of such redemption shall, at least 30 days prior to the redemption date (i) be filed with the paying agent, and (ii) be mailed, postage prepaid, to all Registered Owners of Electric System Bonds to be redeemed at their addresses as they appear of record on the books of the Registrar as of 45 days prior to the date fixed for redemption. Unless such notice shall have been revoked or shall cease to be in effect in accordance with the terms thereof, interest shall cease to accrue on any Electric System Bond duly called for prior redemption on the redemption date, if payment thereof has been duly provided. The privilege of transfer or exchange of any of the Electric System Bonds so called for redemption is suspended for a period commencing 15 calendar days preceding the mailing of the notice of redemption and ending on the date fixed for redemption.

Certain Other Covenants

No Mortgage or Sale of the Electric System. JEA covenants that it will not sell physical properties of the Electric System having an aggregate depreciated cost of 90% or more of the total depreciated cost of all of the physical properties of the Electric System at the time, nor will it create or cause to be created any mortgage or other lien on such properties to secure the repayment of borrowed money or the payment of the deferred purchase price of property.

Corporate Reorganization. JEA reserves the right in the Electric System Resolution to effect a reorganization of its corporate structure in any manner whatsoever permitted pursuant to the laws of the State of Florida; *provided*, *however*, that no such reorganization may be undertaken if the result thereof would adversely affect the security for the Electric System Bonds.

No Free Service. JEA will not furnish or supply or cause to be furnished or supplied any use, output, capacity or service of the Electric System, free of charge to any person, firm or corporation, public or private, nor will any preferential rates be established for users of the same class. Whenever the City, including its departments, agencies and instrumentalities, shall avail itself of the product, facilities or services provided by the Electric System, or any part thereof, the same rates, fees or charges applicable to other customers receiving like services under similar circumstances shall be charged to the City and any such department, agency or instrumentality. Such charges shall be paid as they accrue, and the City shall transfer to JEA for deposit into the Revenue Fund sufficient sums to pay such charges. The revenues so received shall be deemed to be Revenues derived from the operation of the Electric System, and shall be deposited and accounted for in the same manner as other Revenues derived from such operation of the Electric System.

Defaults and Remedies

If one or more of the following events of default shall happen:

(A) if default shall be made in the due and punctual payment of the principal (including Amortization Installments) or redemption price of any Electric System Bond when and as the same shall become due and payable, whether at maturity or by call for redemption, or otherwise;

(B) if default shall be made in the due and punctual payment of any installment of interest on any Electric System Bond when and as such interest installment shall become due and payable and such default shall continue for a period of 30 days;

(C) if default shall be made by JEA in the performance or observance of any other of the covenants or agreements in the Electric System Resolution or in the Electric System Bonds contained, and such default shall continue for a period of 60 days after written notice thereof to JEA by the Holders of not less than 10 percent in principal amount of the Electric System Bonds outstanding;

(D) if there shall occur the dissolution (without a successor being named to assume the rights and obligations) or liquidation of JEA or the filing by JEA of a voluntary petition in bankruptcy, or adjudication of JEA as a bankrupt, or assignment by JEA for the benefit of its creditors, or the entry by JEA into an agreement of composition with its creditors, or the approval by a court of competent jurisdiction of a petition applicable to JEA in any proceeding for its reorganization instituted under the provisions of the Bankruptcy Code, as amended, or under any similar act in any jurisdiction which may now be in effect or hereafter enacted; or

(E) if an order or decree shall be entered, with the consent or acquiescence of JEA, appointing a receiver or receivers of the Electric System, or any part thereof, or of the rents, fees, charges or other revenues therefrom, or if such order or decree, having been entered without the consent or acquiescence of JEA, shall not be vacated or discharged or stayed within 90 days after the entry thereof;

then, and in each and every such case, so long as such event of default shall not have been remedied, unless the principal of all the Electric System Bonds shall have already become due and payable, the Holders of not less than 25 percent in principal amount of the Electric System Bonds outstanding (by notice in writing to JEA), may declare the principal of all the Electric System Bonds then outstanding, and the interest accrued thereon, to be due and payable immediately, and upon any such declaration the same shall become and be immediately due and payable, anything contained to the contrary in the Electric System Resolution or in any of the Electric System Bonds notwithstanding. The right of the Holders of not less than 25 percent in principal amount of the Electric System Bonds to make any such declaration as aforesaid, however, is subject to the condition that if, at any time after such declaration, but before the Electric System Bonds shall have matured by their terms, all overdue installments of interest upon the Electric System Bonds, together with interest on such overdue installments of interest to the extent permitted by law and all other sums then payable by JEA under the Electric System Resolution (other than the payment of principal and interest due and payable solely by reason of such declaration) shall either be paid by or for the account of JEA or provision shall be made for such payment, and all defaults under the Electric System Bonds or under the Electric System Resolution (other than the payment of principal and interest due and payable solely by reason of such declaration) shall be made good or adequate provision shall be made therefor, then and in every such case the Holders of 25 percent in principal amount of the Electric System Bonds outstanding, by written notice to JEA, may rescind such declaration and annul such default in its entirety, but no such rescission or annulment shall extend to or affect any subsequent default or impair or exhaust any right or power consequent thereon.

The Electric System Resolution provides that, if not in default in respect of any of its obligations with respect to Credit Enhancement for Electric System Bonds, the Credit Enhancer for, and not the actual Holders of, Electric System Bonds for which such Credit Enhancement is being provided will be deemed to be the Holder of such Electric System Bonds at all times for the purposes of giving any approval or consent, exercising any remedies or taking any other actions in respect of the occurrence of an event of default under the Electric System Resolution. See "Action by Credit Enhancer When Action by Holders of Electric System Bonds Required" herein.

Issuance of Other Obligations

Except for Contract Debts and obligations, if any, permitted to be issued by JEA to finance the costs of any separate electric generating utility or system as described under "Creation of Separate Bulk Power Utilities or Systems" below, payable as a Cost of Operation and Maintenance, JEA will not issue any other obligations payable from the Revenues of the Electric System, nor voluntarily create or cause to be created any debt, lien, pledge, assignment, encumbrance or other charge having priority to or being on a parity with the lien of the Electric System Bonds and the interest thereon, upon said Revenues except under the conditions and in the manner provided in the Electric System Resolution. Any obligations issued by JEA other than Contract Debts and any obligations permitted to be issued by JEA to finance the costs of any separate electric generating utility or system as described under "Creation of Separate Bulk Power Utilities or Systems" below, payable as a Cost of Operation and Maintenance, the Electric System Bonds, and Additional Parity Obligations provided for in the Electric System Resolution, payable from such Revenues, shall contain an express statement that such obligations are junior and subordinate in all respects to the Electric System Bonds authorized pursuant to the Electric System Resolution, as to lien on and source and security for payment from such Revenues. Without limiting the generality of the foregoing, Subordinated Bonds may be issued for any purpose of JEA relating to the Electric System including, without limitation, to refund Electric System Bonds and to finance any lawful purpose of JEA relating to the Electric System (including, without limitation, financing the costs of additions, extensions and improvements to the generating facilities of the Electric System and purposes incidental thereto).

Creation of Separate Bulk Power Utilities or Systems

Notwithstanding any other provisions of the Electric System Resolution to the contrary, JEA shall be authorized to construct or acquire and own and/or operate, either individually or acting jointly with any other Person located either within or without the State of Florida, other electric generating utilities or systems for the purpose of furnishing and supplying electric energy.

JEA shall be further authorized to issue its bonds, notes or other obligations to finance the cost of any such separate electric generating utility or system, which obligations shall be payable as provided in clause (4) under the caption "Establishment of Funds and Disposition of Revenues of the Electric System" herein (except that the obligation of JEA to make payments required to be made in respect of the St. Johns River Power Park System and the Bulk Power Supply System Projects shall be deemed Contract Debts, and shall be paid as a Cost of Operation and Maintenance of the Electric System).

None of the revenues derived by JEA from the operation of any such separate system shall be deemed to be Revenues of the Electric System under the Electric System Resolution.

Defeasance

If, at any time, JEA shall have paid or shall have made provision for payment of the principal, interest and redemption premiums, if any, with respect to any of the Electric System Bonds, then the pledge of and lien on the Net Revenues and other amounts pledged under the Electric System Resolution in favor of the Holders of such Electric System Bonds shall be no longer in effect, and such Electric System Bonds shall no longer be deemed to be Outstanding under the Electric System Resolution. For purposes of the preceding sentence, and unless otherwise provided with respect to the Electric System Bonds of a particular series in the supplemental resolution specifying the details of such Electric System Bonds, deposit by JEA of any of the following securities:

> (i) any bonds or other obligations which constitute direct obligations of, or as to principal and interest are unconditionally guaranteed by, the United States of America;
>
> (ii) any bonds or other obligations of any state of the United States of America or of any agency, instrumentality or local governmental unit of any such state (a) which are not callable for redemption prior to maturity, or which have been duly called for redemption by the obligor on a date or dates specified and as to which irrevocable instructions have been given to a trustee in respect of such bonds or other obligations by the obligor to give due notice of such redemption on such date or dates, which date or dates

shall be also specified in such instructions, (b) which are secured as to principal and interest and redemption premium, if any, by a fund consisting only of cash or bonds or other obligations of the character described in clause (i) above which fund may be applied only to the payment of such principal of and interest and redemption premium, if any, on such bonds or other obligations on the maturity date or dates thereof or the redemption date or dates specified in the irrevocable instructions referred to in subclause (a) of this clause (ii), as appropriate, and (c) as to which the principal of and interest on the bonds and obligations of the character described in clause (i) above on deposit in such fund along with any cash on deposit in such fund are sufficient to pay principal of and interest and redemption premium, if any, on the bonds or other obligations described in this clause (ii) on the maturity date or dates thereof or on the redemption date or dates specified in the irrevocable instructions referred to in subclause (a) of this clause (ii), as appropriate;

(iii) certificates that evidence ownership of the right to payments of principal and/or interest on obligations described in any of clauses (i), (ii) or (v) under this caption; *provided* that such obligations shall be held in trust by a bank or trust company or a national banking association authorized to exercise corporate trust powers and subject to supervision or examination by federal, state, territorial or District of Columbia authority and having a combined capital, surplus and undivided profits of not less than $50,000,000;

(iv) certificates of deposit, whether negotiable or non-negotiable, fully secured as to principal and interest by bonds or other obligations of the character described in clause (i) above;

(v) obligations of any state of the United States of America or any political subdivision thereof or any agency or instrumentality of any state or political subdivision which are not callable for redemption prior to maturity, or which have been duly called for redemption by the obligor on a date or dates specified and as to which irrevocable instructions have been given to a trustee in respect of such obligations by the obligor to give due notice of such redemption on such date or dates, which date or dates shall be also specified in such instructions, and which shall be rated in the highest whole rating category by at least two nationally recognized statistical rating organizations; and

(vi) Investment Agreements;

in irrevocable trust with a banking institution or trust company, for the sole benefit of the Holders of such Electric System Bonds, in respect of which such securities the principal and interest received will be sufficient to make timely payment of the principal of and interest and redemption premiums, if any, on such Electric System Bonds (or like deposit of any other securities or investments which may be authorized by law from time to time and sufficient under such law to effect such a defeasance) shall be considered "provision for payment."

Nothing in the Electric System Resolution shall be deemed to require JEA to call any Electric System Bond for redemption prior to maturity pursuant to any applicable optional redemption provisions, or to impair the discretion of JEA in determining whether to exercise any such option for early redemption.

Amendments

The Electric System Resolution provides that no material modification or amendment of the Electric System Resolution or of any resolution amendatory or supplemental to the Electric System Resolution may be made without the consent in writing of the Holders of not less than a majority in principal amount of the Electric System Bonds then Outstanding affected by such modification or amendment; *provided*, *however*, that no modification or amendment shall permit a change in the maturity of such Bonds or a reduction in the rate of interest thereon, or in the amount of the principal obligation or affecting the unconditional promise of JEA to pay the principal of and interest on the Electric System Bonds as the same shall come due from the Net Revenues of the Electric System or reduce the percentage or otherwise affect the classes of Electric System Bonds the consent of the Holders of which is required to effect any material modification or amendment of the Electric System Resolution without the consent in writing of the Holder or Holders of all such Electric System Bonds. For the purpose of amending the Electric System Resolution, any Electric System Bond shall be deemed to be affected by a modification or amendment of the Electric System Resolution if the same adversely affects or diminishes the rights of the Holder of such Electric System Bond. JEA may in its discretion determine whether or not in accordance with the foregoing powers of amendment any Electric System Bonds would be affected by any modification or amendment of the Electric System Resolution and any such determination shall, absent manifest error, be binding and conclusive on JEA and all Holders of Electric System Bonds. For the purpose of amending the Electric System Resolution, a change in the terms of redemption of any Outstanding Electric System Bond shall be deemed only to affect such Electric System Bond, and shall be deemed not to affect any other Electric System Bond. See "Action by Credit Enhancer When Action by Holders of Electric System Bonds Required" herein.

The resolutions supplemental to the Electric System Resolution authorizing JEA's Variable Rate Electric System Revenue Bonds, Series Three 2008A, Series Three 2008B-1, Series Three 2008B-2, Series Three 2008B-3, Series Three 2008B-4, Series Three 2008C-1, Series Three 2008C-2, Series Three 2008C-3 and Series Three 2008D-1 (collectively, the "Prior Series Variable Rate Electric System Bonds") provide that in the event that JEA shall adopt any resolution supplemental to the Electric System Resolution making any amendment to the Electric System Resolution for which the consent of the Holders of the Prior Series Variable Rate Electric System Bonds of a particular Series shall be required (hereinafter in this paragraph referred to as an "Amending Resolution"), an authorized officer of JEA may deliver to the Tender Agent for the Prior Series Variable Rate Electric System Bonds of such Series a certificate requiring that the Prior Series Variable Rate Electric System Bonds of such Series be subject to mandatory tender for purchase at the time and in the manner provided in said Supplemental Resolutions. Following the date on which such mandatory tender shall occur, all subsequent Holders of the Prior Series Variable Rate Electric System Bonds of such Series shall be deemed to have consented to such Amending Resolution, notwithstanding anything to the contrary contained in the Electric System Resolution. JEA intends to include this provision in each resolution supplemental to the Electric System Resolution it may adopt in the future authorizing the issuance of any Series of additional Electric System Bonds that bear interest at a variable or floating rate.

Action by Credit Enhancer When Action by Holders of Electric System Bonds Required

Except as otherwise provided in a supplemental resolution authorizing Electric System Bonds for which Credit Enhancement is being provided, if not in default in respect of any of its obligations with respect to such Credit Enhancement for the Electric System Bonds for which such Credit Enhancement is provided, the Credit Enhancer for, and not the actual Holders of, such Electric System Bonds for which such Credit Enhancement is being provided, shall be deemed to be the Holder of such Electric System Bonds as to which it is the Credit Enhancer at all times for the purpose of (i) giving any approval or consent to any amendment, change or modification of the Electric System Resolution which requires the written consent of Holders; *provided*, *however*, that the foregoing shall not apply to any change in the maturity of such Electric System Bonds or a reduction in the rate of interest thereon, or in the amount of the principal obligation or affecting the unconditional promise of JEA to pay the principal of and interest on the Electric System Bonds as the same shall come due from the Net Revenues of the Electric System or reduce the percentage or otherwise affect the classes of Electric System Bonds the consent of the Holders of which is required to effect any material modification or amendment of the Electric System Resolution and (ii) giving any approval or consent, exercising any remedies or taking any other action in accordance with the provisions of the Electric System Resolution relating to events of default and remedies.

Special Provisions Relating to Capital Appreciation Bonds and Deferred Interest Bonds

The principal and interest portions of the Accreted Value of Capital Appreciation Bonds or the Appreciated Value of Deferred Interest Bonds becoming due at maturity or by virtue of an Amortization Installment shall be included in the calculations of accrued and unpaid and accruing interest or principal or Amortization Installments made for purposes of (a) the definitions of Adjusted Debt Service Requirement, Debt Service Requirement Debt Service Reserve Requirement and Maximum Aggregate Adjusted Debt Service Requirement and (b) the monthly deposits to the Debt Service Account in the Sinking Fund described in clause (2) under the caption "Establishment of Funds and Disposition of Revenues of the Electric System" herein only from and after the date (the "Calculation Date") which is one year prior to the date on which such Accreted Value or Appreciated Value, as the case may be, becomes so due, and the principal and interest portions of such Accreted Value or Appreciated Value shall be deemed to accrue in equal daily installments from the Calculation Date to such due date.

For purposes of (i) receiving payment of the redemption price if a Capital Appreciation Bond is redeemed prior to maturity, or (ii) receiving payment of a Capital Appreciation Bond if the principal of all Electric System Bonds is declared immediately due and payable following an event of default or (iii) computing the principal amount of Electric System Bonds held by the Holder of a Capital Appreciation Bond in giving to JEA any notice, consent, request or demand pursuant to the Electric System Resolution for any purpose whatsoever, the principal amount of a Capital Appreciation Bond shall be deemed to be its then current Accreted Value.

For purposes of (i) receiving payment of the redemption price if a Deferred Interest Bond is redeemed prior to maturity, or (ii) receiving payment of a Deferred Interest Bond if the principal of all Electric System Bonds is declared immediately due and payable following an event of default or (iii) computing the principal amount of Electric System Bonds held by the Holder of a Deferred Interest Bond in giving to JEA any notice, consent, request, or demand pursuant to the Electric System Resolution for any purpose whatsoever, the principal amount of a Deferred Interest Bond shall be deemed to be its then current Appreciated Value.

Special Provisions Relating to Bank Bonds

Except as otherwise provided in the resolution of JEA supplemental to the Electric System Resolution authorizing a series of Bank Bonds, for the purposes of (i) receiving payment of a Bank Bond, whether at maturity, upon redemption or if the principal of all Electric System Bonds is declared immediately due and payable following an event of default under the Electric System Resolution or (ii) computing the principal amount of Electric System Bonds held by the Holder of a Bank Bond in giving to JEA any notice, consent, request, or demand pursuant to the Electric System Resolution for any purpose whatsoever, the principal amount of a Bank Bond shall be deemed to be the actual principal amount that JEA shall owe thereon, which shall equal the aggregate of the amounts advanced to, or on behalf of, JEA in connection with the Electric System Bonds of the installment or maturity for which such Bank Bond has been issued to evidence JEA's obligation to repay any advances or loans made in respect of the Credit Enhancement or liquidity support provided for such Electric System Bonds, less any prior repayments thereof.

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Proposed Amendments to the Electric System Resolution

May 1998 Amending Resolution. In addition to certain amendments to the Electric System Resolution that heretofore have become effective, the May 1998 Amending Resolution provides for the amendment of certain provisions of the Electric System Resolution relating to the priority of payments from the Electric System with respect to the Power Park (the "Power Park Amendment"), in a manner requiring (i) the consent of FPL, (ii) the consent of the holders of 60 percent or more in principal amount of the Power Park Issue Two Bonds outstanding and (iii) the consent of the holders of a majority in principal amount of the Power Park Issue Three Bonds outstanding. To date, JEA has not solicited any consents to the Power Park Amendment and has no intention of soliciting any such consents in the future.

These amendments to the Electric System Resolution contained in the May 1998 Amending Resolution amend the provisions of the Electric System Resolution relating to the priority of payments with respect to the Power Park to provide that payments with respect to (i) debt service on obligations issued by JEA with respect to the Power Park (including the Power Park Issue Two Bonds and the Power Park Issue Three Bonds) and any additional amounts relating to "debt service coverage" with respect thereto and (ii) deposits into any renewal and replacement or similar fund with respect to the Power Park will no longer constitute a portion of the Cost of Operation and Maintenance, but will be payable on a parity with Subordinated Bonds (as defined in the Electric System Resolution) that may be issued in accordance with the provisions of the Electric System Resolution, including the Subordinated Electric System Bonds.

The amendments to the Electric System Resolution contained in the May 1998 Amending Resolution also would have amended the provisions of the Electric System Resolution relating to the priority of payments with respect to the Scherer 4 Project (and any other project that may be financed under the Restated and Amended Bulk Power Supply System Resolution in a manner similar to that described above with respect to the Power Park, but the amendments relating to the Scherer 4 Project (and any other project that may be financed under the Restated and Amended Bulk Power Supply System Resolution) were rescinded by JEA in conjunction with the adoption of the Restated and Amended Bulk Power Supply System Resolution.

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APPENDIX C

SUMMARY OF CERTAIN PROVISIONS OF THE SUBORDINATED ELECTRIC SYSTEM RESOLUTION

The following is a summary of certain provisions of the Subordinated Electric System Resolution. Summaries of certain definitions contained in the Subordinated Electric System Resolution are set forth below. Other terms defined in the Subordinated Electric System Resolution for which summary definitions are not set forth are indicated by capitalization. The summary does not purport to be a complete description of the terms of the Subordinated Electric System Resolution and, accordingly, is qualified by reference thereto and subject to the full text thereof.

The Subordinated Electric System Resolution, as heretofore amended, is available for viewing and downloading on JEA's website at https://www.jea.com/About/Investor_Relations/Bonds/. Copies of the Subordinated Electric System Resolution (as so amended) also may be obtained from JEA; *provided* that a reasonable charge may be imposed for the cost of reproduction. The term "Subordinated Bonds" as used in the Subordinated Electric System Resolution and in this summary has the same meaning as the term "Subordinated Electric System Bonds" as used in the Annual Disclosure Report to which this summary is attached.

Definitions

The following are summaries of certain definitions in the Subordinated Electric System Resolution:

Accreted Value means, as of any date of computation with respect to any Capital Appreciation Subordinated Bond, an amount equal to the principal amount of such Bond plus the interest accrued on such Bond from the date of original issuance of such Bond to the periodic date specified in the Supplemental Subordinated Resolution authorizing such Capital Appreciation Subordinated Bond on which interest on such Bond is to be compounded (hereinafter, a "Periodic Compounding Date") next preceding the date of computation or the date of computation if a Periodic Compounding Date, such interest to accrue at the interest rate per annum of the Capital Appreciation Subordinated Bonds set forth in the Supplemental Subordinated Resolution authorizing such Bonds, compounded periodically on each Periodic Compounding Date, plus, if such date of computation shall not be a Periodic Compounding Date, a portion of the difference between the Accreted Value as of the immediately preceding Periodic Compounding Date (or the date of original issuance if the date of computation is prior to the first Periodic Compounding Date succeeding the date of original issuance) and the Accreted Value as of the immediately succeeding Periodic Compounding Date, calculated based upon an assumption that, unless otherwise provided in the Supplemental Subordinated Resolution authorizing such Capital Appreciation Subordinated Bonds, Accreted Value accrues in equal daily amounts on the basis of a year consisting of twelve 30-day months.

Accrued Aggregate Subordinated Debt Service means, as of any date of calculation, an amount equal to the sum of the amounts of accrued Subordinated Debt Service with respect to all Series, calculating the accrued Subordinated Debt Service with respect to each Series at an amount equal to the sum of (i) interest on the Subordinated Bonds of such Series accrued and unpaid and to accrue to the end of the then current calendar month, and (ii) Principal Installments due and unpaid and that portion of the Principal Installments for such Series next due which would have accrued (if deemed to accrue in the manner set forth in the definition of Subordinated Debt Service) to the end of such calendar month; *provided*, *however,* that (i) there shall be excluded from the calculation of Accrued Aggregate Subordinated Debt Service any Principal Installments which are Refundable Principal Installments and (ii) the principal and interest portions of the Accreted Value of Capital Appreciation Subordinated Bonds or the Appreciated Value of Deferred Income Subordinated Bonds shall be included in the calculation of Accrued Aggregate Subordinated Debt Service at the times and in the manner provided in the Subordinated Electric System Resolution.

Adjusted Aggregate Subordinated Debt Service for any period means, as of any date of calculation, the Aggregate Subordinated Debt Service for such period except that (a) if any Refundable Principal Installment for any Series of Subordinated Bonds is included in Aggregate Subordinated Debt for such period, Adjusted Aggregate Subordinated Debt Service shall mean Aggregate Subordinated Debt Service determined (i) in the case of Refundable Principal Installments with respect to Subordinated Bonds other than Commercial Paper Notes and Medium-Term Notes, as if each such Refundable Principal Installment had been payable, over a period extending from the due date of such Principal Installment through the later of (x) the 30th anniversary of the issuance of such Series of Subordinated Bonds or (y) the 10th anniversary of the due date of such Refundable Principal Installment, in installments which would have required equal annual payments of principal and interest over such period and (ii) in the case of Refundable Principal Installments with respect to Commercial Paper Notes or Medium-Term Notes, in accordance with the then current Commercial Paper Payment Plan or Medium-Term Note Payment Plan, as applicable, with respect thereto and (b) the principal and interest portions of the Accreted Value of Capital Appreciation Subordinated Bonds or the Appreciated Value of Deferred Income Subordinated Bonds shall be included in the calculation of Adjusted Aggregate Subordinated Debt Service at the times and in the manner provided in the Subordinated Electric System Resolution. Interest deemed payable in accordance with the foregoing in any Fiscal Year after the actual due date of any Refundable Principal Installment of any Series of Subordinated Bonds shall be calculated at such rate of interest as JEA, or a banking or financial institution selected by JEA, determines would be a reasonable estimate of the rate of interest that would be borne on Subordinated Bonds maturing at the times determined in accordance with the provisions of the preceding sentence.

Adjusted Debt Service Requirement has the meaning given to such term in the Electric System Resolution.

Adjusted Net Revenues means the Net Revenues for any period, plus (X) the amounts, if any, paid from the Subordinated Bond Rate Stabilization Fund into the Subordinated Bond Fund during such period, and minus (Y) the amounts, if any, paid from the Revenue Fund into the Subordinated Bond Rate Stabilization Fund during such period.

Aggregate Adjusted Electric System Debt Service means, for any Fiscal Year, the sum of (i) the Adjusted Debt Service Requirement for such Fiscal Year and (ii) the Adjusted Aggregate Subordinated Debt Service for such Fiscal Year.

Aggregate Subordinated Debt Service for any period means, as of any date of calculation, the sum of the amounts of Subordinated Debt Service for such period with respect to all Series; *provided*, *however*, that (a) for purposes of estimating Aggregate Subordinated Debt Service for any future period (i) any Variable Rate Subordinated Bonds, Commercial Paper Notes and Medium-Term Notes Outstanding during such period shall be assumed to bear interest during such period at the greater of (X) the actual rate of interest then borne by such Variable Rate Subordinated Bonds, Commercial Paper Notes or Medium-Term Notes or (Y) the Certified Interest Rate applicable thereto and (ii) any Option Subordinated Bonds Outstanding during such period shall be assumed to mature on the stated maturity date thereof and (b) the principal and interest portions of the Accreted Value of Capital Appreciation Subordinated Bonds or the Appreciated Value of Deferred Income Subordinated Bonds shall be included in the calculation of Aggregate Subordinated Debt Service at the times and in the manner provided in the Subordinated Electric System Resolution.

Alternate Variable Rate Taxable Index means such index as, at the time, is in general use as a proxy for short-term interest rates on debt obligations of state and local governments the interest on which is not excluded from gross income for federal income tax purposes, as determined by an Authorized Officer of JEA.

Alternate Variable Rate Tax-Exempt Index means such index as, at the time, is in general use as a proxy for short-term interest rates on debt obligations of state and local governments the interest on which is excluded from gross income for federal income tax purposes, as determined by an Authorized Officer of JEA.

Appreciated Value means, with respect to any Deferred Income Subordinated Bond, (i) as of any date of computation prior to the Current Interest Commencement Date, an amount equal to the principal amount of such Bond plus the interest accrued on such Bond from the date of original issuance of such Bond to the periodic date specified in the Supplemental Subordinated Resolution authorizing such Deferred Income Subordinated Bond on which interest on such Bond is to be compounded (hereinafter, a "Periodic Compounding Date") next preceding the date of computation or the date of computation if a Periodic Compounding Date, such interest to accrue at the interest rate per annum of the Deferred Income Subordinated Bonds set forth in the Supplemental Subordinated Resolution authorizing such Bonds, compounded periodically on each Periodic Compounding Date, plus, if such date of computation shall not be a Periodic Compounding Date, a portion of the difference between the Appreciated Value as of the immediately preceding Periodic Compounding Date (or the date of original issuance if the date of computation is prior to the first Periodic Compounding Date succeeding the date of original issuance) and the Appreciated Value as of the immediately succeeding Periodic Compounding Date, calculated based upon an assumption that, unless otherwise provided in the Supplemental Subordinated Resolution authorizing such Deferred Income Subordinated Bonds, Appreciated Value accrues in equal daily amounts on the basis of a year consisting of twelve 30-day months and (ii) as of any date of computation on and after the Current Interest Commencement Date, the Appreciated Value on the Current Interest Commencement Date.

BMA Municipal Swap Index means the rate determined on the basis of an index based upon the weekly interest rates of tax-exempt variable rate issues included in a database maintained by Municipal Market Data or any successor indexing agent which meets specific criteria established by The Bond Market Association.

Build America Bonds means any Subordinated Bonds with respect to which JEA has irrevocably elected, pursuant to Section 54AA(g) of the Code, or any similar federal program creating subsidies for municipal borrowers for which JEA qualifies, to receive cash subsidy payments from the U.S. Treasury equal to a portion of the interest payable on such Subordinated Bonds.

Capital Appreciation Subordinated Bonds means any Subordinated Bonds issued under the Subordinated Electric System Resolution as to which interest is (i) compounded periodically on dates that are specified in the Supplemental Subordinated Resolution authorizing such Capital Appreciation Subordinated Bonds and (ii) payable only at the maturity, earlier redemption or other payment thereof pursuant to the Subordinated Electric System Resolution or the Supplemental Subordinated Resolution authorizing such Capital Appreciation Subordinated Bonds.

Certified Interest Rate means, as of any date of determination:

(i) with respect to (A) any Commercial Paper Notes or Medium-Term Notes or (B) any Variable Rate Subordinated Bonds maturing on a particular date, in each of the foregoing cases, that were, at the date of the original issuance thereof, the subject of an Opinion of Counsel to the effect that the interest thereon is excluded from gross income for federal income tax purposes pursuant to Section 103 of the Code, a rate of interest equal to the lesser of (1) the average of the Variable Rate Tax-Exempt Index for the five years preceding such date of determination and (2) the average rate of interest borne by such Commercial Paper Notes, Medium-Term Notes or Variable Rate Subordinated Bonds, as the case may be, for the 12 months preceding such date of determination; *provided*, *however*, if such Commercial Paper Notes, Medium-Term Notes or Variable Rate Subordinated Bonds, as the case may be, are then being issued or shall not have been Outstanding for 12 months, then the rate of interest determined pursuant to this clause (i) shall be the rate determined pursuant to the foregoing subclause (1), and

(ii) with respect to (A) any Commercial Paper Notes or Medium-Term Notes or (B) any Variable Rate Subordinated Bonds maturing on a particular date, in each of the foregoing cases, that were not, at the date of the original issuance thereof, the subject of an Opinion of Counsel to the effect that the interest thereon is excluded from gross income for federal income tax purposes pursuant to Section 103 of the Code, a rate of interest equal to the lesser of (a) the average of the Variable Rate Taxable Index for the five years preceding such date of determination and (b) the average rate of interest borne by such Commercial Paper Notes, Medium-Term Notes or Variable Rate Subordinated Bonds, as the case may be, for the 12 months preceding such date of determination; *provided*, *however*, if such Commercial Paper Notes, Medium-Term Notes or Variable Rate Subordinated Bonds, as the case may be, are then being issued or shall not have been Outstanding for 12 months, then the rate of interest determined pursuant to this clause (ii) shall be the rate determined pursuant to the foregoing subclause (a).

Code means the Internal Revenue Code of 1986, or any successor, and the applicable regulations (including final, temporary and proposed) promulgated by the United States Department of the Treasury thereunder, including Treasury Regulations issued pursuant to Sections 103 and 141 through 150, inclusive, of said Internal Revenue Code of 1986.

Commercial Paper Note means any Subordinated Bond which (a) has a maturity date which is not more than 365 days after the date of issuance thereof and (b) is designated as a Commercial Paper Note in the Supplemental Subordinated Resolution authorizing such Subordinated Bond.

Commercial Paper Payment Plan means, with respect to any Series of Commercial Paper Notes and as of any time, the then current Commercial Paper Payment Plan for such notes contained in a certificate of an Authorized Officer of JEA delivered pursuant to the terms of the Subordinated Electric System Resolution and setting forth the sources of funds expected to be utilized by JEA to pay the principal of and interest on such Commercial Paper Notes; *provided*, *however*, that if any Commercial Paper Payment Plan provides for the refunding of any Commercial Paper Note with proceeds of (a) Subordinated Bonds other than Commercial Paper Notes or (b) Electric System Bonds, in either such case, that JEA intends to pay from Revenues, the principal of such Commercial Paper Notes shall, for purposes of the Commercial Paper Payment Plan, be assumed to come due over a period commencing with the due date of the Commercial Paper Note and ending not later than the later of (x) the 30th anniversary of the first issuance of Commercial Paper Notes of such Series or (y) the 10th anniversary of the due date of the Commercial Paper Note to be refunded, in installments such that the principal and interest payable on such Commercial Paper Note in each Fiscal Year in such period will be equal to the principal and interest payable on such Commercial Paper Note in each other Fiscal Year in such period.

Credit Enhancement means, with respect to the Subordinated Bonds of a Series, a maturity within a Series, or an interest rate within a maturity or the Electric System Bonds of an installment, a maturity within an installment or an interest rate within a maturity, the issuance of an insurance policy, letter of credit, surety bond or any other similar obligation, whereby the issuer thereof becomes unconditionally obligated to pay when due, to the extent not paid by JEA or otherwise, the principal of and interest on such Subordinated Bonds or Electric System Bonds, as the case may be.

Credit Enhancer means any person or entity which, pursuant to a Supplemental Subordinated Resolution, is designated as a Credit Enhancer and which provides Credit Enhancement for a Series of the Subordinated Bonds, a maturity within a Series or an interest rate within a maturity or an installment of the Electric System Bonds, a maturity within an installment or an interest rate within a maturity.

Current Interest Commencement Date means, with respect to any particular Deferred Income Subordinated Bonds, the date specified in the Supplemental Subordinated Resolution authorizing such Deferred Income Subordinated Bonds (which date must be prior to the maturity date for such Deferred Income Subordinated Bonds) after which interest accruing on such Deferred Income Subordinated Bonds shall be payable periodically on dates specified in such Supplemental Subordinated Resolution, with the first such payment date being the first such periodic date immediately succeeding such Current Interest Commencement Date.

Debt Service Requirement shall have the meaning given to such term in the Electric System Resolution, as such meaning may hereafter be amended or modified in accordance with the provisions of the Electric System Resolution.

Defeasance Securities means, unless otherwise provided with respect to the Subordinated Bonds of a Series in the Supplemental Subordinated Resolution authorizing such Subordinated Bonds:

(i) any bonds or other obligations which constitute direct obligations of, or as to principal and interest are unconditionally guaranteed by, the United States of America;

(ii) any bonds or other obligations of any state of the United States of America or of any agency, instrumentality or local governmental unit of any such state (a) which are not callable for redemption prior to maturity, or which have been duly called for redemption by the obligor on a date or dates specified and as to which irrevocable instructions have been given to a trustee in respect of such bonds or other obligations by the obligor to give due notice of such redemption on such date or dates, which date or dates shall be also specified in such instructions, (b) which are secured as to principal and interest and redemption premium, if any, by a fund consisting only of cash or bonds or other obligations of the character described in clause (i) above which fund may be applied only to the payment of such principal of and interest and redemption premium, if any, on such bonds or other obligations on the maturity date or dates thereof or the redemption dates or dates specified in the irrevocable instructions referred to in subclause (a) of this clause (ii), as appropriate, and (c) as to which the principal of and interest on the bonds and obligations of the character described in clause (i) above on deposit in such fund along with any cash on deposit in such fund are sufficient to pay principal of and interest and redemption premium, if any, on the bonds or other obligations described in this clause (ii) on the maturity date or dates thereof or on the redemption date or dates specified in the irrevocable instructions referred to in subclause (a) of this clause (ii), as appropriate;

(iii) certificates that evidence ownership of the right to payments of principal and/or interest on obligations described in any of clauses (i), (ii) or (v) of this definition; *provided*, *however*, that such obligations shall be held in trust by a bank or trust company or a national banking association authorized to exercise corporate trust powers and subject to supervision or examination by federal, state, territorial or District of Columbia authority and having a combined capital, surplus and undivided profits of not less than $50,000,000;

(iv) certificates of deposit, whether negotiable or nonnegotiable, fully secured as to principal and interest by bonds or other obligations of the character described in clause (i) above;

(v) obligations of any state of the United States of America or any political subdivision thereof or any agency or instrumentality of any state or political subdivision which are not callable for redemption prior to maturity, or which have been duly called for redemption by the obligor on a date or dates specified and as to which irrevocable instructions have been given to a trustee in respect of such obligations by the obligor to give due notice of such redemption on such date or dates, which date or dates shall be also specified in such instructions, and which shall be rated in the highest whole rating category by at least two nationally recognized statistical rating organizations;

(vi) agreements or contracts with insurance companies or other financial institutions, or subsidiaries or affiliates thereof (hereinafter in this clause (vi) referred to as "Providers"), (a) whose outstanding unsecured senior indebtedness or claims-paying ability, as the case may be, shall be rated, or who shall have a "financial programs rating" or other equivalent rating, in the highest whole rating category by at least two nationally recognized statistical rating organizations or (b) whose obligations under such agreements or contracts shall be unconditionally guaranteed by another insurance company or other financial institution, or subsidiary or affiliate thereof, whose outstanding unsecured senior indebtedness or claims-paying ability, as the case may be, shall be rated, or who shall have a "financial programs rating" or other equivalent rating, in the highest whole rating category by at least two nationally recognized statistical rating organizations, pursuant to which agreements or contracts the Provider shall be absolutely, unconditionally and irrevocably obligated to repay the moneys invested by JEA and interest thereon at a guaranteed rate, without any right of recoupment, counterclaim or set off. The Provider may have the right to assign its obligations under any such agreement or contract to any other insurance company or other financial institution, or subsidiary or affiliate thereof; *provided*, *however*, that such assignee also shall be an insurance company or other financial institution, or subsidiary or affiliate thereof, satisfying the requirements set forth in either clause (a) or clause (b) of the preceding sentence; and

(vii) upon compliance with the provisions of the Subordinated Electric System Resolution, such securities (a) as are described in clause (i) of this definition and (b) as are described in clause (iii) of this definition so long as such securities evidence ownership of the right to payments of principal and/or interest on obligations described in clause (i) of this definition, in each case, which are subject to redemption prior to maturity at the option of the issuer thereof on a specified date or dates.

Deferred Income Subordinated Bonds means any Subordinated Bonds issued under the terms of the Subordinated Electric System Resolution as to which interest accruing prior to the Current Interest Commencement Date therefor is (i) compounded periodically on dates specified in the Supplemental Subordinated Resolution authorizing such Deferred Income Subordinated Bonds and (ii) payable only at the maturity, earlier redemption or other payment thereof pursuant to the Subordinated Electric System Resolution or the Supplemental Subordinated Resolution authorizing such Deferred Income Subordinated Bonds.

Designated Swap Obligation means, to the extent from time to time permitted by law, any interest rate swap transaction (i) which is entered into by JEA for the purpose of converting synthetically the interest rate on any particular Subordinated Bonds or Electric System Bonds from a fixed rate to a variable rate or from a variable rate to a fixed rate (regardless of whether such Designated Swap Obligation shall have a term equal to the remaining term of such Subordinated Bonds or such Electric System Bonds, as applicable), and (ii) which has been designated in a certificate of an Authorized Officer of JEA filed with the records of JEA as such (which certificate shall specify the Subordinated Bonds or the Electric System Bonds, as applicable, with respect to which such Designated Swap Obligation is entered into).

Designated Swap Obligation Provider means any person with whom JEA enters into a Designated Swap Obligation.

Electric System Debt Securities means Electric System Bonds, Subordinated Bonds and any other note, bond or other security evidencing indebtedness incurred to provide financing for the Electric System.

Gross Revenues or *Revenues* have the meaning given to such terms in the Electric System Resolution, as such meaning may be amended or modified in accordance with the provisions of the Electric System Resolution. For any purpose of the Subordinated Electric System Resolution that requires the computation of Gross Revenues or Revenues with respect to any period of time, "Gross Revenues" or "Revenues" will be adjusted in the manner provided in the definition thereof contained in the Electric System Resolution, as such definition may be amended or modified in accordance with the provisions thereof.

Investment Securities means and includes any securities, obligations or investments that, at the time, shall be permitted by Florida law for investment of JEA's funds.

Medium-Term Note means any Subordinated Bond which (a) has a maturity date which is more than 365 days, but not more than 15 years, after the date of issuance thereof and (b) is designated as a Medium-Term Note in the Supplemental Subordinated Resolution authorizing such Subordinated Bond.

Medium-Term Note Payment Plan means, with respect to any Series of Medium-Term Notes and as of any time, the then current Medium-Term Note Payment Plan for such notes contained in a certificate of an Authorized Officer of JEA delivered pursuant to the provisions of the Subordinated Electric System Resolution and setting forth the sources of funds expected to be utilized by JEA to pay the principal of and interest on such Medium-Term Notes; *provided*, *however*, that if any Medium-Term Note Payment Plan provides for the refunding of any Medium-Term Note with proceeds of (a) Subordinated Bonds other than Commercial Paper Notes or Medium-Term Notes or (b) Electric System Bonds, in either such case, that JEA intends to pay from Revenues, the principal of such Medium-Term Note shall, for purposes of the Medium-Term Note Payment Plan, be assumed to come due over a period commencing with the due date of the Medium-Term Note and ending not later than the later of (x) the 30th anniversary of the first issuance of Medium-Term Notes of such Series or (y) the 10th anniversary of the due date of the Medium-Term Note to be refunded, in installments such that the principal and interest payable on such Medium-Term Note in each Fiscal Year in such period will be equal to the principal and interest payable on such Medium-Term Note in each other Fiscal Year in such period.

One-Month LIBOR Rate means, as of any date of determination, the offered rate for deposits in U.S. dollars for a one-month period which appears on the Telerate Page 3750 at approximately 11:00 A.M., London time, on such date, or if such date is not a date on which dealings in U.S. dollars are transacted in the London interbank market, then on the next preceding day on which such dealings were transacted in such market.

Option Subordinated Bonds means Subordinated Bonds which by their terms may be tendered by and at the option of the Holder thereof for payment by JEA prior to the stated maturity thereof, or the maturities of which may be extended by and at the option of the Holder thereof.

Principal Installment means, as of any date of calculation and with respect to any Series, so long as any Subordinated Bonds thereof are Outstanding, (i) the principal amount of Subordinated Bonds (including, in the case of any Option Subordinated Bond, the principal amount thereof tendered for payment prior to the stated maturity thereof) of such Series due (or so tendered for payment) on a certain future date for which no Sinking Fund Installments have been established, or (ii) the unsatisfied balance (determined as provided in the Subordinated Electric System Resolution) of any Sinking Fund Installments due on a certain future date for Subordinated Bonds of such Series, plus the amount of the sinking fund redemption premiums, if any, which would be applicable upon redemption of such Bonds on such future date in a principal amount equal to said unsatisfied balance of such Sinking Fund Installments, or (iii) if such future dates coincide as to different Subordinated Bonds of such Series, the sum of such principal amount of Subordinated Bonds and of such unsatisfied balance of Sinking Fund Installments due on such future date plus such applicable redemption premiums, if any.

Refundable Principal Installment means any Principal Installment which JEA intends to pay with moneys which are not Revenues; *provided*, *however*, that (i) in the case of Subordinated Bonds other than Commercial Paper Notes or Medium-Term Notes, such intent shall have been expressed in a Supplemental Subordinated Resolution authorizing such Series of Subordinated Bonds, (ii) in the case of Commercial Paper Notes, such intent shall be expressed in the then current Commercial Paper Payment Plan for such Commercial Paper Notes and (iii) in the case of Medium-Term Notes, such intent shall be expressed in the then current Medium-Term Note Payment Plan for such Medium-Term Notes; and *provided*, *further*, that such Principal Installment shall be a Refundable Principal Installment only through the penultimate day of the month preceding the month in which such Principal Installment comes due or such earlier time as JEA determines to pay such Principal Installment with moneys which are not Revenues.

Special Subordinated Bonds means all Subordinated Bonds issued pursuant to the terms of the Subordinated Electric System Resolution to evidence JEA's obligation to repay any advances or loans made to, or on behalf of, JEA in connection with the provision of Credit Enhancement or liquidity support with respect to the Subordinated Bonds of a Series or the Electric System Bonds of a Series (or a maturity or maturities or interest rate within a maturity thereof) by a third party, whether issued in one or more Series, and any Subordinated Bonds thereafter authenticated and delivered in lieu of or in substitution for such Subordinated Bonds pursuant to the terms of the Subordinated Electric System Resolution and the Supplemental Subordinated Resolution authorizing such Special Subordinated Bonds.

Subordinated Bonds means any bonds, notes, certificates or other evidences of indebtedness authenticated and delivered under the Subordinated Electric System Resolution.

Subordinated Debt Service for any period means, as of any date of calculation and with respect to any Series, an amount equal to the sum of (i) interest accruing during such period on the Subordinated Bonds of such Series, except to the extent that such interest is to be paid from the proceeds of Subordinated Bonds or other Electric System Debt Securities and (ii) that portion of each Principal Installment for such Series which would accrue during such period if such Principal Installment were deemed to accrue daily in equal amounts from the next preceding Principal Installment due date for such Series (or, (x) in the case of Subordinated Bonds other than Special Subordinated Bonds, if (1) there shall be no such preceding Principal Installment due date or (2) such preceding Principal Installment due date is more than one year prior to the due date of such Principal Installment, then, from a date one year preceding the due date of such Principal Installment or from the date of issuance of the Subordinated Bonds of such Series, whichever date is later, and (y) in the case of Special Subordinated Bonds, in accordance with the terms thereof and the Supplemental Subordinated Resolution authorizing such Special Subordinated Bonds), in either such case, except to the extent that such Principal Installment is paid or to be paid from the proceeds of Subordinated Bonds or other Electric System Debt Securities; *provided, however,* that in the event that the Subordinated Bonds of any Series (or any portion thereof) shall constitute Build America Bonds, then in respect of the interest payable on such Subordinated Bonds, for purposes of this definition, the interest on the Subordinated Bonds of such Series shall be calculated net of the cash subsidy payments from the U.S. Treasury. If for whatever reason, JEA no longer receives cash subsidy payments due from the U.S. Treasury in respect of the interest payable on such Subordinated Bonds (other than as a result of the U.S. Treasury reducing a particular payment by offsetting an amount due from JEA to it), for purposes of this definition, the interest on the Subordinated Bonds of such Series shall be calculated without regard to such subsidy. Such interest and Principal Installments for such Series shall be calculated on the assumption that (x) no Subordinated Bonds (except for Option Subordinated Bonds actually tendered for payment prior to the stated maturity thereof) of such Series Outstanding at the date of calculation will cease to be Outstanding except by reason of the payment of each Principal Installment on the due date thereof, (y) the principal amount of Option Subordinated Bonds tendered for payment before the stated maturity thereof shall be deemed to accrue on the date required to be paid pursuant to such tender and (z) the principal and interest portions of the Accreted Value of Capital Appreciation Subordinated Bonds or the Appreciated Value of Deferred Income Subordinated Bonds will be included in the calculation of Subordinated Debt Service at the times and in the manner provided in the Subordinated Electric System Resolution.

Notwithstanding anything to the contrary contained in the Subordinated Electric System Resolution, (a) if JEA has in connection with any Subordinated Bonds entered into a Designated Swap Obligation which provides that, in respect of a notional amount equal to the Outstanding principal amount of such Subordinated Bonds, JEA is to pay to a Designated Swap Obligation Provider an amount determined based upon a variable rate of interest and the Designated Swap Obligation Provider is to pay to JEA an amount determined based upon a fixed rate of interest, then, for purposes of calculating Subordinated Debt Service with respect to such Subordinated Bonds, for purposes of (i) the covenant described under the caption "Rate Covenant" below and (ii) the provisions of the Subordinated Electric System Resolution relating to the issuance of additional Subordinated Bonds described under the caption "Additional Subordinated Bonds; Conditions to Issuance" below, it will be assumed that such Subordinated Bonds bear interest at a rate equal to the sum of (1) the lesser of (A) the average of the variable rate payable by JEA pursuant to such Designated Swap Obligation for the five years preceding the date of determination, calculating such rate based upon the method, formula or index with respect thereto set forth in such Designated Swap Obligation and (B) the average of the actual rates paid by JEA pursuant to such Designated Swap Obligation for the 12 months preceding such date of determination; *provided*, *however*, if such Designated Swap Obligation shall not have been in effect for 12 months, then the rate of interest determined pursuant to this clause (1) shall be the rate determined pursuant to the foregoing subclause (A) and (2) the difference (whether positive or negative) between (X) the fixed rate of interest on such Subordinated Bonds and (Y) the fixed rate of interest payable to JEA pursuant to such Designated Swap Obligation and (b) if JEA has in connection with any Variable Rate Subordinated Bonds, Commercial Paper Notes or Medium-Term Notes entered into a Designated Swap Obligation which provides that, in respect of a notional amount equal to the Outstanding principal amount of such Variable Rate Subordinated Bonds, Commercial Paper Notes or Medium-Term Notes, as the case may be, JEA is to pay to a Designated Swap Obligation Provider an amount determined based upon a fixed rate of interest and the Designated Swap Obligation Provider is to pay to JEA an amount determined based upon a variable rate of interest, then, for purposes of calculating Subordinated Debt Service with respect to such Variable Rate Subordinated Bonds, Commercial Paper Notes or Medium-Term Notes, as the case may be, for purposes of (i) the covenant described under the caption "Rate Covenant" below and (ii) the provisions of the Subordinated Electric System Resolution relating to the issuance of additional Subordinated Bonds described under the caption "Additional Subordinated Bonds; Conditions to Issuance" below, it will be assumed that such Variable Rate Subordinated Bonds, Commercial Paper Notes or Medium-Term Notes, as applicable, bear interest at the fixed rate of interest payable by JEA pursuant to such Designated Swap Obligation.

U.S. Treasury means the U.S. Treasury or any party designated by the federal government to issue cash subsidy payments on Build America Bonds.

Variable Rate Subordinated Bond means any Subordinated Bond not bearing interest throughout its term at a specified rate or rates determined at the time of issuance of the Series of Subordinated Bonds of which such Subordinated Bond is one.

Variable Rate Taxable Index means the One-Month LIBOR Rate or, if the One-Month LIBOR Rate no longer shall be available, the Alternate Variable Rate Taxable Index.

Variable Rate Tax-Exempt Index shall mean the BMA Municipal Swap Index or, if the BMA Municipal Swap Index no longer shall be available, the Alternate Variable Rate Tax-Exempt Index.

Pledge

The Subordinated Bonds are payable from and secured as to the payment of the principal or Redemption Price, if any, thereof, and interest thereon, in accordance with their terms and the provisions of the Subordinated Electric System Resolution by (i) the amounts on deposit in the Revenue Fund established pursuant to the Electric System Resolution as may from time to time be available therefor, including the investments, if any, thereof and (ii) amounts on deposit in the Funds established under the Subordinated Electric System Resolution, including the investments, if any, thereof, subject only to the provisions of the Subordinated Electric System Resolution permitting the application thereof for the purposes and on the terms and conditions set forth in the Electric System Resolution and the Subordinated Electric System Resolution; *provided*, *however*, that such pledge (other than with respect to amounts on deposit in the Subordinated Bond Construction Fund) will be junior and subordinate in all respects to the Electric System Bonds as to lien on and the source and security for payment from the Revenues.

The Subordinated Bonds shall be "Subordinated Bonds" within the meaning of such term contained in the Electric System Resolution.

Subordinated Bond Construction Fund

The Subordinated Electric System Resolution establishes a Subordinated Bond Construction Fund into which shall be deposited (a) amounts required to be paid into such Fund pursuant to any Supplemental Subordinated Resolution and (b) at the option of JEA, any moneys received for or in connection with the Electric System from any other source, unless required to be otherwise applied as provided by the Subordinated Electric System Resolution or the Electric System Resolution. Amounts on deposit in the Subordinated Bond Construction Fund will be withdrawn, used and applied by JEA solely for the payment of the cost of additions, extensions and improvements to the Electric System and purposes incidental thereto or any other lawful purpose of JEA relating to the Electric System.

Deposit of Revenues

Pursuant to the Subordinated Electric System Resolution, as soon as practicable in each month following the payment of the Cost of Operation and Maintenance of the Electric System and the making of all required deposits pursuant to the Electric System Resolution in respect of debt service on, and required reserves for, the Electric System Bonds, JEA is to pay out of the Revenue Fund established under the Electric System Resolution to the extent permitted by the Electric System Resolution and to the extent that the amount in the Revenue Fund is available therefor and deposit in the following funds established pursuant to the Subordinated Electric System Resolution the following amounts and in the following order of priority:

1. ***To the Subordinated Bond Fund established pursuant to the Subordinated Electric System Resolution,*** an amount at least equal to the amount, if any, required so that the balance in said Fund shall equal the Accrued Aggregate Subordinated

Debt Service as of the last day of the then current month; *provided*, *however*, that, (a) for the purposes of computing the amount to be deposited in said Fund, there shall be excluded from the balance in said Fund the amount, if any, set aside in said Fund from the proceeds of Electric System Debt Securities for the payment of interest on Subordinated Bonds less that amount of such proceeds to be applied in accordance with the Subordinated Electric System Resolution to the payment of interest accrued and unpaid and to accrue on Subordinated Bonds to the last day of the then current calendar month; and (b) any amount deposited into said Fund during any month that is in excess of the minimum amount required to be deposited therein during such month may, upon written determination of an Authorized Officer of JEA, be deemed to be accumulated therein with respect to (i) any Sinking Fund Installment or (ii) any principal amount of Subordinated Bonds (including, in the case of any Option Subordinated Bond, the principal amount thereof tendered for payment prior to the stated maturity thereof) due (or so tendered for payment) on a certain future date for which no Sinking Fund Installments have been established or (iii) some combination of (i) and (ii), and interest thereon.

The Subordinated Electric System Resolution provides that, except as may otherwise be provided in a Commercial Paper Payment Plan, a Medium-Term Note Payment Plan or the Supplemental Subordinated Resolution authorizing the Subordinated Bonds of a particular Series, JEA shall pay out of the Subordinated Bond Fund to the respective Paying Agent(s) therefor (i) on or before each interest payment date for any of the Subordinated Bonds, the amount required for the interest payable on such date; (ii) on or before each Principal Installment due date, the amount required for the Principal Installment payable on such due date; and (iii) on or before any redemption date for the Subordinated Bonds, the amount required for the payment of interest on the Subordinated Bonds then to be redeemed. Such amounts shall be applied by such Paying Agent(s) on and after the due dates thereof. JEA shall also pay out of the Subordinated Bond Fund the accrued interest included in the purchase price of Subordinated Bonds purchased for retirement. In addition, JEA may apply amounts in the Subordinated Bond Fund to the purchase or redemption of Subordinated Bonds to satisfy sinking fund requirements.

Whenever the moneys on deposit in the Subordinated Bond Fund shall exceed the amount required to be on deposit therein, as determined in accordance with the provisions of the Subordinated Electric System Resolution, such excess may be applied by JEA to any lawful purpose of JEA relating to the Electric System.

The Subordinated Electric System Resolution also provides that, in the event of the refunding or defeasance of any Subordinated Bonds, JEA may withdraw from the Subordinated Bond Fund all or any portion of the amounts accumulated therein and deposit such amounts with the Escrow Agent for the Subordinated Bonds being refunded or defeased to be held for the payment of the principal or Redemption Price, if applicable, and interest on the Subordinated Bonds being refunded or defeased; *provided, however*, that such withdrawal shall not be made unless (a) immediately thereafter the Subordinated Bonds being refunded or defeased shall be deemed to have been paid pursuant to the provisions of the Subordinated Electric System Resolution, and (b) the amount remaining in the Subordinated Bond Fund, after giving effect to the issuance of the Electric System Debt Securities being issued to effect such refunding and the disposition of the proceeds thereof, shall not be less than the requirement of such Fund. In the event of such refunding or defeasance, JEA may also withdraw from the Subordinated Bond Fund all or any portion of the amounts accumulated therein and (i) deposit such amounts in any fund or account under the Electric System Resolution or the Subordinated Electric System

Resolution or (ii) apply such amounts to any lawful purpose of JEA relating to the Electric System; *provided*, *however*, that such withdrawal shall not be made unless items (a) and (b) referred to hereinabove have been satisfied.

Notwithstanding anything to the contrary contained in the Subordinated Electric System Resolution, whenever the amounts available therefor under the Electric System Resolution shall not be sufficient to pay the principal or redemption price of, or interest on, the Electric System Bonds then due, and such deficiency shall not have been cured by the transfer from the Subordinated Bond Rate Stabilization Fund described below, JEA shall withdraw from the Subordinated Bond Fund an amount equal to the remaining amount of such deficiency (or the entire amount on deposit therein, if less than the remaining amount of such deficiency), and shall deposit such amount in the Sinking Fund established under the Electric System Resolution.

2. ***To the Subordinated Bond Rate Stabilization Fund established pursuant to the Subordinated Electric System Resolution***, the amount, if any, budgeted for deposit into such Fund for the then current month as set forth in the then current annual budget, or the amount otherwise determined by JEA to be deposited to such Fund for the month.

Each month JEA shall transfer from the Subordinated Bond Rate Stabilization Fund to the Subordinated Bond Fund the amount budgeted for transfer into such Fund for the then current month as set forth in the then current annual budget, or the amount otherwise determined by JEA to be deposited into such Fund for the month. JEA may also from time to time withdraw amounts on deposit in the Subordinated Bond Rate Stabilization Fund and (i) transfer such amounts to any other fund or account established under the Subordinated Electric System Resolution or any fund or account established under the Electric System Resolution, (ii) use such amounts to purchase or redeem Subordinated Bonds or Electric System Bonds, (iii) use such amounts to otherwise provide for the payment of Subordinated Bonds or Electric System Bonds or (iv) use such amounts for any lawful purpose of JEA relating to the Electric System.

At any time and from time to time JEA may transfer for deposit in the Subordinated Bond Rate Stabilization Fund from any source such amounts as JEA deems necessary or desirable; such amounts shall be applied for purposes of the Subordinated Bond Rate Stabilization Fund in accordance with the preceding paragraph.

Notwithstanding anything to the contrary contained in the Subordinated Electric System Resolution, whenever the amounts available therefor under the Electric System Resolution shall not be sufficient to pay the principal or redemption price of, or interest on, the Electric System Bonds then due, JEA shall withdraw from the Subordinated Bond Rate Stabilization Fund an amount equal to the amount of such deficiency (or the entire amount on deposit therein, if less than the amount of such deficiency), and shall deposit such amount in the Sinking Fund established under the Electric System Resolution.

If and to the extent provided in a Supplemental Subordinated Resolution, the Subordinated Electric System Resolution also permits JEA to establish one or more additional funds or accounts with respect to such Subordinated Bonds of one or more Series as shall be specified in such Supplemental Subordinated Resolution and, if and to the extent provided in any such Supplemental Subordinated Resolution, amounts on deposit in any such fund or account, including the investments, if any, thereof may be pledged for the payment of the principal or Redemption Price, if any, of, and interest on, any or all of such Subordinated Bonds. In such event, deposits to and withdrawals from any such fund or account shall be governed by the provisions of such Supplemental Subordinated Resolution; *provided*, *however*, that in the event that any such Supplemental Subordinated Resolution shall provide for the deposit of Revenues into any such fund or account, such deposit shall not be made in any month until after the deposits required to be made to the Subordinated Bond Fund and the Subordinated Bond Rate Stabilization Fund shall have been made for such month; and *provided*, *further*, that if the amount on deposit in the Revenue Fund shall not be sufficient to make all such deposits so required to made with respect to all such funds and accounts in any month, then such amount on deposit in the Revenue Fund shall be applied ratably, in proportion to the amount necessary for deposit into each such fund and account.

During any period in which the Subordinated Debt Service with respect to any Series of Subordinated Bonds containing Build America Bonds shall be calculated in the manner provided in the proviso of the first paragraph of the definition thereof, no later than each interest payment date for such Build America Bonds then Outstanding, JEA shall withdraw from the Revenue Fund and transfer to the Subordinated Bond Fund an amount equal to the amount of the cash subsidy payment payable to JEA by the U.S. Treasury in respect of the interest payable on such Build America Bonds on such interest payment date, without regard to any reduction thereto made by the U.S. Treasury for the purpose of offsetting any amount due from JEA to it. Any cash subsidy payment received by JEA from the U.S. Treasury in respect of the interest payable on any Build America Bonds shall be deposited by JEA upon the receipt thereof in the Revenue Fund, but not such payment shall constitute Revenues for any purpose of the Electric System Resolution or this Subordinated Resolution.

Additional Subordinated Bonds; Conditions to Issuance

JEA may issue additional Subordinated Bonds for the purposes of (i) providing a portion of the funds necessary for the construction or acquisition of additions, extensions and improvements to the Electric System, and purposes incidental thereto, (ii) providing funds for the refunding of Outstanding Electric System Bonds or Outstanding Subordinated Bonds and (iii) providing funds for any other lawful purpose of JEA relating to the Electric System. All such additional Subordinated Bonds will rank equally and be on a parity, as to security and source of payment, with all other Subordinated Bonds. Set forth below are certain conditions applicable to the issuance of additional Subordinated Bonds. The Subordinated Electric System Resolution provides that a Series of Subordinated Bonds may be issued at one time or from time to time. If the Subordinated Bonds of a Series are to be issued from time to time, the Subordinated Electric System Resolution requires that the conditions set forth below be satisfied only prior to the issuance of the first Subordinated Bonds of such Series to be issued.

***Debt Service Coverage Test*:** The issuance of any Series of additional Subordinated Bonds (except for Refunding Subordinated Bonds and Special Subordinated Bonds) is conditioned upon the delivery by an Authorized Officer of JEA of a certificate to the effect that the Adjusted Net Revenues for any 12 consecutive month period within the 24 consecutive months immediately preceding the first date of issuance of the Subordinated Bonds of such Series shall have been at least equal to the greater of (X) 115 percent of the Maximum Annual Aggregate Adjusted Electric System Debt Service on the Outstanding Electric System Bonds, the Outstanding Subordinated Bonds and the Subordinated Bonds of such Series or (Y) the sum of (i) the Maximum Annual Aggregate Adjusted Electric System Debt Service on the Outstanding Electric System Bonds, the Outstanding Subordinated Bonds and the Subordinated Bonds of such Series and (ii) the amount most recently determined to be required to be deposited in the Renewal and Replacement Fund established under the Electric System Resolution for the then current, or a previous, Fiscal Year.

The Adjusted Net Revenues for such 12 month period may be adjusted for the purposes of the calculation required by the preceding paragraph (a) to reflect for such period revisions in the rates, fees, rentals and other charges of JEA for the product and services of the Electric System made after the commencement of such period and preceding the first date of issuance of the Subordinated Bonds of such Series; (b) to reflect any increase in Adjusted Net Revenues due to any new facilities of the Electric System having been placed into use and operation subsequent to the commencement of such period and prior to the first date of issuance of the Subordinated Bonds of such Series; and (c) to include an amount equal to the average annual contribution to Adjusted Net Revenues for the first three full Fiscal Years commencing after the date of completion thereof estimated to be made by the facilities to be acquired and constructed with the proceeds of the Subordinated Bonds of such Series.

For purposes of the second preceding paragraph, Adjusted Net Revenues shall not include any amounts in respect of proceeds from the sale of assets of the Electric System or any proceeds of insurance (other than business interruption insurance).

***No Default*:** In addition, additional Subordinated Bonds (except for Refunding Subordinated Bonds) may be issued only if an Authorized Officer of JEA certifies that no Event of Default exists under the Subordinated Electric System Resolution or that any such Event of Default will be cured through application of the proceeds of such Subordinated Bonds.

Redemption

In the case of any redemption of Subordinated Bonds, JEA shall give written notice to the Subordinated Bond Registrar(s) and the Paying Agent(s) therefor of the redemption date, of the Series, and of the principal amounts of the Subordinated Bonds of each maturity of such Series and of the Subordinated Bonds of each interest rate within a maturity to be redeemed (which Series, maturities, interest rates within a maturity and principal amounts thereof to be redeemed shall be determined by JEA in its sole discretion, subject to any limitations with respect thereto contained in the Subordinated Electric System Resolution or any Supplemental Subordinated Resolution authorizing the Series of which such Subordinated Bonds are a part). Such notice shall be filed with such Subordinated Bond Registrar(s) and Paying Agent(s) for the Subordinated Bonds to be redeemed at least 33 days prior to the redemption date (or such shorter period (a) as may be specified in the Supplemental Subordinated Resolution authorizing the Series of Subordinated Bonds to be redeemed or (b) as shall be acceptable to such Subordinated Bond Registrar(s) and Paying Agent(s)). In the event notice of redemption shall have been given, and unless such notice shall have been revoked or shall cease to be in effect in accordance with the terms thereof, there shall be paid on or prior to the redemption date to the appropriate Paying Agent(s) an amount in cash which, in addition to other moneys, if any, available therefor held by such Paying Agent(s), will be sufficient to redeem on the redemption date at the Redemption Price thereof, plus interest accrued and unpaid to the redemption date, all of the Subordinated Bonds to be redeemed.

Rate Covenant

Under the Subordinated Electric System Resolution, JEA has covenanted to fix, establish, revise from time to time whenever necessary, maintain and collect always such fees, rates, rentals and other charges for the use or the sale of the products, services and facilities of the Electric System which will always provide Adjusted Net Revenues in each Fiscal Year sufficient to pay the greater of (X) the sum of (i) 115 percent of the Debt Service Requirement on the Outstanding Electric System Bonds in such Fiscal Year and (ii) 115 percent of the Aggregate Subordinated Debt Service on the Outstanding Subordinated Bonds in such Fiscal Year or (Y) without duplication, (i) 100 percent of the Debt Service Requirement on the Outstanding Electric System Bonds in such Fiscal Year, and any additional amount required to make all reserve or other payments required to be made in such Fiscal Year by the Electric System Resolution and (ii) 100 percent of Aggregate Subordinated Debt Service on the Outstanding Subordinated Bonds in such

Fiscal Year, and any additional amount required to make all other payments required to be made in such Fiscal Year by the Subordinated Electric System Resolution; *provided*, *however*, that for purposes of this paragraph there shall be excluded from the calculation of Aggregate Subordinated Debt Service all Refundable Principal Installments. For purposes of this covenant, Adjusted Net Revenues shall not include any amounts attributable to proceeds from the sale of assets of the Electric System or any proceeds of insurance (other than business interruption insurance). Such rates, fees, rentals or other charges shall not be reduced so as to be insufficient to provide adequate Adjusted Net Revenues for such purposes.

Creations of Liens

JEA will not issue or incur indebtedness, other than the Electric System Bonds and Contract Debts (as defined in the Electric System Resolution), payable from Revenues on a prior basis than payment of Subordinated Bonds. JEA may issue bonds, notes or other evidences of indebtedness that are expressly made subordinate and junior in right of payment to the Subordinated Bonds and for which any pledge of such amounts in the Revenue Fund as may from time to time be available therefor shall be, and shall be expressed to be, subordinate in all respects to the pledge and lien created under the Subordinated Electric System Resolution as security for the Subordinated Bonds.

Sale or Mortgage of the Electric System

JEA will not sell all or substantially all of the physical properties of the Electric System, nor will it create or cause to be created any mortgage or other lien on such properties to secure the repayment of borrowed money or the payment of the deferred purchase price of property. For purposes of this covenant, "substantially all of the physical properties of the Electric System" shall be deemed to mean physical properties of the Electric System having an aggregate depreciated cost of not less than 90 percent of the total depreciated cost of all of the physical properties of the Electric System at the time.

Corporate Reorganization

In the Subordinated Electric System Resolution, JEA reserves the right to effect a reorganization of its corporate structure in any manner whatsoever permitted pursuant to the laws of the State of Florida; *provided* that no such reorganization may be undertaken if the result thereof would adversely affect the security for the Subordinated Bonds provided by the Subordinated Electric System Resolution.

Amendment of Subordinated
Electric System Resolution

The Subordinated Electric System Resolution and the rights and obligations of JEA and of the Holders of the Subordinated Bonds may be amended by a Supplemental Subordinated Resolution with the written consent of the Holders of a majority in principal amount of (i) the Subordinated Bonds affected by such amendment or modification Outstanding at the time such consent is given, and (ii) in case the modification or amendment changes the terms of any Sinking Fund Installment, the Subordinated Bonds of the particular Series and maturity entitled to the benefit of the Sinking Fund Installment and Outstanding at the time such consent is given. No such modification or amendment may (A) permit a change in the terms of redemption or maturity or any installment of interest or a reduction in the principal, Redemption Price or rate of interest thereon without consent of each affected Holder, or (B) reduce the percentages or otherwise affect the classes of Subordinated Bonds the consent of the Holders of which is required to effect any such modification or amendment. For purposes of the foregoing, a Series of Subordinated Bonds shall be deemed to be affected by a modification or amendment of the Subordinated Electric System Resolution if the same adversely affects or diminishes the rights of the Holders of Subordinated Bonds of such Series. JEA may in its discretion determine whether or not in accordance with the foregoing powers of amendment Subordinated Bonds of any particular Series or maturity or any particular Commercial Paper Notes or

Medium-Term Notes would be affected by any modification or amendment of the Subordinated Electric System Resolution and any such determination shall, absent manifest error, be binding and conclusive on JEA and all Holders of Subordinated Bonds. For purposes of the foregoing, a change in the terms of redemption of any Outstanding Subordinated Bond shall be deemed only to affect such Subordinated Bond, and shall be deemed not to affect any other Subordinated Bond. For purposes of the foregoing, the Holders of Subordinated Bonds may include the initial Holders thereof regardless of whether such Subordinated Bonds are being held for subsequent resale. The Subordinated Electric System Resolution provides that, if not in default in respect of any of its obligations with respect to Credit Enhancement for Subordinated Bonds of a Series, or a maturity within a Series, the Credit Enhancer for, and not the actual Holders of, Subordinated Bonds of a Series, or a maturity within a Series, for which such Credit Enhancement is being provided will be deemed to be the Holder of such Subordinated Bonds of any Series, or a maturity within a Series, at all times for the purpose of giving any approval or consent to the effectiveness of any Supplemental Subordinated Resolution or any amendment, change or modification of the Subordinated Electric System Resolution which requires the written approval or consent of Holders, except that the foregoing provisions will not apply to any change in the terms of redemption or maturity of the principal of any Outstanding Subordinated Bond or of any installment of interest thereon or a reduction in the principal amount or the Redemption Price thereof or in the rate of interest thereon, or shall reduce the percentages or otherwise affect the classes of Subordinated Bonds the consent of the Holders of which is required to effect any such modification or amendment, or shall change or modify any of the rights or obligations of any Subordinated Bond Fiduciary without its written assent thereto. See "Action by Credit Enhancer When Action by Holders of Subordinated Bonds Required" herein.

The Supplemental Subordinated Resolutions authorizing JEA's Variable Rate Electric System Subordinated Bonds, 2000 Series A, 2000 Series F-1, 2000 Series F-2 and 2008 Series D (collectively, the "Prior Series Variable Rate Subordinated Electric System Bonds", all of which constitute Variable Rate Subordinated Bonds within the meaning of the Subordinated Electric System Resolution) provide that in the event that JEA shall adopt any Supplemental Subordinated Resolution making any amendment to the Subordinated Electric System Resolution for which the consent of the Holders of the Prior Series Variable Rate Subordinated Electric System Bonds of a particular Series shall be required (hereinafter in this paragraph referred to as an "Amending Resolution"), an Authorized Officer of JEA may deliver to the Tender Agent for the Prior Series Variable Rate Subordinated Electric System Bonds of such Series a certificate requiring that the Prior Series Variable Rate Subordinated Electric System Bonds of such Series be subject to mandatory tender for purchase at the time and in the manner provided in said Supplemental Subordinated Resolutions. Following the date on which such mandatory tender shall occur, all subsequent Holders of the Prior Series Variable Rate Subordinated Electric System Bonds of such Series shall be deemed to have consented to such Amending Resolution, notwithstanding anything to the contrary contained in the Subordinated Electric System Resolution. JEA intends to include this provision in each Supplemental Subordinated Resolution it may adopt in the future authorizing the issuance of any Series of additional Variable Rate Subordinated Bonds.

The Subordinated Electric System Resolution may be amended, without the consent of the Holders of the Subordinated Bonds, upon the delivery of an Opinion of Counsel to the effect that such amendment will not have a material adverse effect on the interests of the Holders of the Outstanding Subordinated Bonds (in rendering such opinion, such counsel may rely on such certifications of (a) any banking or financial institution serving as financial advisors to JEA, as to financial and economic matters, (b) the Consulting Engineer, as to matters within its field of expertise and (c) such other experts, as to matters within their fields of expertise as it, in its reasonable judgment, determines necessary or appropriate), (i) to cure any ambiguity, supply any omission or correct any defect or inconsistent provision in the Subordinated Electric System Resolution; (ii) to insert provisions clarifying the Subordinated Electric System Resolution; or (iii) to make any other modification or amendment of the Subordinated Electric System Resolution which in the reasonable judgment of such counsel will not have a material adverse effect on the interests of the Holders of the Outstanding Subordinated Bonds.

The Subordinated Electric System Resolution provides that in determining whether the interests of the Holders of any Subordinated Bonds are materially adversely affected, such counsel will consider the effect on the Holders of any Subordinated Bonds for which Credit Enhancement has been provided without regard to such Credit Enhancement.

Without the consent of the Holders of the Outstanding Subordinated Bonds, JEA may adopt a Supplemental Subordinated Resolution which (i) closes the Subordinated Electric System Resolution against, or provides additional limitations and restrictions to, the issuance of Subordinated Bonds or other evidences of indebtedness; (ii) adds covenants and agreements of JEA; (iii) adds limitations and restrictions to be observed by JEA; (iv) authorizes Subordinated Bonds of an additional Series; (v) provides for the issuance of Subordinated Bonds in coupon form payable to bearer or in uncertificated form, and determines other matters relative thereto; (vi) confirms any security interest or pledge created by the Subordinated Electric System Resolution; (vii) establishes one or more additional funds or accounts with respect to such Subordinated Bonds of one or more Series as shall be specified in such Supplemental Subordinated Resolution, specifies the purposes to which amounts on deposit in any such fund or account may be applied and, in connection therewith, specifies and determines any matters and things relative thereto; or (viii) makes any modification which is to be effective only after all Subordinated Bonds of each Series Outstanding as of the date of the adoption of such Supplemental Subordinated Resolution cease to be Outstanding.

Defeasance

The pledge of moneys and securities created by the Subordinated Electric System Resolution and all covenants, agreements and other obligations of JEA to the Holders will cease, terminate and become void and be discharged and satisfied whenever all Subordinated Bonds and interest due or to become due thereon are paid in full. If any Subordinated Bonds are paid in full, such Subordinated Bonds shall cease to be entitled to any lien, benefit or security under the Subordinated Electric System Resolution, and all covenants, agreements and obligations of JEA to the Holders of such Subordinated Bonds will cease, terminate and become void and be discharged and satisfied. Subordinated Bonds are deemed to have been paid and are not entitled to the lien, benefit and security of the Subordinated Electric System Resolution whenever the following conditions (or such other conditions as may be set forth in the Supplemental Subordinated Resolution authorizing such Subordinated Bonds) are met: (i) in case any Subordinated Bonds are to be redeemed prior to their maturity, JEA has given to the Escrow Agent therefor instructions to give notice of redemption therefor, (ii) there has been deposited with such Escrow Agent either moneys or Defeasance Securities the principal of and interest on which when due will provide moneys which, together with other moneys, if any, also deposited, will be sufficient to pay when due the principal or Redemption Price, if applicable, and interest due and to become due on such Subordinated Bonds, and (iii) in the event such Subordinated Bonds are not to be redeemed or paid at maturity within the next succeeding 60 days, JEA has given such Escrow Agent instructions to give a notice to the Holders of such Subordinated Bonds that the above deposit has been made and that such Subordinated Bonds are deemed to have been paid and stating the maturity or redemption date upon which moneys are expected to be available for the payment of the principal or Redemption Price, if applicable, on said Subordinated Bonds.

For purposes of determining whether Variable Rate Subordinated Bonds shall be deemed to have been paid prior to the maturity or redemption date thereof, as the case may be, by the deposit of moneys, or Defeasance Securities and moneys, if any, in accordance with the provisions of the Subordinated Electric System Resolution, the interest to come due on such Variable Rate Subordinated Bonds on or prior to the maturity date or redemption date thereof, as the case may be, shall be calculated at the maximum rate permitted by the terms thereof; *provided*, *however*, that if on any date, as a result of such Variable Rate

Subordinated Bonds having borne interest at less than such maximum rate for any period, the total amount of moneys and Defeasance Securities on deposit with the Escrow Agent for the payment of interest on such Variable Rate Subordinated Bonds is in excess of the total amount which would have been required to be deposited with the Escrow Agent on such date in respect of such Variable Rate Subordinated Bonds in order to satisfy the provisions of the Subordinated Electric System Resolution, the Escrow Agent shall, if requested by JEA, pay the amount of such excess to JEA free and clear of any trust, lien or pledge securing the Subordinated Bonds or otherwise existing under the provisions of the Subordinated Electric System Resolution.

Option Subordinated Bonds shall be deemed to have been paid in accordance with the provisions of the Subordinated Electric System Resolution only if, in addition to satisfying the requirements described in clauses (i) and (ii) of the first paragraph hereof, there shall have been deposited with the Escrow Agent moneys in an amount which shall be sufficient to pay when due the maximum amount of principal of and premium, if any, and interest on such Subordinated Bonds which could become payable to the Holders of such Subordinated Bonds upon the exercise of any options provided to the Holders of such Subordinated Bonds; *provided*, *however*, that if, at the time a deposit is made with the Escrow Agent pursuant to provisions of the Subordinated Electric System Resolution, the options originally exercisable by the Holder of an Option Subordinated Bond are no longer exercisable, such Subordinated Bond shall not be considered an Option Subordinated Bond for purposes of this paragraph. If any portion of the moneys deposited with the Escrow Agent for the payment of the principal of and premium, if any, and interest on Option Subordinated Bonds is not required for such purpose the Escrow Agent shall, if requested by JEA, pay the amount of such excess to JEA free and clear of any trust, lien or pledge securing said Subordinated Bonds or otherwise existing under the Subordinated Electric System Resolution.

Events of Default; Remedies

Events of default under the Subordinated Electric System Resolution include (i) failure to pay the principal (including Sinking Fund Installments) or Redemption Price of any Subordinated Bond when due; (ii) failure to pay any installment of interest on any Subordinated Bond when due; (iii) failure by JEA to perform or observe any other covenants or agreements contained in the Subordinated Electric System Resolution or the Subordinated Bonds; or (iv) an Event of Default pursuant to the provisions of the Electric System Resolution. Upon the happening of any such Event of Default the Holders of not less than 25 percent in principal amount of the Subordinated Bonds then Outstanding may declare the principal of and accrued interest on the Subordinated Bonds due and payable (subject to a rescission of such declaration upon the curing of such default before the Subordinated Bonds have matured).

The Subordinated Electric System Resolution provides that, if not in default in respect of any of its obligations with respect to Credit Enhancement for Subordinated Bonds, the Credit Enhancer for, and not the actual Holders of, Subordinated Bonds for which such Credit Enhancement is being provided will be deemed to be the Holder of such Subordinated Bonds at all times for the purposes of giving any approval or consent, exercising any remedies or taking any other actions in respect of the occurrence of an Event of Default. See "Action by Credit Enhancer When Action by Holders of Subordinated Bonds Required" herein.

During the continuance of an Event of Default under the Subordinated Electric System Resolution, JEA shall apply all moneys, securities and funds held or received by JEA with respect to the Subordinated Bonds as follows and in the following order: (i) to the extent required in the Electric System Resolution, to the payment of the interest and principal or redemption price due on the Electric System Bonds and (ii) to the interest and principal or Redemption Price due on the Subordinated Bonds.

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Subordinated Bond Paying Agents

The Subordinated Electric System Resolution requires the appointment by JEA of one or more Paying Agents for the Subordinated Bonds of each Series. Any Paying Agent may resign on 60 days' notice and may at any time be removed with or without cause by JEA. Successor Paying Agents will be appointed by JEA, and will be an officer of JEA, a transfer agent duly registered pursuant to the Securities Exchange Act of 1934, as amended, or a bank, trust company or national banking association having capital stock, surplus and undivided earnings aggregating at least $25,000,000 if there be such an entity willing to accept appointment.

Action by Credit Enhancer When Action by Holders of Subordinated Bonds Required

Except as otherwise provided in a Supplemental Subordinated Resolution authorizing Subordinated Bonds for which Credit Enhancement is being provided, if not in default in respect of any of its obligations with respect to Credit Enhancement for the Subordinated Bonds of a Series, or a maturity within a Series, the Credit Enhancer for, and not the actual Holders of, the Subordinated Bonds of a Series, or a maturity within a Series, for which such Credit Enhancement is being provided, shall be deemed to be the Holder of Subordinated Bonds of any Series, or maturity within a Series, as to which it is the Credit Enhancer at all times for the purpose of (i) giving any approval or consent to the effectiveness of any Supplemental Subordinated Resolution or any amendment, change or modification of the Subordinated Electric System Resolution which requires the written approval or consent of Holders; *provided*, *however*, that the foregoing shall not apply to any change in the terms of redemption or maturity of the principal of any Outstanding Subordinated Bond or of any installment of interest thereon or a reduction in the principal amount or the Redemption Price thereof or in the rate of interest thereon, or shall reduce the percentages or otherwise affect the classes of Subordinated Bonds the consent of the Holders of which is required to effect any such modification or amendment, or shall change or modify any of the rights or obligations of any Fiduciary without its written assent thereto and (ii) giving any approval or consent, exercising any remedies or taking any other action following the occurrence of an Event of Default under the Subordinated Electric System Resolution.

Special Provisions Relating to Capital Appreciation Subordinated Bonds, Deferred Income Subordinated Bonds and Special Subordinated Bonds

The principal and interest portions of the Accreted Value of Capital Appreciation Subordinated Bonds or the Appreciated Value of Deferred Income Subordinated Bonds becoming due at maturity or by virtue of a Sinking Fund Installment shall be included in the calculations of accrued and unpaid and accruing interest or Principal Installments made under the definitions of Subordinated Debt Service, Aggregate Subordinated Debt Service, Accrued Aggregate Subordinated Debt Service and Adjusted Aggregate Subordinated Debt Service only from and after the date (the "Calculation Date") which is one year prior to the date on which such Accreted Value or Appreciated Value, as the case may be, becomes so due, and the principal and interest portions of such Accreted Value or Appreciated Value shall be deemed to accrue in equal daily installments from the Calculation Date to such due date.

For the purposes of (i) receiving payment of the Redemption Price if a Capital Appreciation Subordinated Bond is redeemed prior to maturity, or (ii) receiving payment of a Capital Appreciation Subordinated Bond if the principal of all Subordinated Bonds is declared immediately due and payable following an Event of Default or (iii) computing the principal amount of Subordinated Bonds held by the Holder of a Capital Appreciation Subordinated Bond in giving to JEA any notice, consent, request, or demand pursuant to the Subordinated Electric System Resolution for any purpose whatsoever, the principal amount of a Capital Appreciation Subordinated Bond shall be deemed to be its then current Accreted Value.

For the purposes of (i) receiving payment of the Redemption Price if a Deferred Income Subordinated Bond is redeemed prior to maturity, or (ii) receiving payment of a Deferred Income Subordinated Bond if the principal of all Subordinated Bonds is declared immediately due and payable following an Event of Default or (iii) computing the principal amount of Subordinated Bonds held by the Holder of a Deferred Income Subordinated Bond in giving to JEA any notice, consent, request, or demand pursuant to the Subordinated Electric System Resolution for any purpose whatsoever, the principal amount of a Deferred Income Subordinated Bond shall be deemed to be its then current Appreciated Value.

Except as otherwise provided in the Supplemental Subordinated Resolution authorizing a Series of Special Subordinated Bonds, for the purposes of (i) receiving payment of a Special Subordinated Bond, whether at maturity, upon redemption or if the principal of all Subordinated Bonds is declared immediately due and payable following an Event of Default or (ii) computing the principal amount of Subordinated Bonds held by the Holder of a Special Subordinated Bond in giving to JEA any notice, consent, request, or demand pursuant to the Subordinated Electric System Resolution for any purpose whatsoever, the principal amount of a Special Subordinated Bond shall be deemed to be the actual principal amount that JEA shall owe thereon, which shall equal the aggregate of the amounts advanced to, or on behalf of, JEA in connection with the Subordinated Bonds of the Series or maturity or interest rate within a maturity or the Electric System Bonds of the installment or maturity or interest rate within a maturity for which such Special Subordinated Bond has been issued to evidence JEA's obligation to repay any advances or loans made in respect of the Credit Enhancement or liquidity support provided for such bonds, less any prior repayments thereof.

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APPENDIX D

SUMMARY OF CERTAIN PROVISIONS OF THE FIRST POWER PARK RESOLUTION

The following is a summary of certain provisions of the First Power Park Resolution. The summary does not purport to be a complete description of the terms of the First Power Park Resolution and, accordingly, is qualified by reference thereto and is subject to the full text thereof. Copies of the First Power Park Resolution may be obtained from JEA; *provided* that a reasonable charge may be imposed for the cost of reproduction.

All outstanding Power Park Issue Two Bonds were defeased on January 5, 2018 in connection with the cessation of commercial operations of the Power Park. See "ELECTRIC UTILITY SYSTEM – *ELECTRIC UTILITY FUNCTIONS* – St. John's River Power Park – *Early Termination of Power Park Joint Ownership Agreement*" for additional information. The First Power Park Resolution was discharged and satisfied in accordance with its terms on March 21, 2018.

Definition of Terms

The terms used in this summary shall have the meanings set forth in the definitional section of the First Power Park Resolution, unless such terms are specifically defined in the Annual Disclosure Report to which this summary is attached. Unless the context otherwise requires, words importing the singular number shall include the plural number and vice versa, and words importing persons shall include firms, associations, corporations, districts, agencies and bodies. The term "Power Park Issue Two Bonds" as used in this summary has the same meaning as the term "Power Park Issue Two Bonds" as used in the Annual Disclosure Report to which this summary is attached.

First Power Park Resolution to Constitute Contract

The First Power Park Resolution shall constitute a contract between JEA and the Bondholders, and the pledge and the covenants and agreements made therein shall be for the equal benefit, protection and security of the holders of any and all of the Power Park Issue Two Bonds.

Authorization and Issuance of the Power Park Issue Two Bonds, Additional Bonds, and Refunding Bonds

JEA is authorized to issue from time to time, as provided in the First Power Park Resolution, the Power Park Issue Two Bonds, the aggregate principal amount of which is not limited except as hereinafter described or as may be provided in any Supplemental Resolution or as may be limited by law. The First Power Park Resolution authorizes the acquisition and construction of the Initial Facilities in accordance with the Acts and the Power Park Joint Ownership Agreement and the issuance of an Initial Issue of Power Park Bonds in an aggregate principal amount of not exceeding $1,800,000,000 for the purpose of paying the Cost of Acquisition and Construction of such Initial Facilities. The First Power Park Resolution also authorizes the issuance of Power Park Bonds for the purpose of refunding the Initial Issue of Power Park Bonds.

One or more issues of Additional Bonds may be issued for the purpose of providing funds to complete the construction of the Initial Facilities or for the purpose of paying all or a portion of the Cost of Acquisition and Construction of any Additional Facilities. Further, one or more issues of Refunding Bonds in addition to those described in the previous paragraph may be issued at any time to refund all or any Outstanding Power Park Bonds.

Pledge Effected by the First Power Park Resolution

The Power Park Issue Two Bonds are special obligations of JEA payable from and secured by the funds pledged therefor. The First Power Park Resolution pledges to the Trustee as security for the payment of the principal and Redemption Price of, and interest on, the Power Park Issue Two Bonds in accordance with their terms and the provisions of the First Power Park Resolution, subject only to the provisions of the First Power Park Resolution permitting the application thereof for the purposes and on the terms and conditions set forth in the First Power Park Resolution: (i) the proceeds of sale of the Power Park Issue Two Bonds, (ii) the Revenues and (iii) all Funds and Accounts established by the First Power Park Resolution, including the investments and investment income, if any, thereof. Such proceeds of sale of the Power Park Issue Two Bonds, the Revenues, and the other moneys and securities pledged shall immediately be subject to the lien of the pledge without physical delivery thereof or further act, and the lien of the pledge shall be valid and binding as against all parties having claims of any kind in tort, contract or otherwise against JEA without regard to whether such parties have notice thereof. In any case in which under the provisions of the First Power Park Resolution the Trustee has the right to declare the principal of all Power Park Bonds then Outstanding to be due and payable immediately, or when the Power Park Issue Two Bonds by their terms mature (upon redemption or otherwise) and are not paid, the Trustee, as the pledgee of all the right, title and interest of JEA in and to all payments to be made to JEA under Section Eight of the Power Park Joint Ownership Agreement, may enforce each and every right granted to JEA under the Power Park Joint Ownership Agreement with regard to such payments.

FPL shall have no obligation whatsoever to the Trustee or the Bondholders except and only to the extent and by virtue of the assignment or pledge to the Trustee for the benefit of the Bondholders, as provided in the First Power Park Resolution, by JEA of JEA's right, title and interest in and to the payments required by Section Eight of the Power Park Joint Ownership Agreement.

Nothing contained in the First Power Park Resolution shall be construed to prevent JEA from acquiring, constructing or financing through the issuance of its bonds, notes or other evidences of indebtedness any facilities which do not constitute a part of the System for the purposes of the First Power Park Resolution; *provided* that such bonds, notes or other evidences of indebtedness shall not be payable out of or secured by the Revenues or any Fund or Account held under the First Power Park Resolution and neither the cost of such facilities nor any expenditure in connection therewith or with the financing thereof shall be payable from the Revenues or from any such Fund or Account.

To the extent that other moneys are not available therefor amounts in the Construction Fund shall be applied to the payment of principal of and interest on the Power Park Issue Two Bonds when due.

Establishment of Funds and Application Thereof

The First Power Park Resolution establishes Construction, Revenue, Debt Service, Renewal and Replacement and General Reserve Funds, each such fund to be held by JEA, except for the Debt Service Fund which is held by the Trustee.

(A) ***Construction Fund***. There shall be paid into the Construction Fund the amounts required to be so paid by the provisions of the First Power Park Resolution or any Supplemental Resolution. Amounts in the Construction Fund shall be applied to the Cost of Acquisition and Construction of the Initial Facilities and Additional Facilities either by payment into the Construction and Plant Account established pursuant to the Power Park Joint Ownership Agreement in the amounts and at the times required by the Power Park Joint Ownership Agreement, or pursuant to requisition certificates of JEA. Upon the completion of construction, amounts remaining in the Construction Fund shall be used to fund the Debt Service Reserve Account up to the Debt Service Reserve Requirement, and any balance shall be deposited in the General Reserve Fund for the retirement of Power Park Bonds or, at the option of JEA, applied to payment of the Cost of Acquisition and Construction of any Additional Facilities then under construction; *provided* that if such balance is less than $100,000 such balance may be applied for the purposes of the General Reserve Fund.

(B) ***Revenue Fund***. All Revenues shall be promptly deposited by JEA to the credit of the Revenue Fund. Amounts in the Revenue Fund shall first be used to pay Operation and Maintenance Expenses, including payments pursuant to the Power Park Joint Ownership Agreement to pay or provide for payment of "Costs of Operation" (other than payments of damages awarded pursuant to judgment of any court) and certain "Other Costs," as defined in the Power Park Joint Ownership Agreement. JEA may establish general reserves (not exceeding 30 percent of the annual operation and maintenance budget) in the Revenue Fund for operation and maintenance expenses or the acquisition of fuel inventory or material and supplies inventory.

Thereafter, in each month JEA shall withdraw from the Revenue Fund and deposit in the following funds and accounts in the following order the amounts set forth below:

> (a) in the Debt Service Fund (unless there shall be held in the Debt Service Fund an amount sufficient to pay in full all Outstanding Power Park Bonds), (i) for credit to the Debt Service Account, the Monthly Debt Service Deposit for such month, and (ii) for deposit in the Debt Service Reserve Account, the amount, if any, required for such account to equal the Debt Service Reserve Requirement; and
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> (b) in the Renewal and Replacement Fund, the Monthly Renewal and Replacement Deposit for such month.

After making all of the payments described above for the then current Bond Year JEA shall deposit the remaining balance in the Revenue Fund (other than amounts set aside as reserves) into the General Reserve Fund.

(C) ***Debt Service Fund.*** The Debt Service Fund shall consist of a Debt Service Account and a Debt Service Reserve Account. The Trustee shall pay out of the Debt Service Account to the Paying Agents, on or before the date necessary, the amount necessary for interest and principal installment payments, including sinking fund installments, and for the payment of interest on any Power Park Bonds to be redeemed. If the amount in the Debt Service Account is less than the amount required to make such payments the Trustee shall apply amounts in the Debt Service Reserve Account to the extent necessary to make good such deficiency.

Pursuant to the First Power Park Resolution, JEA is required to maintain on deposit in the Debt Service Reserve Account on amount equal to the Debt Service Reserve Requirement. "Debt Service Reserve Requirement" is defined in the First Power Park Resolution to mean, as of any date of calculation, an amount equal to the sum of (i) the respective amounts of average annual Debt Service for each of the respective Series of Power Park Bonds Outstanding other than Series of Power Park Bonds having one or more Designated Maturities, (ii) the respective amounts of average annual Debt Service for each of the Series of Power Park Bonds Outstanding having one or more Designated Maturities, calculated without reference to Power Park Bonds of the Designated Maturities, and (iii) the respective amounts of average annual Debt Service which would accrue on Power Park Bonds of each of the respective Designated Maturities if the Power Park Issue Two Bonds of each of such Designated Maturities were amortized over either (A) the period commencing on the Date of Issuance of such Power Park Bonds and ending on the October 1 on, or immediately preceding, the twenty-fifth anniversary of the Date of Issuance of such Power Park Bonds, or (B) the period commencing the Date of Issuance of such Power Park Bonds and ending on the October 1 on, or immediately preceding, the thirtieth anniversary of the Date of Issuance of the initial Series of the Initial Issue, whichever is the shorter period, at the rate of interest borne by such Power Park

Bonds so as to provide Debt Service in each Bond Year during such period as near to equal as possible. The determination of the respective amounts of average annual Debt Service under each of clauses (i), (ii) and (iii) of the preceding sentence shall be made on a Bond Year basis as of the Date of Issuance of the Power Park Issue Two Bonds of the Series with respect to which the determination is made. Any amounts in the Debt Service Reserve Account in excess of the Debt Service Reserve Requirement shall be deposited into the Revenue Fund. In the case of the refunding and defeasance of any Power Park Bonds, the Trustee shall, upon the direction of JEA, withdraw from the Debt Service Reserve Account amounts accumulated therein with respect to the Power Park Issue Two Bonds being refunded and deposit such amounts with itself as trustee to be held for the payment of the principal or redemption price, if applicable, and interest on the Power Park Issue Two Bonds being refunded; *provided* that such withdrawal shall not be made unless (a) immediately thereafter the Power Park Issue Two Bonds being refunded shall be deemed to have been paid pursuant to subsection 2 of Section 1201 of the First Power Park Resolution and (b) the amount remaining in the Debt Service Reserve Account after such withdrawal shall not be less than the Debt Service Reserve Requirement.

(D) Renewal and Replacement Fund. Amounts in this Fund shall be applied to the cost of emergency capital repairs, emergency maintenance expenses, and renewals, replacements, additions, betterments or improvements with respect to the System and of a type not recurring annually or at shorter intervals or necessary to keep the same in good operating condition or to prevent a loss of Revenues, or required by any governmental agency, or to the costs of decommissionings and disposals or retirements with respect to the System. If at any time the amount in the Debt Service Account shall be less than the amount necessary for the purposes thereof or the amount in the Debt Service Reserve Account shall be less than the Debt Service Reserve Requirement, and there is not on deposit in the General Reserve Fund available money sufficient to cure such deficiency, then upon requisition by the Trustee JEA shall transfer moneys from the Renewal and Replacement Fund to make up such deficiency. Amounts in the Renewal and Replacement Fund in excess of the Renewal and Replacement Requirement and not needed for purposes of the prior sentence shall be deposited in the General Reserve Fund.

(E) General Reserve Fund. Amounts in the General Reserve Fund shall be applied to make up any deficiencies in the Debt Service Account and the Debt Service Reserve Account and in the payments required to be made into the Renewal and Replacement Fund. Thereafter, amounts remaining in the General Reserve Fund shall, upon the determination of JEA, be applied to or set aside for any one or more of the following: (i) the purchase or redemption of Power Park Bonds, (ii) payment of Operation and Maintenance Expenses or establishment of reserves therefor, (iii) payment into the Construction Fund for application to the purposes thereof, (iv) transfers to the Renewal and Replacement Fund for application to the purposes thereof, or (v) for any other lawful purpose of JEA.

As of the end of each Bond Year, amounts remaining in the General Reserve Fund may be paid over to FPL and to the Electric System. Such amounts paid over to the Electric System may then be available for any lawful purpose including payment in the succeeding Bond Year of amounts due from the Electric System under the First Power Park Resolution. In certain years, the amounts (if any) transferred from the General Reserve Fund to the Electric System may be less than the amounts available to be transferred. In accordance with the First Power Park Resolution, any amount not so transferred may be transferred from the General Reserve Fund to the Electric System in any succeeding Fiscal Year.

Deposits and Investments

All moneys deposited under the provisions of the First Power Park Resolution with the Trustee or any Depositary shall be held in trust and be applied only in accordance with the provisions of the First Power Park Resolution, and each of the funds and accounts established by the First Power Park Resolution shall be a trust fund for the purposes thereof.

Moneys held in the Debt Service Fund shall be invested and reinvested by the Trustee in accordance with instructions received from any authorized officer of JEA, and moneys in the Construction Fund, the Revenue Fund, the Renewal and Replacement Fund and the General Reserve Fund may be invested and reinvested by JEA, in specified types of investment securities which mature not later than such times as shall be necessary to provide moneys when needed for the payments to be made from such Funds, and in the case of the Debt Service Reserve Account maturing not later than 15 years but prior to the final maturity date of the Power Park Issue Two Bonds, and in the case of the Renewal and Replacement Fund and the General Reserve Fund maturing within 5 years, but not later than required to provide moneys when needed for payments to be made from such Funds. Interest on such investments (other than investments in the Construction Fund) shall be paid to the Revenue Fund; *provided* that during construction of the System JEA shall direct that such interest be paid into the Revenue Fund or the appropriate separate account in Construction Fund. Interest earned on investments in a separate account in the Construction Fund shall be held in such account for the purposes thereof. Any profit or loss realized from the investment of moneys in any fund or account shall be credited or debited to such fund or account. In computing the amount in any fund for any purpose provided in the First Power Park Resolution obligations purchased as an investment of moneys shall be valued at the amortized cost of such obligations, determined as of October 1 in each year.

Additional Power Park Bonds

JEA may issue one or more issues of additional Power Park Bonds for the purpose of providing funds to pay all or a portion of the Cost of Acquisition and Construction of any Additional Facilities. JEA may also issue refunding Power Park Bonds to refund outstanding Power Park Bonds. Any additional Power Park Bonds or refunding Power Park Bonds will be entitled to a lien on the Revenues and other funds pledged pursuant to the First Power Park Resolution equal to the lien of the outstanding Power Park Bonds. Set forth below are certain conditions applicable to the issuance of additional Power Park Bonds:

> **Debt Service Reserve.** The issuance of additional Power Park Bonds is conditioned upon the deposit in the Debt Service Reserve Account in the Debt Service Fund established under the First Power Park Resolution of the amount, if any, necessary so that the balance in such account equals the Debt Service Reserve Requirement calculated immediately after the delivery of such Power Park Bonds.
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> **No Default.** In addition, the Power Park Issue Two Bonds of any series may be issued only if JEA certifies that upon the issuance of such series JEA will not be in default in the performance of any of the covenants, conditions, agreements or provisions contained in the First Power Park Resolution.

Particular Covenants of JEA

Power to Fix and Collect Rates

JEA has good right and lawful power to construct, reconstruct, improve, maintain, operate and repair the System and to fix, establish, maintain and collect rates, fees and charges with respect to the use of the capability of and sale of the output, capacity, use or service of the System, subject to the terms of the Power Park Joint Ownership Agreement.

Acquisition and Construction of the System and its Operation and Maintenance

JEA shall use its best efforts to acquire and construct the System in accordance with the plans and specifications therefor with due diligence and in a sound and economical manner, all subject to the provisions of the Power Park Joint Ownership Agreement. JEA shall at all times use its best efforts to operate the System properly and in an efficient and economical manner consistent with good business and utility operating practice and shall use its best efforts to maintain, preserve, reconstruct and keep the System in good repair, working order and condition and shall from time to time make or use its best efforts to cause to be made all necessary and proper repairs, replacements and renewals so that at all times the operation of the System may be properly and advantageously conducted, all subject to the provisions of the Power Park Joint Ownership Agreement.

Creation of Liens; Sale and Lease of Property

JEA shall not issue any bonds, notes, or other evidences or indebtedness of a similar nature, other than Power Park Bonds, payable out of or secured by a security interest in or pledge of the Revenues or other moneys, securities or funds held or set aside by JEA or by the Fiduciaries under the First Power Park Resolution and shall not create or cause to be created any lien or charge on the Revenues or such moneys, securities or funds, except for the issuance of bond anticipation notes as permitted by the First Power Park Resolution.

No part of the System shall be sold, mortgaged, leased or otherwise disposed of except that (a) JEA may sell or exchange any property or facilities (i) of fair market value not in excess of 1/10 of 1 percent of the then current accumulated Cost of Acquisition and Construction if JEA shall determine that such properties are no longer useful in the operation of this System, or (ii) if such property or facilities are of fair market value greater than 1/10 of 1 percent of the then current accumulated Cost of Acquisition and Construction and the Consulting Engineer shall certify that the sale or exchange of such property or facilities will not impair the ability of JEA to comply during the then current or any future year with the rate covenant hereinafter described, and (b) JEA may sell, lease or otherwise dispose of, or grant easements or other rights with respect to, any part of the System to the extent required by the Power Park Joint Ownership Agreement or may, under certain conditions, lease or make contracts or grant licenses for the operation of, or make arrangements for the use of, any part of the System.

Rate Covenant

1. JEA shall at all times fix, establish, maintain, charge and collect rates, fees and charges for the sale of the output, capacity, use or service of the System which shall be sufficient to provide Net Revenues in each Bond Year which shall be the greater of (i) 125 percent of the Aggregate Debt Service for such Bond Year, and (ii) the amount which, together with other available funds, shall be sufficient for the payment of:

(a) Aggregate Debt Service for such Bond Year;

(b) the amount, if any, to be paid during such Bond Year into the Debt Service Reserve Account in the Debt Service Fund (other than amounts required to be paid into such Account out of the proceeds of Power Park Bonds);

(c) the amount to be paid during such Bond Year into the Renewal and Replacement Fund (other than amounts required to be paid into such Account out of the proceeds of the Power Park Issue Two Bonds);

(d) all other direct and indirect costs of operating and maintaining the System, if any, which are not Operation and Maintenance Expenses but which are required to be paid by JEA under the Power Park Joint Ownership Agreement, including but not limited to (1) all costs, expenses, liabilities and charges which constitute "Costs of Operation" under the Power Park Joint Ownership Agreement and (2) all losses, costs, damages and expenses payable by JEA to FPL under Section 13.6 of the Power Park Joint Ownership Agreement; and

(e) all other charges or liens (other than Operation and Maintenance Expenses and Costs of Acquisition and Construction of the Initial Facilities or any Additional Facilities) whatsoever payable out of Revenues during such Bond Year, including payments of damages awarded pursuant to judgment of any court and not covered by (d) above.

Section Eight of the Power Park Joint Ownership Agreement establishes charges to FPL, and Section 713 of the First Power Park Resolution establishes charges to JEA for the account of the Electric System, for the output, capacity, use and service of the System which are due on such dates and in such aggregate amounts as shall be sufficient to provide Net Revenues in each Bond Year sufficient to comply with the first paragraph of this subsection. However, the respective obligations of FPL and of JEA for the account of the Electric System are several obligations. Payments required to be made by FPL pursuant to Section Eight of the Power Park Joint Ownership Agreement are not subject to any increase to make up for any deficiency in the payments made by JEA from the Electric System into the Revenue Fund pursuant to Section 713 of the First Power Park Resolution. Payments required to be made by JEA from the Electric System into the Revenue Fund pursuant to Section 713 are not subject to any increase to make up for any deficiency in the payments made by FPL pursuant to Section Eight of the Power Park Joint Ownership Agreement except to the extent provided in subsection 3 of Section 713. In the event of any failure by JEA to make the payments from the Electric System into the Revenue Fund required by Section 713, JEA shall use its best efforts to sell to others for the account of the System, at such prices as shall enable JEA to comply with the rate covenant contained in the first paragraph of Section 711, the output, capacity, use or service of the System made available to the Electric System pursuant to Section 713.

2. JEA will not furnish or supply or cause to be furnished or supplied any use, output, capacity or service of the System, free of charge to any person, firm or corporation, public or private, and JEA will to the extent permitted by law enforce the payment of any and all accounts owing to JEA by reason of the ownership and operation of the System by discontinuing such use, output, capacity or service, or by filing suit therefor within 60 days after such accounts are due, or by both such discontinuance and by filing suit.

Allocation to Electric System of Output and Capacity of System; Obligation of Electric System

1. JEA shall allocate to and make available for the account of the Electric System in each year that portion of the output, capacity, use and service of the System which is in excess of the output, capacity, use and service of the System sold to FPL pursuant to Section Eight of the Power Park Joint Ownership Agreement. JEA shall make payments from the Electric System into the Revenue Fund for such output, capacity, use and service of the System at the times and in the amounts which, together with the amounts required to be paid by FPL to JEA (and assuming full and timely payment by FPL) pursuant to Section Eight of the Power Park Joint Ownership Agreement, will provide:

(i) in each month, Revenues equal to:

(a) the Operation and Maintenance Expenses due and payable during such month,

(b) the amount, if any, to be set aside in the Revenue Fund (other than amounts required to be paid into such Fund out of the proceeds of Power Park Bonds) as a general reserve for Operation and Maintenance Expenses or as a reserve for the acquisition of fuel in accordance with the then current annual budget,

(c) the Monthly Debt Service Deposit for such month,

(d) the amount, if any, to be paid during such month into the Debt Service Reserve Account in the Debt Service Fund (other than amounts required to be paid into such Account out of the proceeds of Power Park Bonds),

(e) the Monthly Renewal and Replacement Deposit for such month,

(f) all other direct and indirect costs of operating and maintaining the System, if any, which are not payable under subsection 1(i) (a) above, but which are required to be paid by JEA under the Power Park Joint Ownership Agreement, including but not limited to (1) all costs, expenses, liabilities and charges which constitute "Costs of Operation" under the Power Park Joint Ownership Agreement, and (2) all losses, costs, damages and expenses payable to FPL under Section 13.6 of the Power Park Joint Ownership Agreement, and

(g) all other charges or liens (other than Costs of Acquisition and Construction of Initial Facilities or any Additional Facilities) whatsoever payable out of Revenues during such month, including payments of damages awarded pursuant to judgments of any court and not covered by (f) above; and

(ii) in each six-month period ending March 31 and September 30, Net Revenues equal to 125 percent of the Aggregate Debt Service for such period.

2. So long as the Electric System Resolution shall not be satisfied and discharged, all payments described in subsection 1 of this section shall constitute a "Cost of Operation and Maintenance" (as defined in the Electric System Resolution) to be paid directly from the Electric System Revenue Fund under the Electric System Resolution. After the satisfaction and discharge of the Electric System Resolution, JEA shall continue to make such payments from the revenues, income, rents and receipts derived by JEA from the ownership and operation of the Electric System as an operating expense of said Electric System. All such payments from the Electric System shall be made whether or not the System or any part thereof is completed, operable or operating and notwithstanding the suspension, interruption, interference, reduction or curtailment of the output of the System for any reason whatsoever, in whole or in part.

3. In the event of the failure for any reason of FPL to make when due any payment required to be made under Section Eight of the Power Park Joint Ownership Agreement, JEA (i) shall make available for the account of the Electric System that portion of the output, capacity, use or service of the System which shall become available by reason of such failure as the Electric System is able to use and said Electric System shall pay into the Revenue Fund on the same basis as set forth in the first two sentences of subsection 2 above for such portion of such output, capacity, use or service such proportionate amount equal to the proportionate amount required to be paid by FPL under Section Eight of the Power Park Joint Ownership Agreement for such portion of such output, capacity, use or service of the System sold to FPL under Section Eight of the Power Park Joint Ownership Agreement, and (ii) shall use its best efforts to sell to others for the account of the System the remaining portion, if any, of the output, capacity, use or service of the System made available by reason of such failure and not taken for the account of the Electric System.

4. So long as the Electric System Resolution shall not be satisfied and discharged, JEA shall not consent or agree to or permit any amendment or supplement to the Electric System Resolution (other than a supplement thereto to authorize a series of additional parity bonds as permitted by the Electric System Resolution) which will in any manner materially impair or materially adversely affect the

obligation of JEA to pay for the output, capacity, use and service of the System in accordance with Section 713 or the priority of such obligation under the Electric System Resolution or which will in any manner impair or materially adversely affect the rights or security of the Bondholders under the First Power Park Resolution.

5. Except as otherwise described herein, after the satisfaction and discharge of the Electric System Resolution, (i) JEA shall not become liable for any bonds, notes, debentures or other evidences of indebtedness of similar nature payable out of or secured by a pledge of or lien or charge on any of the revenues, income, rents or receipts to be derived by JEA from the ownership or operation of the Electric System which shall rank on a parity with or in priority over the obligation of JEA to pay, from the revenues, income, rents and receipts derived by JEA from the ownership or operation of the Electric System, for the output, capacity, use and service of the System in accordance with Section 713, and (ii) JEA shall not become liable for any obligation under any agreement to purchase or pay for electric power and energy or other goods or services whether or not the same are made available or furnished or any other obligation under which JEA lends credit to or guarantees any debt, claim or other obligation of any other person, firm or corporation which shall rank in priority over the obligation of JEA to pay, from the revenues, income, rents and receipts derived by JEA from the ownership or operation of the Electric System, for the output, capacity, use or service of the System in accordance with Section 713; *provided, however*, that nothing in the foregoing shall prohibit or restrict JEA from establishing one or more other separate bulk power supply utilities or systems pursuant to Chapter 80-513, Laws of Florida, as amended, or any other law, and issuing its bonds therefor as provided in said Chapter 80-513, as amended, or such other law, and from making payments from the revenues, income, rents and receipts derived by JEA from the ownership or operation of the Electric System for the purchase of output, capacity, use or service of any of the facilities of any such separate bulk power supply utility or system, including payments with respect to debt service on such bonds, on a parity with (but not in priority over) the obligation of JEA to pay, from the revenues, income, rents and receipts derived by JEA from the ownership or operation of the Electric System, for the output, capacity, use and service of the System in accordance with Section 713.

Particular Covenants with Respect to the Electric System

Sale or Lease of Property of the Electric System

No part of the Electric System shall be sold, leased, mortgaged or otherwise disposed of except that (a) JEA may sell or exchange any property or facilities of the Electric System determined not to be useful in the operation of the Electric System and, if fair market value exceeds 1 percent of the undepreciated cost of the fixed assets of the Electric System, if in the opinion of the Consulting Engineer such sale or exchange will not impair the ability of JEA to comply with the rate covenant made with respect to the Electric System, and (b) JEA may, under certain conditions, lease or make contracts or grant licenses for the operation of or make arrangements for the use of any part of the Electric System; *provided* that such lease, etc., does not impede the operation of the Electric System or adversely impair the rights of JEA or the rights or security of the Bondholders under the First Power Park Resolution.

Operation and Maintenance and Rate Covenant of the Electric System

JEA shall at all times operate or cause to be operated the Electric System in an efficient and economical manner, consistent with good business and utility operation practices, and shall maintain, preserve, reconstruct and keep or cause the same to be so maintained, preserved, reconstructed and kept, in good repair and working order and condition and shall make all necessary and proper repairs, replacements and renewals so that at all times the operation of the Electric System may be properly and advantageously conducted.

JEA shall at all times fix, establish, maintain, charge and collect fees and other charges for the sale of the output, capacity, use or service of the Electric System as shall be required to provide moneys from the Electric System at least sufficient in each fiscal year with respect to the Electric System for the payment of all charges or liens whatsoever payable out of revenues of the Electric System during such fiscal year, including the obligation of JEA to pay from the Electric System for output, capacity, use or service of the System in accordance with the First Power Park Resolution. At least 6 months prior to the beginning of each fiscal year with respect to the Electric System JEA shall complete a review of its financial condition for the purpose of estimating whether the rates, fees, charges and other income and receipts from the operation of the Electric System will be sufficient to provide all of the payments and meet all other requirements referred to in the prior sentence. If JEA determines that such revenues may not be sufficient, it shall, with the recommendation of a Consulting Engineer qualified as provided in the Electric System Resolution, cause additional revenues to be collected in such following and later years as shall be sufficient to restore the amount of such deficiency at the earliest practical time.

Tax Exempt Status of the Power Park Issue Two Bonds

JEA covenants with the holders of all Power Park Bonds at any time outstanding that it will make no use of the proceeds of any of the Power Park Issue Two Bonds which will cause the Power Park Issue Two Bonds to be arbitrage bonds subject to federal income taxation by reason of Section 103(c) of the Internal Revenue Code of 1954, as amended, and that it will make no sale, lease, disposition or other use of the Initial Facilities or any Additional Facilities or of the output, capacity, use or service of such facilities which will cause the Power Park Issue Two Bonds to be "industrial development bonds" subject to federal income taxation by reason of Section 103(b) of such Code.

Events of Default

If one or more of the following Events of Default shall happen:

(i) if default shall be made in the due and punctual payment of the principal or Redemption Price of any Power Park Bond when and as the same shall become due and payable, whether at maturity or by call for redemption, or otherwise;

(ii) if default shall be made in the due and punctual payment of any installment of interest on any Power Park Bond or the unsatisfied balance of any Sinking Fund Installment therefor (except when such Installment is due on the maturity date of such Power Park Bond), when and as such interest installment or Sinking Fund Installment shall become due and payable and such default shall continue for a period of 30 days;

(iii) if default shall be made by JEA in the performance or observance of any other of the covenants, agreements or conditions on its part in the First Power Park Resolution or in the Power Park Issue Two Bonds contained, and such default shall continue for a period of 60 days after written notice thereof to JEA by the Trustee or to JEA and to the Trustee by the Holders of not less than 10 percent in principal amount of the Power Park Issue Two Bonds Outstanding;

(iv) if there shall occur the dissolution (without a successor being named to assume the rights and obligations) or liquidation of JEA or the filing by JEA of a voluntary petition in bankruptcy, or adjudication of JEA as a bankrupt, or assignment by JEA for the benefit of its creditors, or the entry by JEA into an agreement of composition with its creditors, or the approval by a court of competent jurisdiction of a petition applicable to JEA in any proceeding for its reorganization instituted under the provisions of the

Bankruptcy Code, as amended, or under any similar act in any jurisdiction which may now be in effect or hereafter enacted; or

(v) if an order or decree shall be entered, with the consent or acquiescence of JEA, appointing a receiver or receivers of the System, or any part thereof, or of the rents, fees, charges or other revenues therefrom, or if such order or decree, having been entered without the consent or acquiescence of JEA, shall not be vacated or discharged or stayed within 90 days after the entry thereof;

then, and in each and every such case, so long as such Event of Default shall not have been remedied, unless the principal of all the Power Park Issue Two Bonds shall have already become due and payable, either the Trustee (by notice in writing to JEA), or the Holders of not less than 25 percent in principal amount of the Power Park Issue Two Bonds Outstanding (by notice in writing to JEA and the Trustee), may declare the principal of all the Power Park Issue Two Bonds then Outstanding, and the interest accrued thereon, to be due and payable immediately, and upon any such declaration the same shall become and be immediately due and payable, anything contained to the contrary in the First Power Park Resolution or in any of the Power Park Issue Two Bonds notwithstanding. The right of the Trustee or of the Holders of not less than 25 percent in principal amount of the Power Park Issue Two Bonds to make any such declaration as aforesaid, however, is subject to the condition that if, at any time after such declaration, but before the Power Park Issue Two Bonds shall have matured by their terms, all overdue installments of interest upon the Power Park Issue Two Bonds, together with interest on such overdue installments of interest to the extent permitted by law and the reasonable and proper charges, expenses and liabilities of the Trustee, and all other sums then payable by JEA under the First Power Park Resolution (except the principal of, and interest accrued since the next preceding interest date on, the Power Park Issue Two Bonds due and payable solely by virtue of such declaration) shall either be paid by or for the account of JEA or provision satisfactory to the Trustee shall be made for such payment, and all defaults under the Power Park Issue Two Bonds or under the First Power Park Resolution (other than the payment of principal and interest due and payable solely by reason of such declaration) shall be made good or be secured to the satisfaction of the Trustee or provision deemed by the Trustee to be adequate shall be made therefor, then and in every such case the Holders of 25 percent in principal amount of the Power Park Issue Two Bonds Outstanding, by written notice to JEA and to the Trustee, may rescind such declaration and annul such default in its entirety, or, if the Trustee shall have acted itself, and if there shall not have been theretofore delivered to the Trustee written direction to the contrary by the Holders of 25percent in principal amount of the Power Park Issue Two Bonds Outstanding, then any such declaration shall ipso facto be deemed to be rescinded and any such default shall ipso facto be deemed to be annulled, but no such rescission or annulment shall extend to or affect any subsequent default or impair or exhaust any right or power consequent thereon.

Application of Revenues and Other Moneys Upon Default

If there shall have occurred an unremedied Event of Default JEA shall, upon demand of the Trustee, direct FPL to make payments of the amounts due under the Power Park Joint Ownership Agreement directly to the Trustee, grant to the Trustee the rights and remedies afforded JEA in the Power Park Joint Ownership Agreement, and pay over or cause to be paid to the Trustee all moneys, securities and funds held by JEA under the First Power Park Resolution and all Revenues which are not paid directly to the Trustee as soon as practicable after receipt thereof.

Proceedings Brought by Trustee; Restrictions on Bondholders Actions

If an Event of Default shall happen and shall not have been remedied, the Trustee may, and upon written request of the Holders of not less than 25 percent in principal amount of the Power Park Issue Two Bonds Outstanding shall, proceed to protect and enforce its rights and the rights of the Holders of the Power Park Issue Two Bonds by suit or suits in equity or at law. No Holder of any Power Park Bond shall have the right to institute any suit, action or proceeding at law or in equity for the enforcement of the First Power Park Resolution or for any remedy thereunder unless such Holder shall have previously given to the Trustee written notice of the happening of an Event of Default and the Holders of at least 25 percent in principal amount of the Power Park Issue Two Bonds then Outstanding shall have filed a written request with the Trustee and shall have offered the Trustee reasonable opportunity either to exercise the powers conferred by the First Power Park Resolution and by law or to institute such action, suit or proceeding in the Trustee's own name, and unless such Holder shall have offered to the Trustee adequate security and indemnity against the cost, expenses and liabilities to be incurred thereby and the Trustee shall have refused to comply with such request for a period of 60 days; *provided*, *however*, that nothing in the First Power Park Resolution shall affect or impair the obligation of JEA to pay at the respective dates of maturity and places therein expressed the principal or Redemption Price of the Power Park Issue Two Bonds and interest thereon to the respective Holders thereof, or affect or impair the right of action of any Holder to enforce such payment of his Power Park Bond.

Amendments of the First Power Park Resolution

The First Power Park Resolution may be modified or amended by unanimous consent of the Holders of the Power Park Issue Two Bonds, or, except with regard to the terms of redemption, maturity, interest, principal amount of the redemption price, or consent percentages required, by the written consent of the Holders of at least 60 percent in principal amount of the Power Park Issue Two Bonds Outstanding. Such consent shall be given as provided in Section 1103 of the First Power Park Resolution.

Defeasance

If JEA shall pay or cause to be paid, or there shall otherwise be paid, to the Holders of the Power Park Issue Two Bonds and coupons the principal or Redemption Price, if applicable, and interest due or to become due thereon at the times and in the manner stipulated therein and in the First Power Park Resolution, then the pledge of any Revenues, and other moneys and securities pledged under the First Power Park Resolution and all covenants, agreements and other obligations of JEA to the Bondholders shall thereupon cease, terminate and become void and be discharged and satisfied.

Outstanding Power Park Bonds or coupons or interest installments shall be deemed to be paid within the meaning and for the purpose of the preceding paragraph if (a) moneys for the payment or redemption thereof shall have been set aside and shall be held in trust by the Paying Agents; (b) in the case of any Power Park Bonds to be redeemed on any date prior to their maturity JEA shall have given the Trustee irrevocable instructions in writing to publish notice of redemption of such Power Park Bonds on said date; (c) there shall have been deposited with the Trustee moneys in the amount which shall be sufficient, or certain Investment Securities the principal of and interest on which when due will provide moneys which, together with the moneys if any deposited with the Trustee shall be sufficient to pay when due the principal or Redemption Price, if applicable, and interest due and to become due on said Power Park Bonds on or prior to the redemption date or maturity date thereof as the case may be; and (d) JEA shall have given the Trustee irrevocable instructions to publish a notice to the Bondholders that the deposit required by clause (b) above has been made with the Trustee (if the Power Park Issue Two Bonds are not to be redeemed or paid at maturity within the next 60 days).

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APPENDIX E

SUMMARY OF CERTAIN PROVISIONS OF THE SECOND POWER PARK RESOLUTION

The following is a summary of certain provisions of the Second Power Park Resolution. Summaries of certain definitions contained in the Second Power Park Resolution are set forth below. Other terms defined in the Second Power Park Resolution for which summary definitions are not set forth are indicated by capitalization. The summary does not purport to be a complete description of the terms of the Second Power Park Resolution and, accordingly, is qualified by reference thereto and is subject to the full text thereof.

The Second Power Park Resolution, as heretofore amended, is available for viewing and downloading on JEA's website at https://www.jea.com/About/Investor_Relations/Bonds/. Copies of the Second Power Park Resolution (as so amended) also may be obtained from JEA; *provided* that a reasonable charge may be imposed for the cost of reproduction. The term "Bonds" as used in the Second Power Park Resolution and this summary has the same meaning as the term "Power Park Issue Three Bonds" as used in the Annual Disclosure Report to which this summary is attached.

Definition of Terms

The following are summaries of certain definitions in the Second Power Park Resolution.

Accreted Value shall mean, as of any date of computation with respect to any Capital Appreciation Bond, an amount equal to the principal amount of such Bond plus the interest accrued on such Bond from the date of original issuance of such Bond to the periodic date specified in the Supplemental Resolution authorizing such Capital Appreciation Bond on which interest on such Bond is to be compounded (hereinafter, a "Periodic Compounding Date") next preceding the date of computation or the date of computation if a Periodic Compounding Date, such interest to accrue at the interest rate per annum of the Capital Appreciation Bonds set forth in the Supplemental Resolution authorizing such Bonds, compounded periodically on each Periodic Compounding Date, plus, if such date of computation shall not be a Periodic Compounding Date, a portion of the difference between the Accreted Value as of the immediately preceding Periodic Compounding Date (or the date of original issuance if the date of computation is prior to the first Periodic Compounding Date succeeding the date of original issuance) and the Accreted Value as of the immediately succeeding Periodic Compounding Date, calculated based upon an assumption that, unless otherwise provided in the Supplemental Resolution authorizing such Capital Appreciation Bonds, Accreted Value accrues in equal daily amounts on the basis of a year consisting of twelve 30-day months.

Accrued Aggregate Debt Service shall mean, as of any date of calculation, an amount equal to the sum of the amounts of accrued Debt Service with respect to all Series, calculating the accrued Debt Service with respect to each Series at an amount equal to the sum of (a) interest on the Bonds of such Series accrued and unpaid and to accrue to the end of the then current calendar month, and (b) Principal Installments due and unpaid and that portion of the Principal Installments for such Series next due which would have accrued (if deemed to accrue in the manner set forth in the definition of Debt Service) to the end of such calendar month; *provided*, *however*, that (a) there shall be excluded from the calculation of Accrued Aggregate Debt service any Principal Installments which are Refundable Principal Installments, (b) the principal and interest portions of the Accreted Value of Capital Appreciation Bonds or the Appreciated Value of Deferred Income Bonds shall be included in the calculation of Accrued Aggregate Debt Service at the times and in the manner provided in the Second Power Park Resolution and (c) if the calculation of the Debt Service Reserve Requirement for any separate subaccount in the Debt Service Reserve Account in the Debt Service Fund 2d takes into account Accrued Aggregate Debt Service, then, for purposes of such calculation, Accrued Aggregate Debt Service shall be calculated only with respect to the Bonds of the Series secured thereby.

Additionally Secured Series shall mean a Series of Bonds for which the payment of the principal or sinking fund Redemption Price, if any, of, and interest on, the Bonds of such Series shall be secured, in addition to the pledge created pursuant to the Second Power Park Resolution in favor of all of the Bonds, by amounts on deposit in a separate subaccount to be designated therefor in the Debt Service Reserve Account in the Debt Service Fund 2d.

Aggregate Debt Service for any period shall mean, as of any date of calculation, the sum of the amounts of Debt Service for such period with respect to all Series; *provided*, *however*, that if the calculation of the Debt Service Reserve Requirement for any separate subaccount in the Debt Service Reserve Account in the Debt Service Reserve Fund 2d takes into account Aggregate Debt Service, then, for purposes of such calculation, Aggregate Debt Service shall be calculated only with respect to the Bonds of the Series secured thereby.

Bond Anticipation Notes shall mean notes or other evidences of indebtedness from time to time issued in anticipation of the issuance of Bonds, the proceeds of which have been or are required to be applied to one or more of the purposes for which Bonds may be issued, the payment of which notes is to be made from the proceeds of the Bonds in anticipation of the issuance of which said notes are issued.

Bond Year shall mean the 12-month period commencing on October 1 in any year and ending on September 30 of the following year.

Build America Bonds shall mean any Bonds with respect to which JEA has irrevocably elected, pursuant to Section 54AA(g) of the Code or any similar federal program creating subsidies for municipal borrowers for which JEA qualifies, to receive cash subsidy payments from the U.S. Treasury equal to a portion of the interest payable on such Bonds.

Certified Interest Rate shall mean, as of any date of determination:

(a) with respect to (i) any Commercial Paper Notes or Medium-Term Notes or (ii) any Variable Rate Bonds maturing on a particular date that were, at the date of the original issuance thereof, the subject of a Counsel's Opinion to the effect that the interest thereon is excluded from gross income for federal income tax purposes pursuant to Section 103 of the Code, a rate of interest equal to the lesser of (A) the average of the Variable Rate Tax-Exempt Index for the five years preceding such date of determination and (B) the average rate of interest borne by such Commercial Paper Notes, Medium-Term Notes or Variable Rate Bonds, as the case may be, for the 12 months preceding such date of determination; *provided*, *however*, if such Commercial Paper Notes, Medium-Term Notes or Variable Rate Bonds, as the case may be are then being issued or shall not have been Outstanding for 12 months, then the rate of interest determined pursuant to this clause (a) shall be the rate determined pursuant to the foregoing subclause (A),

(b) with respect to (i) any Commercial Paper Notes or Medium-Term Notes or (ii) any Variable Rate Bonds maturing on a particular date that were not, at the date of the original issuance thereof, the subject of a Counsel's Opinion to the effect that the interest thereon is excluded from gross income for federal income tax purposes pursuant to Section 103 of the Code, a rate of interest equal to the lesser of (A) the average of the Variable Rate Taxable Index for the five years preceding such date of determination and (B) the average rate of interest borne by such Commercial Paper Notes, Medium-Term Notes or Variable Rate Bonds, as the case may be, for the 12 months preceding such date of determination; *provided*, *however*, if such Commercial Paper Notes, Medium-Term Notes or Variable Rate Bonds, as the case may be, are then being issued or shall not have been Outstanding for 12 months, then the rate of interest determined pursuant to this clause (ii) shall be the rate determined pursuant to the foregoing subclause (A); and

(c) for purposes of calculating the Debt Service Reserve Requirement for any particular subaccount in the Debt Service Reserve Account in the Debt Service Fund 2d and with respect to (i) any Commercial Paper Notes or Medium-Term Notes or (ii) any Variable Rate Bonds maturing on a particular date, the interest rate set forth in a certificate of an Authorized Officer of JEA executed on or prior to the date of the initial issuance of such Commercial Paper Notes, Medium-Term Notes or Variable Rate Bonds, as the case may, as determined as follows: a Certified Interest Rate shall be that rate of interest determined by JEA, or a banking or financial institution or financial advisory firm selected by JEA, as the rate of interest such Commercial Paper Notes, Medium-Term Notes or Variable Rate Bonds, as the case may be, would bear if, assuming the same maturity date, terms and provisions (other than interest rate and redemption provisions) as such proposed Commercial Paper Notes, Medium-Term Notes or Variable Rate Bonds, as the case may be, and on the basis of JEA's credit ratings with respect to the Bonds (other than Bonds for which credit enhancement is provided by a third party), such proposed Commercial Paper Notes, Medium-Term Notes or Variable Rate Bonds, as the case may be, were issued at a fixed interest rate.

Commercial Paper Payment Plan shall mean, with respect to any Series of Commercial Paper Notes and as of any time, the then current Commercial Paper Payment Plan for such Notes contained in a certificate of an Authorized Officer of JEA delivered pursuant to the Second Power Park Resolution setting forth the sources of funds expected to be utilized by JEA to pay the principal of and interest on such Commercial Paper Notes or any subsequent certificate of an Authorized Officer of JEA thereafter executed to reflect changes, if any, in the expectations of JEA with respect to the sources of funds to be utilized to pay principal of and interest on such Commercial Paper Notes; *provided*, *however*, that if any Commercial Paper Payment Plan provides for the refunding of any Commercial Paper Note with proceeds of (a) Bonds other than Commercial Paper Note or Medium-Term Notes or (b) Subordinated Indebtedness, in either case, that JEA intends to pay from Revenues, the principal of such Commercial Paper Notes shall, for purposes of the Commercial Paper Payment Plan, be assumed to come due over a period commencing with the due date of the Commercial Paper Note and ending not later than the earlier of (x) the 40th anniversary of the first issuance of Commercial Paper Notes of such Series or (y) the 30th anniversary of the due date of the Commercial Paper Note to be refunded, in installments such that the principal and interest payable on such Commercial Paper Notes in each Fiscal Year in such period will be equal to the principal and interest payable on such Commercial Paper Notes in each other Fiscal Year in such period.

Costs shall mean, with respect to the System, all costs of planning, designing, acquiring, constructing, financing and placing in operation, or retirement or disposal of, the System, including amounts paid to FPL under the Joint Ownership Agreement for any cost or expense which would be Costs if paid or incurred by JEA, and which shall include, but not be limited to, funds for:

(a) acquisition (including acquisition by prepayment) of additional fuel stockpile for the System;

(b) all federal, state and local taxes and payments in lieu of taxes required to be paid under the Joint Ownership Agreement (other than payments in lieu of taxes provided for in Section 9.4.2.2 of the Joint Ownership Agreement) or otherwise legally required to be paid in connection with the acquisition and construction of the System;

(c) all costs relating to claims or judgments arising out of construction or operation of the System;

(d) planning and development costs, engineering fees, contractors' fees, costs of obtaining governmental or regulatory permits, licenses and approvals, costs of real property, labor, materials, equipment, supplies, training and testing costs, insurance premiums, legal and financing costs, administrative and general costs, and all other costs properly allocable to the acquisition and construction of the System and placing the same in operation;

(e) all other costs incurred in connection with, and properly chargeable or attributable to, the acquisition and construction of the System, including "Costs of Construction," "Other Costs" (other than those "Other Costs" which are payable as Operation and Maintenance Expenses), or "Costs of Plant" as defined in the Joint Ownership Agreement;

(f) the costs of any indemnity or surety bonds and premiums on insurance, preliminary investigation and development costs, engineering fees and expenses and contractors' fees and expenses;

(g) the costs of legal and financial advisory fees and expenses, interest and financing costs, including, without limitation, bank commitment and letter of credit fees, bond insurance and indemnity premiums, discounts to the underwriters or other purchasers thereof, amounts required to be paid under any interest rate exchanges or swaps, cash flow exchanges, options, caps, floors or collars, in each case made in connection with the issuance of Bonds, Subordinated Indebtedness or other evidences of indebtedness of JEA relating to the System;

(h) fees and expenses of the Fiduciaries, administration and general overhead expense and costs of keeping accounts and making reports required by the Second Power Park Resolution;

(i) amounts, if any, required by the Second Power Park Resolution to be paid into the Debt Service Fund 2d to provide, among other things, for interest accruing on Bonds and to provide for the Debt Service Reserve Requirement or to be paid into the Revenue Fund 2d or the Renewal and Replacement Fund 2d for any of the respective purposes thereof;

(j) payments when due (whether at maturity of principal or due date of interest or of redemption) upon any indebtedness of JEA issued to finance or refinance any of the foregoing, and all federal, state and local taxes and payments in lieu of taxes in connection with the System or any part thereof; and

(k) working capital and reserves for any of the foregoing, including reimbursements to JEA for any of the above items theretofore paid by or on behalf of JEA.

It is intended that this definition be broadly construed to encompass all costs, expenses and liabilities of JEA related to the System which on the date of the Second Power Park Resolution or in the future shall be permitted to be funded with the proceeds of Bonds pursuant to the provisions of Florida law.

Credit Enhancement shall mean, with respect to the Bonds of a Series, a maturity within a Series or an interest rate within a maturity, an insurance policy, letter of credit, surety bond or any other similar obligation, whereby the issuer thereof becomes unconditionally obligated to pay when due, to the extent not paid by JEA or otherwise, the principal of and interest on such Bonds.

Credit Enhancer shall mean any person or entity which, pursuant to a Supplemental Resolution, is designated as a Credit Enhancer and which provides Credit Enhancement for the Bonds of a Series, a maturity within a Series or an interest rate within a maturity.

Current Interest Commencement Date shall mean, with respect to any particular Deferred Income Bonds, the date specified in the Supplemental Resolution authorizing such Deferred Income Bonds (which date must be prior to the maturity date for such Deferred Income Bonds) after which interest accruing on such Deferred Income Bonds shall be payable periodically on dates specified in such Supplemental Resolution, with the first such payment date being the first such periodic date immediately succeeding such Current Interest Commencement Date.

Debt Service for any period shall mean, as of any date of calculation and with respect to any Series, an amount equal to the sum of (a) interest accruing during such period on Bonds of such Series, except to the extent that such interest is to be paid from deposits into the Debt Service Account in the Debt Service Fund 2d made from the proceeds of Bonds, Subordinated Indebtedness or other evidences of indebtedness of JEA (including amounts, if any, transferred thereto from the Construction Fund 2d); provided, that in the event that the Bonds of any Series (or any portion thereof) shall constitute Build America Bonds, then in respect of the interest payable on Such Bonds, for purposes of this definition, the interest on the Bonds of such series shall be calculated net of the amount of the cash subsidy payments due from the U.S. Treasury. If for whatever reason, JEA no longer receives cash subsidy payments from the U.S. Treasury in respect of the interest payable on such Bonds (other than as a result of the U.S. Treasury reducing a particular payment by offsetting an amount due from JEA to it), for purposes of this definition, the interest on the Bonds of such Series shall be calculated without regard to such subsidy and (b) that portion of each Principal Installment for such Series which would accrue during such period if such Principal Installment were deemed to accrue daily in equal amounts from the next preceding Principal Installment due date for such Series (or, (i) in the case of Bonds other than Reimbursement Obligations, if (A) there shall be no such preceding Principal Installment due date or (B) such preceding Principal Installment due date is more than one year prior to the due date of such Principal Installment, then, from a date one year preceding the due date of such Principal Installment or from the Date of Issuance of Bonds of such Series, whichever date is later, and (ii) in the case of Reimbursement Obligations, in accordance with the terms thereof and the Supplemental Resolution authorizing such Reimbursement Obligations), except to the extent that such Principal Installment is paid or to be paid from the proceeds of Bonds, Subordinated Indebtedness or other evidences of indebtedness of JEA. Such interest and Principal Installments for such Series shall be calculated on the assumption that (i) no Bonds (except for Option Bonds actually tendered for payment prior to the stated maturity thereof and paid, or to be paid, from Revenues) of such Series Outstanding at the date of calculation will cease to be Outstanding except by reason of the payment of each Principal Installment on the due date thereof, (ii) the principal amount of Option Bonds tendered for payment before the stated maturity thereof and paid, or to be paid, from Revenues, shall be deemed to accrue on the date required to be paid pursuant to such tender and (iii) the principal and interest portions of the Accreted Value of Capital Appreciation Bonds or the Appreciated Value of Deferred Income Bonds shall be included in the calculation of Debt Service at the times and in the manner provided in the Second Power Park Resolution; *provided*, *however*, that if the calculation of the Debt Service Reserve Requirement for any separate subaccount in the Debt Service Reserve Account in the Debt Service Fund 2d takes into account Debt Service, then, for purposes of such calculation, Debt Service shall be calculated only with respect to the Bonds of the Series secured thereby.

For the purpose of computing Debt Service (a) for any future period (i) any Variable Rate Bonds, Commercial Paper Notes and Medium-Term Notes Outstanding during such period shall be assumed to bear interest during such period at the greater of (X) the actual rate of interest then borne by such Variable Rate Bonds, Commercial Paper Notes and Medium-Term Notes or (Y) the Certified Interest Rate applicable thereto and, in the case of Commercial Paper Notes and Medium-Term Notes Outstanding, such period shall be assumed to have Principal Installments that come due in accordance with the then current Commercial Paper Payment Plan or Medium-Term Note Payment Plan applicable thereto and (ii) any Option Bonds Outstanding during such period shall be assumed to mature on the stated maturity date thereof and (b) the principal and interest portions of the Accreted Value of Capital Appreciation Bonds or the Appreciated Value of Deferred Income Bonds shall be included in the calculation of Debt Service at the times and in the manner provided in the Second Power Park Resolution.

Notwithstanding anything to the contrary contained in the Second Power Park Resolution, (a) if JEA has in connection with any Bonds entered into a Designated Swap Obligation which provides that, in respect of a notional amount corresponding to the principal amount or issue price of such Bonds, JEA is to pay to a Designated Swap Obligation Provider an amount determined based upon a variable rate of interest and the Designated Swap Obligation Provider is to pay to JEA an amount determined based upon a fixed rate of interest, then, for purposes of calculating Debt Service with respect to such Bonds for purposes of the rate covenant contained in the Second Power Park Resolution, it will be assumed that such Bonds bear interest at a rate equal to the sum of (i) the lesser of (A) the average of the variable rate payable by JEA pursuant to such Designated Swap Obligation for the five years preceding the date of determination (or such lesser period the date of determination if in effect for less than five years), calculating such rate based upon the method, formula or index with respect thereto set forth in such Designated Swap Obligation and (B) the average of the actual rates paid by JEA pursuant to such Designated Swap Obligation for the 12 months preceding such date of determination; *provided, however*, if such Designated Swap Obligation shall not have been in effect for 12 months, then the rate of interest determined pursuant to this clause (i) shall be the rate determined pursuant to the foregoing subclause (A) and (ii) the difference (whether positive or negative) between (A) the fixed rate of interest on such Bonds and (B) the fixed rate of interest payable to JEA pursuant to such Designated Swap Obligation and (b) if JEA has in connection with any Variable Rate Bonds, Commercial Paper Notes or Medium-Term Notes entered into a Designated Swap Obligation which provides that, in respect of a notional amount of such Variable Rate Bonds, Commercial Paper Notes or Medium-Term Notes, as the case may be, JEA is to pay to a Designated Swap Obligation Provider an amount determined based upon a fixed rate of interest and the Designated Swap Obligation Provider is to pay to JEA an amount determined based upon a variable rate of interest, then, for purposes of calculating Debt Service with respect to such Variable Rate Bonds, Commercial Paper Notes or Medium-Term Notes, as the case may be, for purposes of the rate covenant contained in the Second Power Park Resolution, it will be assumed that such Variable Rate Bonds, Commercial Paper Notes or Medium-Term Notes, as the case may be, bear interest at the fixed rate of interest payable by JEA pursuant to such Designated Swap Obligation.

Debt Service Reserve Requirement shall mean, with respect to each separate subaccount in the Debt Service Reserve Account in the Debt Service Fund 2d, unless otherwise specified in the Supplemental Resolution establishing such subaccount, as of any date of calculation, an amount equal to the maximum amount of interest to accrue on the Additionally Secured Series secured thereby during the then current, or any future, Fiscal Year (assuming, for this purpose, that all Additionally Secured Series secured thereby that bear interest at a variable or floating rate shall bear interest during such period at the Certified Interest Rate applicable thereto) excluding interest on such Bonds to be paid from deposits in the Debt Service Account in the Debt Service Fund 2d made from the proceeds of Bonds, Subordinated Indebtedness or other evidences of indebtedness of JEA (including amounts, if any, transferred thereto from the Construction Fund 2d).

For the purpose of the calculation of the Debt Service Reserve Requirement in the event that any Additionally Secured Bonds secured thereby shall constitute Build America Bonds, then until such time, if any, as JEA, for whatever reason, no longer receives cash subsidy payments from the U.S. Treasury in respect of the interest payable on such Bonds (other than as a result of the U.S. Treasury reducing a particular payment by offsetting an amount due from JEA to it), for purposes of this definition, the interest on such Bonds shall be calculated net of the amount of such subsidy; *provided*, *however*, that if at any time the specified percentage of the interest payable on such Bonds represented by such subsidy shall be permanently reduced, then the amount of such Debt Service Reserve Requirement shall be increased to reflect the amount of interest payable on such Bonds that no longer is payable to JEA by the U.S. Treasury, and the amount of such increase shall be required to be funded in equal semiannual installments over a five (5)-year period, with the first such installment becoming due on the first April 1 or October 1 that is at least six (6) months following the date on which such specified percentage is so reduced, except that if at any time from the commencement of such funding, either (x) any of such Bonds shall cease to be Outstanding or (y) the amount of such Debt Service Reserve Requirement shall be reduced for any reason whatsoever, then the obligation of JEA to make deposits during the balance of such period shall be redetermined (taking into account the amount (if any) of such Bonds that remain Outstanding and the amount (if any) of such reduction in such Debt Service Reserve Requirement) and the resulting reduction in the amount required to be deposited to the Initial Subaccount shall be evenly apportioned over the remainder of such five (5)-year period and provided, further, that in the event that JEA, for whatever reason, ceases to receive cash subsidy payments from the U.S. Treasury reducing a particular payment by offsetting an amount due from JEA to it), then the amount of such Debt Service Reserve Requirement shall be increased to reflect the full amount of interest payable on such Bonds, and such increase shall be required to be funded in equal semiannual installments over a five (5)-year period, with the first such installment becoming due on the first April 1 or October 1 that is at least six (6) months following the date on which JEA does not receive the first such cash subsidy payment that it theretofore was qualified to receive, except that if at any time from the commencement of such funding, either (x) any of such Bonds shall cease to be Outstanding or (y) the amount of such Debt Service Reserve Requirement shall be reduced for any reason whatsoever, then the obligation of JEA to make deposits during the balance of such period shall be redetermined (taking into account the amount (if any) of such Bonds that remain Outstanding and the amount (if any) of such reduction in such Debt Service Reserve Requirement) and the resulting reduction in the amount required to be deposited to the Initial Subaccount shall be evenly apportioned over the remainder of such five (5)-year period. Notwithstanding any other provision of this resolution, any one or more installments of any increase in the Debt Service Reserve Requirement with respect to the Initial Subaccount in the Debt Service Reserve Account in the Sinking Fund provided for in the preceding sentence may be prepaid at any time in whole or in part by JEA by designating in JEA's records that such payment(s) is (or are) to be treated as a prepayment.

Defeasance Securities shall mean, unless otherwise provided with respect to the Bonds of a Series in the Supplemental Resolution authorizing such Bonds,

(a) any bonds or other obligations which constitute direct obligations of, or as to principal and interest are unconditionally guaranteed by, the United States of America, including obligations of any of the federal agencies set forth in clause (c) below to the extent unconditionally guaranteed by the United States of America, which shall not be subject to redemption prior to their maturity other than at the option of the holder thereof or as to which an irrevocable notice of redemption of such securities on a specified redemption date has been given and such securities are not otherwise subject to redemption prior to such specified date other than at the option of the holder thereof,

(b) any bonds or other obligations of any state of the United States of America or of any agency, instrumentality or local governmental unit of any such state (i) which are not callable prior to maturity, or which have been duly called for redemption by the obligor on a date or dates specified and as to which irrevocable instructions have been given to a trustee in respect of such bonds or other obligations by the obligor to give due notice of such redemption on such date or dates, which date or dates shall be also specified in such instructions, (ii) which are secured as to principal and interest and redemption premium, if any, by a fund consisting only of cash or bonds or other obligations of the character described in clause (a) above which fund may be applied only to the payment of such principal of and interest and redemption premium, if any, on such bonds or other obligations on the maturity date or dates thereof or the redemption date or dates specified in the irrevocable instructions referred to in subclause (i) of this clause (b), as appropriate, (iii) as to which the principal of and interest on the bonds and obligations of the character described in clause (a) above on deposit in such fund along with any cash on deposit in such fund are sufficient to pay principal of and interest and redemption premium, if any, on the bonds or other obligations described in this clause (b) on the maturity date or dates thereof or on the redemption date or dates specified in the irrevocable instructions referred to in subclause (i) of this clause (b), as appropriate and (iv) which at the time of their purchase under the Second Power Park Resolution are rated "AAA" by Standard & Poor's Credit Market Services, a business of Standard & Poor's Financial Services LLC, a limited liability company, organized and existing under the laws of the State of Delaware ("S&P"), if rated by such agency, and, are rated "Aaa" by Moody's Investors Service ("Moody's"), if rated by such agency,

(c) obligations of any state of the United States of America or any political subdivision thereof or any agency or instrumentality of any state or political subdivision which are not callable for redemption prior to maturity, or which have been duly called for redemption by the obligor on a date or dates specified and as to which irrevocable instructions have been given to a trustee in respect of such obligations by the obligor to give due notice of such redemption on such date or dates, which date or dates shall also be specified in such instructions, and which shall be rated in the highest whole rating category by two nationally recognized rating agencies,

(d) certificates that evidence ownership of the right to payments of principal and/or interest on obligations described in clauses (a) and (c) of this definition provided that such obligations shall be held in trust by a bank or trust company or a national banking association authorized to exercise corporate trust powers and subject to supervision or examination by federal, state, or territorial or District of Columbia authority and having a combined capital, surplus and undivided profits of not less than $50,000,000, or obligations described in the foregoing clause (c), in any such case, which shall not be subject to redemption prior to their maturity other than at the option of the holder thereof or as to which an irrevocable notice of redemption of such obligations on a specified redemption date has been given and such obligations are not otherwise subject to redemption prior to such specified date other than at the option of the holder thereof,

(e) deposits in interest-bearing time deposits or certificates of deposit which shall not be subject to redemption or repayment prior to their maturity or due date other than at the option of the depositor or holder thereof or as to which an irrevocable notice of redemption or repayment of such time deposits or certificates of deposit on a specified redemption or repayment date has been given and such time deposits or certificates of deposit are not otherwise subject to redemption or repayment prior to such specified date other than at the option of the depositor or holder thereof, and which are fully secured by obligations described in clause (a) or clause (b) of this definition to the extent not insured by the Federal Deposit Insurance Corporation,

(f) agreements or contracts with insurance companies or other financial institutions, or subsidiaries or affiliates thereof (hereinafter in this paragraph referred to as "Providers"), (i) whose outstanding unsecured senior indebtedness or claims-paying ability, as the case may be, shall be rated, or who shall have a "financial programs rating" or other equivalent rating, in the highest whole rating category by at least two nationally recognized statistical rating organizations or (ii) whose obligations under such agreements or contracts shall be unconditionally guaranteed by another insurance company or other financial institution, or subsidiary or affiliate thereof, whose outstanding unsecured senior indebtedness or claims-paying ability, as the case may be, shall be rated, or who shall have a "financial programs rating" or other equivalent rating, in the highest whole rating category by at least two nationally recognized statistical rating organizations, pursuant to which agreements or contracts the Provider shall be absolutely, unconditionally and irrevocably obligated to repay the moneys invested by JEA and interest thereon at a guaranteed rate, without any right of recoupment, counterclaim or set off; the Provider may have the right to assign its obligations under any Investment Agreement to any other insurance company or other financial institution, or subsidiary or affiliate thereof; *provided*, *however*, that such assignee also shall be an insurance company or other financial institution, or subsidiary or affiliate thereof, satisfying the requirements set forth in either clause (i) or clause (ii) of the preceding sentence, and

(g) upon compliance with the applicable provisions of the Second Power Park Resolution, such securities (i) as are described in clause (a) of this definition and (ii) as are described in clause (d) of this definition so long as such securities evidence ownership of the right to payments of principal and/or interest on obligations described in clause (a) of such definition, in each case provided that, notwithstanding such clauses, such securities which are subject to redemption prior to maturity at the option of the issuer thereof on a specified date or dates.

Deferred Income Bonds shall mean any Bonds issued under the Second Power Park Resolution as to which interest accruing prior to the Current Interest Commencement Date is (a) compounded periodically on dates specified in the Supplemental Resolution authorizing such Deferred Income Bonds and (b) payable only at the maturity, earlier redemption or other payment thereof pursuant to the Second Power Park Resolution or the Supplemental Resolution authorizing such Deferred Income Bonds.

Designated Swap Obligation shall mean, to the extent from time to time permitted by law, any interest rate swap transaction (a) which is entered into by JEA for the purpose of converting synthetically the interest rate on any particular Bonds from a fixed rate to a variable rate or from a variable rate to a fixed rate (regardless of whether such Designated Swap Obligation shall have a term equal to the remaining term of such Bonds) and (b) which has been designated in a certificate of an Authorized Officer of JEA filed with the records of JEA as such (which certificate shall specify the Bonds with respect to which such Designated Swap Obligation is entered into).

Electric Resolution shall mean the resolution adopted by JEA on March 30, 1982, authorizing the issuance of Electric System Revenue Bonds, as amended.

Electric System shall mean JEA's existing electric generating, transmission and distribution system consisting of the existing generating plants and transmission and distribution lines and facilities together with any and all improvements, extensions and additions thereto hereafter constructed or acquired, and all lands or interests therein, including buildings, machinery, equipment and all property, real or personal, tangible or intangible, now or hereafter owned and constructed or acquired by JEA as part of said existing electric system; such Electric System shall not be deemed to include (a) any facilities or property now or hereafter constructed, owned or operated by JEA as a part of the System or any other bulk power supply system projects or any other separate non-competing electric utility or system which JEA elects to acquire, construct and operate as a separate bulk power supply utility or system, (b) the existing water and sewer system owned by JEA or any additional utility functions hereafter added to such water and sewer system, (c) the district energy system owned by JEA or (d) any properties or interests in properties of JEA (i) which

JEA determines shall not constitute a part of the Electric System for the purpose of the Electric Resolution at the time of the acquisition thereof by JEA or (ii) as to which JEA shall determine by resolution that the exclusion of such properties or interests in properties from the Electric System will not materially impair the ability of JEA to comply during the current or any future Fiscal Year with the provisions of the Electric Resolution.

First Resolution shall mean the St. Johns River Power Park System Revenue Bond Resolution adopted by JEA on March 30, 1982, as from time to time amended or supplemented.

FPL shall mean Florida Power & Light Company, a corporation organized and existing under the laws of the State of Florida.

Highest Rating Category shall mean (a) if the Bonds are rated by a Rating Agency, that each such Rating Agency has assigned a rating in the highest rating category given by that Rating Agency for that general category of security or obligation, and (b) if the Bonds are not rated (and, consequently, there is no Rating Agency), that Standard and Poor's or Moody' s Investor Service has assigned a rating in the highest rating category given by that rating agency for that general category of security or obligation.

Investment Securities shall mean and include each of the following securities, obligations and investments if and to the extent that at the time the same shall be legal for investment of JEA's funds:

(a) any bonds or other obligations which constitute direct obligations of, or as to principal and interest are unconditionally guaranteed by, the United States of America, including obligations of any of the federal agencies set forth in clause (b) below to the extent unconditionally guaranteed by the United States of America;

(b) bonds, debentures, or other evidences of indebtedness issued or guaranteed by any agency or corporation which has been or may hereafter be created pursuant to an Act of Congress as an agency or instrumentality of the United States of America which at the time of their purchase under the Second Power Park Resolution are rated "AAA" by S&P and "Aaa" by Moody's, if rated by both rating agencies, and, if rated by one such rating agency, shall have a rating of "AAA" or "Aaa" by S&P or Moody's, as the case may be;

(c) obligations of any state of the United States of America or any political subdivision thereof or any agency or instrumentality of any state or political subdivision; *provided* that at the time of their purchase under the Second Power Park Resolution such obligations are rated in either of the two highest whole rating categories by two nationally recognized rating agencies;

(d) direct and general obligations of the State of Florida for the payment of the principal of and interest on which the full faith and credit of said State is pledged, or any bonds or other obligations which as to principal and interest are unconditionally guaranteed by the State of Florida;

(e) certificates that evidence ownership of the right to payments of principal and/or interest on obligations described in clauses (a) and (b) of this definition; *provided* that such obligations shall be held in trust by a bank or trust company or a national banking association authorized to exercise corporate trust powers and subject to supervision or examination of federal, state, territorial or District of Columbia authority and having a combined capital, surplus and undivided profits of not less than $50,000,000;

(f) certificates of deposit, whether negotiable or non-negotiable, and banker's acceptances issued by any bank, trust company or national banking association, in each case, having a combined capital, surplus and undivided profits of not less than $100,000,000; *provided* that at the time of their purchase under the Second Power Park Resolution such instruments are (a) rated not lower than the second highest whole rating category by two nationally recognized rating agencies, (b) issued by a bank, trust company or nationally recognized association (1) which bank, trust company or national banking association's deposit obligations have been issued the highest possible rating (giving effect to any refinement or graduation of ratings by a numerical or symbolic modifier or otherwise) by (X) Moody's or S&P or (Y) two nationally recognized rating agencies or (2) which bind, trust company or national banking association has issued and outstanding senior unsecured indebtedness rated not lower than the second highest whole rating category by two nationally recognized rating agencies; *provided* that, if after the purchase of any such certificates of deposit, the ratings thereon or with respect to the issuer thereof, as the case may be, shall fall below the requirements set forth in subclause (a) or (b) of this clause (f), JEA shall sell such certificates of deposit, or (c) fully insured by the Federal Deposit Insurance Corporation or secured, to the extent not insured by the Federal Deposit Insurance Corporation, by such securities as are described in clause (a) of this definition which securities shall at all times have a market value at least equal to the principal amount of such certificates of deposit or banker's acceptances;

(g) commercial paper that, at the date of investment, is rated "P-1" by Moody's and "A-1" by S&P, or if not so rated by both such rating agencies, then rated "P-1" by Moody's or "A-1" by S&P or "F-1" by Fitch Ratings and rated with the highest possible rating (giving effect to any refinement or graduation of ratings with a numerical or symbolic modifier or otherwise) by one other nationally recognized rating agency;

(h) any repurchase agreement with any bank or trust company organized under the laws of any state of the United States of America or any national banking association or government bond dealer reporting to, trading with, and recognized as a primary dealer by the Federal Reserve Bank of New York, which agreement relates to the sale and repurchase of any one or more of the securities described in clauses (a) and (b) above and which, in the judgment of JEA, conforms as to terms and conditions with then prevailing prudent standards in the financial markets;

(i) shares of an investment company organized under the Investment Company Act of 1940, as amended (or successor provision of law), which invests in assets exclusively in obligations of the type described in the other clauses of this definition which shares shall be rated "AA" or above if rated by S&P and "Aa2" or above if rated by Moody's;

(j) interests in the State of Florida Local Government Surplus Funds Trust Fund or other similar common trust fund for which such state, or a constitutional or statutory officer or agency thereof, shall be the custodian; and

(k) any agreements or contracts with insurance companies or other financial institutions, which agreements or contracts (a) shall be rated at the date of investment of such agreements or contracts in the highest whole rating category by two nationally recognized rating agencies, or (b) are issued or entered into by (i) an insurance company whose claims paying ability shall be rated at the date of investment in such agreements or contracts in the highest whole rating category by two nationally recognized rating agencies or (ii) an insurance company or other financial institution that has issued and outstanding senior unsecured indebtedness rated at the date of investment in such agreements or contracts in the highest whole rating category by two nationally recognized rating agencies, and whereby under each such agreement or contract the insurance company or other financial institution shall be absolutely and unconditionally obligated to repay the moneys invested by JEA and interest thereon, without any right of recoupment, counterclaim or set off. Any such agreement or contract may provide that, with the approval of JEA, the insurance company or other financial institution may have the right to assign its obligations under any such agreement or contract to any other insurance company or other financial institution.

Joint Ownership Agreement shall mean (i) the Agreement for Joint Ownership, Construction and Operation of St. Johns River Power Park Coal Units #1 and #2, dated April 2, 1982 between JEA and FPL, as amended and (ii) after the expiration of the term of the agreement described in clause (i), the agreement between JEA and FPL governing the joint ownership and operation of the System designated by JEA's governing board as intended to be treated as the Joint Ownership Agreement within the meaning of the Second Power Park Resolution. References in the Second Power Park Resolution to particular sections of the Joint Ownership Agreement after the agreement referred to in clause (ii) is in effect shall be deemed to be references to the respective sections of such agreement which cover the substance covered in the sections referenced in the Joint Ownership Agreement described in clause (i) above.

Medium-Term Note Payment Plan shall mean, with respect to any Series of Medium-Term Notes and as of any time, the then current Medium-Term Note Payment Plan for such Notes contained in a certificate of an Authorized Officer of JEA delivered pursuant to the Second Power Park Resolution and setting forth the sources of funds expected to be utilized by JEA to pay the principal of and interest on such Medium-Term Notes or any subsequent certificate of an Authorized Officer of JEA thereafter executed to reflect changes, if any, in the expectations of JEA with respect to the sources of funds to be utilized to pay principal of and interest on such Medium-Term Notes; *provided*, *however*, that if any Medium-Term Note Payment Plan provides for the refunding of any Medium-Term Note with proceeds of (a) Bonds other than Commercial Paper Notes or Medium-Term Notes or (b) Subordinated Indebtedness, in either case, that JEA intends to pay from Revenues, the principal of such Medium-Term Notes shall, for purposes of the Medium-Term Note Payment Plan, be assumed to come due over a period commencing with the due date of the Medium-Term Note and ending not later than the earlier of (a) the 40th anniversary of the first issuance of Medium-Term Notes of such Series or (b) the 30th anniversary of the due date of the Medium-Term Note to be refunded, in installments such that the principal and interest payable on such Medium-Term Notes in each Fiscal Year in such period will be equal to the principal and interest payable on such Medium-Term Notes in each other Fiscal Year in such period.

Net Revenues shall mean, for any period, the Revenues during such period, determined on an accrual basis, minus the Operation and Maintenance Expenses during such period, determined on an accrual basis, to the extent paid or to be paid from Revenues.

One-Month LIBOR Rate shall mean, as of any date of determination, the offered rate for deposits in U.S. dollars for a one-month period which appears on the Telerate Page 3750 at approximately 11:00 a.m., London time, on such date, or if such date is not a date on which dealings in U.S. dollars are transacted in the London interbank market, then on the next preceding day on which such dealings were transacted in such market.

Operation and Maintenance Expenses shall mean JEA's current expenses, paid or accrued, of operation, maintenance and repair of the System (but only to the extent not paid by or accrued in respect of "Revenues" under the First Resolution), including administration costs, as calculated in accordance with generally accepted accounting principles, and shall include all Contract Debts. Notwithstanding the foregoing, Operation and Maintenance Expenses shall not include any reserve for renewals or replacements or any allowance for depreciation or amortization and there shall be included in Operation and Maintenance Expenses only that portion of the total administrative, general and other expenses of JEA which are properly allocable to the System.

Option Bonds shall mean Bonds which by their terms may be tendered by and at the option of the Holder thereof for payment by JEA prior to the stated maturity thereof, or the maturities of which may be extended by and at the option of the Holder thereof.

Principal Installment shall mean, as of any date of calculation and with respect to any Series, so long as any Bonds thereof are Outstanding, (a) the principal amount of Bonds (including, in the case of any Option Bond, the principal amount thereof tendered for payment prior to the stated maturity thereof and paid, or to be paid, from Revenues) of such Series due (or so tendered for payment and paid, or to be so paid) on a certain future date for which no Sinking Fund Installments have been established, or (b) the unsatisfied balance (determined as provided in the Second Power Park Resolution) of any Sinking Fund Installments due on a certain future date for Bonds of such Series, plus the amount of the sinking fund redemption premiums, if any, which would be applicable upon redemption of such Bonds on such future date in a principal amount equal to said unsatisfied balance of such Sinking Fund Installments, or (c) if such future dates coincide as to different Bonds of such Series, the sum of such principal amount of Bonds and of such unsatisfied balance of Sinking Fund Installments due on such future date plus such applicable redemption premiums, if any.

Refundable Principal Installment shall mean any Principal Installment for any Series of Bonds which JEA intends to pay with moneys which are not Revenues; *provided* that (a) in the case of Bonds other than Commercial Paper Notes or Medium-Term Notes, such intent shall have been expressed in the Supplemental Resolution authorizing such Series of Bonds, (b) in the case of Commercial Paper Notes, such intent shall be expressed in the then current Commercial Paper Payment Plan for such Commercial Paper Notes and (c) in the case of Medium-Term Notes, such intent shall be expressed in the then current Medium-Term Note Payment Plan for such Medium-Term Notes; *provided, further*, that such Principal Installment shall be a Refundable Principal Installment only through the penultimate day of the month preceding the month in which such Principal Installment comes due or such earlier time as JEA no longer intends to pay such Principal Installment with moneys which are not Revenues.

Reimbursement Obligations shall mean all Bonds issued to evidence JEA's obligation to repay any advances or loans made to, or behalf of, JEA in connection with any Credit Enhancement or liquidity support for the Bonds of a series (or a maturity or maturities or interest rate within a maturity thereof).

Renewal and Replacement Requirement shall mean, (a) if the First Resolution has not been satisfied and discharged, zero and (b) if the First Resolution has been satisfied and discharged, for each Bond Year, 12 1/2 percent of Aggregate Debt Service for such Bond Year or such greater amount as shall be determined from time to time by JEA's governing board as being prudent and appropriate.

Revenues shall mean (a) so long as the First Resolution has not been satisfied and discharged, (i) all payments made by JEA from its Electric System into the Revenue Fund 2d (x) pursuant to the applicable provision in the Second Power Park Resolution and (y) as may be required to comply with the requirements of the Second Power Park Resolution and (ii) amounts received or to be received as described in sub-clause (iii) of clause (b) below and (b) after the First Resolution has been satisfied and discharged, in addition to the payments received pursuant to sub-sub-clause (x) and (y) of sub-clause (i) of clause (a) above, (i) all revenues, income, rents and receipts derived or to be derived by JEA from or attributable or relating to the ownership and operation of the System, including all revenues attributable or relating to the System or to the payment of the costs thereof received or to be received by JEA from FPL under Section Eight of the Joint Ownership Agreement or otherwise payable to it for the sale of the output, capacity, use of service of the System or any part thereof or otherwise with respect to the System, including all payments made by

JEA from its Electric System into the Revenue Fund 2d pursuant to the Second Power Park Resolution, (ii) the proceeds of any insurance covering business interruption loss relating to the System derived or to be derived by JEA and (iii) interest received or to be received on any moneys or securities (other than moneys or securities in the Construction Fund 2d) held pursuant to the Second Power Park Resolution and required to be paid into the Revenue Fund 2d. Revenues shall not include (a) any income, fees, charges, receipts, profits or other moneys derived by JEA from its ownership or operation of the Electric System (except that payments made by JEA into the Revenue Fund 2d from the Electric System pursuant to the Second Power Park Resolution, as referred to in the preceding sentence, shall become Revenues when and to the extent such payments are actually made) or of any other separate bulk power supply utility or system of the nature referred to in the last sentence of the definition of St. Johns River Power Park System below, or (b) any payments by FPL to JEA for transmission service under 6.17 of the Joint Ownership Agreement. Notwithstanding the foregoing, all cash subsidy payments received by JEA from the U.S. Treasury in respect of the interest payable on any Build America Bonds shall not constitute "Revenues" for any purpose of the Resolution.

St. Johns River Power Park System or System shall mean the Initial Facilities and the Additional Facilities. St. Johns River Power Park System or System shall not include JEA's Electric System or any other separate utility or system which JEA elects to acquire, construct and operate as a separate bulk power supply utility or system.

Second Highest Rating Category shall mean (a) if the Bonds are rated by a Rating Agency, that each such Rating Agency has assigned a rating not lower than the second highest rating category (not taking into account numerical or plus or minus or other gradations within a rating category) given by that Rating Agency for that general category of security or obligation and (b) if the Bonds are not rated (and, consequently, there is no Rating Agency), that S&P or Moody's has assigned a rating not lower than the second highest rating category given by that rating agency for that general category of security or obligation.

Trust Estate shall mean (a) the proceeds of the sale of the Bonds, (b) the Revenues, and (c) all Funds and Accounts established by the Second Power Park Resolution (other than the Debt Service Reserve Account in the Debt Service Fund 2d and the Renewal and Replacement Fund 2d), including the investments and investment income, if any, thereof.

U.S. Treasury shall mean the U.S. Treasury or any party designated by the federal government to issue cash subsidy payments on Build America Bonds.

Variable Rate Bond shall mean any Bond not bearing interest throughout its remaining term at a specified rate or specified rates.

Variable Rate Taxable Index shall mean the One-Month LIBOR Rate or, if the One-Month LIBOR Rate no longer shall be available, the Alternate Variable Rate Taxable Index.

Variable Rate Tax-Exempt Index shall mean the BMA Municipal Swap Index or, if the BMA Municipal Swap Index no longer shall be available, the Alternate Variable Rate Tax-Exempt Index.

Pledge

The Bonds are special obligations of JEA payable from and secured by the funds pledged therefor. Pursuant to the Second Power Park Resolution, there is pledged for the payment of the principal and Redemption Price of, and interest on, the Bonds in accordance with their terms and the provisions of the Second Power Park Resolution, subject only to the provisions of the Second Power Park Resolution permitting or requiring the application thereof for the purposes and on the terms and conditions set forth in the Second Power Park Resolution, the Trust Estate.

Pursuant to the Second Power Park Resolution, there are pledged, as additional security for the payment of the principal or sinking fund Redemption Price, if any, of, and interest on, the Bonds of each Additionally Secured Series secured thereby, subject only to the provisions of the Second Power Park Resolution permitting the application thereof for the purposes and on the terms and conditions set forth in the Second Power Park Resolution, amounts on deposit in any separate subaccount established in the Debt Service Reserve Account in the Debt Service Fund 2d, including the investments and investment income, if any, thereof.

Application of Revenues

Revenues are pledged by the Second Power Park Resolution to payment of principal of and interest and redemption premium on the Bonds of all series, subject to the provisions of the Second Power Park Resolution permitting application for other purposes. For application of the Revenues, the Second Power Park Resolution establishes a Construction Fund 2d, Revenue Fund 2d, Debt Service Fund 2d, which shall consist of a Debt Service Account and a Debt Service Reserve Account, and within such Debt Service Reserve Account an Initial Subaccount; Subordinated Indebtedness Fund; Renewal and Replacement Fund 2d and General Reserve Fund 2d; all of such funds are held by JEA; *provided* that if and to the extent provided in a Supplemental Resolution authorizing Subordinated Indebtedness, the Subordinated Indebtedness Fund shall be held by the entity specified in such Supplemental Resolution.

Construction Fund 2d

There shall be paid into the Construction Fund 2d the amounts required to be so paid by the provisions of any Supplemental Resolution and there may be paid into the Construction Fund 2d, at the option of JEA, any moneys received for or in connection with the System by JEA from any other source, unless required to be otherwise applied as provided by the Second Power Park Resolution or the First Resolution. Amounts in the Construction Fund 2d shall be applied to the payment of the Costs of the System in the manner provided in the Second Power Park Resolution or for any other lawful purpose of JEA relating to the System.

The proceeds of insurance maintained pursuant to the Second Power Park Resolution against physical loss of or damage to the System or of contractors' performance bonds or other assurances of completion with respect thereto (all to the extent not required to be paid into an account under the First Resolution or not required to be held and applied under the Joint Ownership Agreement), pertaining to the period of construction or acquisition thereof, shall, upon receipt by JEA, be paid into the Renewal and Replacement Fund 2d.

Amounts in the Construction Fund 2d shall be paid by JEA into the Construction and Plant Account established pursuant to the Joint Ownership Agreement (and referred to in JEA's accounting system as the "Cost of Plant Account") to the extent, in the amounts and at the times required by the Joint Ownership Agreement.

To the extent that other moneys are not available therefor, amounts in the Construction Fund 2d shall be applied to the payment of the principal of and interest on the Bonds when due.

JEA may withdraw amounts from the Construction Fund 2d for the payment of amounts due and owing on account of Costs of the System.

Amounts credited to the Construction Fund 2d which JEA determines at any time to be in excess of the amounts required for the purposes thereof shall be deposited in the Debt Service Reserve Account in the Debt Service Fund 2d, if and to the extent necessary to make the amount in any separate subaccount therein equal to the Debt Service Reserve Requirement related thereto (or, if such excess shall be less than the amount necessary to make up the deficiencies with respect to all of the separate subaccounts in the Debt Service Reserve Account, then such excess shall be applied ratably, in proportion to the deficiency in each such subaccount), and any balance of such excess, upon written determination of an Authorized Officer of JEA, shall be deposited in the Revenue Fund 2d and the excess shall be deposited into the General Reserve Fund 2d; *provided, however*, that the amount of any such deposit to the Revenue Fund 2d shall not constitute or be deemed to constitute Revenues for any purpose of the Second Power Park Resolution.

JEA may permanently discontinue the acquisition or construction of any portion of the System, the Costs of which are at the time being paid out of the Construction Fund 2d, if the Governing Body determines by resolution that such discontinuance is necessary or desirable in the conduct of the business of JEA and not disadvantageous to the Holders of the Bonds.

Revenues and Revenue Fund 2d

Pursuant to the Second Power Park Resolution, all Revenues are to be deposited promptly by JEA to the credit of the Revenue Fund 2d.

After payment of Operation and Maintenance Expenses, the Second Power Park Resolution provides that the Revenue Fund 2d should be applied monthly to the extent available in the following order:

> (a) in the Debt Service Fund 2d, (i) for credit to the Debt Service Account, an amount at least equal to the amount, if any, required so that the balance in said Account shall equal the Accrued Aggregate Debt Service as of the last day of the then current month; *provided* that (A) for the purposes of computing the amount to be deposited in said Account, there shall be excluded from the balance in said Account the amount, if any, set aside in said Account from the proceeds of Bonds, Subordinated Indebtedness or other evidences of indebtedness of JEA (including amounts, if any, transferred thereto from the Construction Fund 2d) for the payment of interest on Bonds less that amount of such proceeds to be applied in accordance with the Second Power Park Resolution to the payment of interest accrued and unpaid and to accrue on Bonds to the last day of the then current calendar month; and (B) any amount deposited into said Account during any month that is in excess of the minimum amount required to be deposited therein during such month may be deemed by JEA to be accumulated therein with respect to (1) any Sinking Fund Installment or (2) any principal amount of Bonds (including, in the case of any Option Bond, the principal amount thereof tendered for payment prior to the stated maturity thereof) due (or so tendered for payment) on a certain future date for which no Sinking Fund Installments have been established or (3) some combination of (1) and (2), and interest thereon; and (ii) thereafter, for deposit in each separate subaccount in the Debt Service Reserve Account, the amount, if any, required so that the balance in each such subaccount shall equal the Debt Service Reserve Requirement related thereto as of the last day of the then current month (or, if the amount on deposit in the Revenue Fund 2d shall not be sufficient to make the deposits required to be made pursuant to this clause (ii) with respect to all of the separate subaccounts in the Debt Service Reserve Account, then such amount on deposit in the Revenue Fund 2d shall be applied ratably, in proportion to the amount necessary for deposit into each such subaccount);

(b) in the Subordinated Indebtedness Fund, an amount at least equal to the amount, if any, as shall be required to be deposited therein in the then current month to pay principal or sinking fund installments of and premiums, if any, and interest on each issue of Subordinated Indebtedness coming due in such month, whether as a result of maturity or prior call for redemption, and to provide reserves therefor and make other payments, as required by the Supplemental Resolution authorizing such issue of Subordinated Indebtedness; and

(c) in the Renewal and Replacement Fund 2d, an amount determined in the discretion of JEA; *provided, however*, that the amount deposited therein in each Fiscal Year shall be at least equal to the Renewal and Replacement Requirement for that Fiscal Year.

The balance of any moneys remaining in the Revenue Fund 2d after the above required payments have been made shall be withdrawn from the Revenue Fund 2d and deposited in the General Reserve Fund 2d (other than amounts set aside therein as a general reserve for Operation and Maintenance Expenses or as a reserve for the acquisition of fuel or materials and supplies inventory); *provided, however,* that none of the remaining moneys shall be used for any purpose other than those specified in this section above unless all current payments, including all deficiencies in prior payments, if any, have been made in full and unless JEA shall have complied fully with all the covenants and provisions of the Second Power Park Resolution.

Notwithstanding the provisions above, so long as there shall be held in the Debt Service Fund 2d an amount sufficient to pay in full all Outstanding Bonds in accordance with their terms (including the maximum amount of principal or applicable sinking fund Redemption Price and interest which could become payable thereon), no deposits shall be required to be made into the Debt Service Fund 2d.

Debt Service Fund 2d -- Debt Service Reserve Account

There shall be established in the Debt Service Reserve Account in the Debt Service Fund 2d one or more separate subaccounts, each of which subaccounts shall be for the benefit and security of one or more Series of Bonds, in the manner and to the extent provided in the Second Power Park Resolution or the Supplemental Resolution establishing such subaccount, as the case may be.

If on any day on which the principal or sinking fund Redemption Price of or interest on the Bonds shall be due the amount on deposit in the Debt Service Account in the Debt Service Fund 2d (exclusive of amounts, if any, set aside in said Account from the proceeds of Bonds, Subordinated Indebtedness or other evidences of indebtedness of JEA (including amounts, if any, transferred thereto from the Construction Fund 2d) for the payment of interest on Bonds on a future date) shall be less than the amount required to pay such principal, Redemption Price or interest, then JEA shall apply amounts from each separate subaccount in the Debt Service Reserve Account to the extent necessary to cure the deficiency that exists with respect to the Additionally Secured Series of the Bonds secured thereby.

Whenever the moneys on deposit in any subaccount established in the Debt Service Reserve Account shall exceed the Debt Service Reserve Requirement related thereto, and after giving effect to any surety bond, insurance policy, letter of credit or other similar obligation that may be credited to such subaccount in accordance with the provisions of the Supplemental Resolution establishing such subaccount or the Second Power Park Resolution, as the case may be, such excess shall be deposited in the Revenue Fund 2d and the balance after all required payments have been made shall be deposited into the General Reserve Fund 2d; *provided, however,* that the amount of any such deposit to the Revenue Fund 2d shall not constitute or be deemed to constitute Revenues for any purpose of the Second Power Park Resolution.

Whenever the amount in the Debt Service Reserve Account, together with the amount in the Debt Service Account, is sufficient to pay in full all Outstanding Bonds in accordance with their terms (including the maximum amount of principal or applicable sinking fund Redemption Price and interest which could become payable thereon), the funds on deposit in the Debt Service Reserve Account shall be transferred to the Debt Service Account. Prior to said transfer, all investments held in the Debt Service Reserve Account shall be liquidated to the extent necessary in order to provide for the timely payment of principal or Redemption Price, if applicable, and interest on the Bonds.

In the event of the refunding or defeasance of any Bonds of an Additionally Secured Series, JEA may withdraw from the separate subaccount in the Debt Service Reserve Account established for the benefit of the Bonds of such Additionally Secured Series all or any portion of the amounts accumulated therein and deposit such amounts with the Escrow Agent for the Bonds being refunded or defeased to be held for the payment of the principal or Redemption Price, if applicable, and interest on the Bonds being refunded or defeased; *provided* that such withdrawal shall not be made unless (a) immediately thereafter the Bonds being refunded or defeased shall be deemed to have been paid pursuant to the Second Power Park Resolution, and (b) the amount remaining in such separate subaccount in the Debt Service Reserve Account, after giving effect to any surety bond, insurance policy, letter of credit or other similar obligation that may be credited to such subaccount in accordance with the provisions of the Supplemental Resolution establishing such subaccount, and after giving effect to the issuance of any obligations being issued to refund any Bonds being refunded and the disposition of the proceeds thereof, shall not be less than the Debt Service Reserve Requirement related thereto. In the event of such refunding or defeasance, JEA may also withdraw from such separate subaccount in the Debt Service Reserve Account all or any portion of the amounts accumulated therein and deposit such amounts in any Fund or Account under the Second Power Park Resolution; *provided* that such withdrawal shall not be made unless items (a) and (b) referred to hereinabove have been satisfied; *provided*, *further*, that, at the time of such withdrawal, there shall exist no deficiency in any Fund or Account held under the Second Power Park Resolution.

In addition to or in lieu of maintaining moneys or investments in a subaccount in the Debt Service Reserve Account JEA, in the Supplemental Resolution or Supplemental Resolutions authorizing the Series of Bonds additionally secured by such subaccount, may provide for the deposit into such subaccount of other available monies of JEA, from the sources and otherwise subject to such limitations as shall be provided in such Supplemental Resolution or Supplemental Resolutions.

Establishment of Initial Subaccount in the Debt Service Reserve Account and Application Thereof

The Second Power Park Resolution establishes an Initial Subaccount in the Debt Service Reserve Account in the Debt Service Fund 2d. Amounts held by JEA in the Initial Subaccount shall constitute a trust fund for the benefit of the Holders of the Bonds of any Series, if and to the extent that the Supplemental Resolution authorizing such Bonds provides that such Bonds shall be additionally secured by amounts on deposit in the Initial Subaccount; *provided*, *however*, that if the Bonds of any Series hereafter issued are to be additionally secured by amounts on deposit in the Initial Subaccount, then it shall be a condition precedent to the authentication and delivery of such Bonds that the amount on deposit in the Initial Subaccount, after giving effect to any surety bond, insurance policy or letter of credit that may be credited to the Initial Subaccount in accordance with the provisions of the Second Power Park Resolution, and after giving effect to the issuance of such Bonds, shall not be less than the Debt Service Reserve Requirement for the Initial Subaccount. The Bonds of any Series that are additionally secured by amounts on deposit in the Initial Subaccount as aforesaid are herein referred to collectively as the "Initial Subaccount Additionally Secured Bonds." As of the date of the Annual Disclosure Report to which this Appendix is attached, the Initial Subaccount secures JEA's Outstanding St. Johns River Power Park Revenue Bonds, Issue Three, Series One, Series Two, Series Four, Series Five, Series Six, Series Seven and Series Eight.

If on any day on which the principal or sinking fund Redemption Price of or interest on the Bonds shall be due the amount on deposit in the Debt Service Account in the Debt Service Fund 2d (exclusive of amounts, if any, set aside in said Account from the proceeds of Bonds, Subordinated Indebtedness or other evidences of indebtedness of JEA (including amounts, if any, transferred thereto from the Construction Fund 2d) for the payment of interest on Bonds on a future date) shall be less than the amount required to pay such principal, Redemption Price or interest, then JEA shall apply amounts from the Initial Subaccount to the extent necessary to cure the deficiency that exists with respect to the Initial Subaccount Additionally Secured Bonds.

In lieu of maintaining moneys or investments in the Initial Subaccount, JEA at any time may cause to be deposited into the Initial Subaccount for the benefit of the Holders of the Initial Subaccount Additionally Secured Bonds an irrevocable surety bond, an insurance policy or a letter of credit (referred to in the Second Power Park Resolution as a "reserve fund credit instrument") satisfying the requirements set forth below in an amount equal to the difference between the Debt Service Reserve Requirement for the Initial Subaccount and the sums of moneys or value of Investment Securities on deposit in the Initial Subaccount, if any, upon provision of such reserve fund credit instrument.

> (a) A surety bond or insurance policy issued by a company licensed to issue an insurance policy guaranteeing the timely payment of debt service on the Initial Subaccount Additionally Secured Bonds (a "municipal bond insurer") may be deposited in the Initial Subaccount to meet the Debt Service Reserve Requirement for the Initial Subaccount if the claims paying ability of the issuer thereof shall be rated in the Highest Rating Category by each Rating Agency.
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> (b) A surety bond or insurance policy issued by an entity other than a municipal bond insurer may be deposited in the Initial Subaccount to meet the Debt Service Reserve Requirement for the Initial Subaccount; *provided* that such entity or its claims paying ability is rated in the Highest Rating Category by each Rating Agency.
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> (c) An unconditional irrevocable letter of credit issued by a bank may be deposited in the Initial Subaccount to meet the Debt Service Reserve Requirement for the Initial Subaccount if the issuer thereof is rated at least the Second Highest Rating Category by each Rating Agency. The letter of credit shall be payable in one or more draws upon presentation by the beneficiary thereof of a sight draft accompanied by its certificate that it then holds insufficient funds to make a required payment of principal or interest on the Initial Subaccount Additionally Secured Bonds. The draws shall be payable within two days of presentation of the sight draft. The letter of credit shall be for a term of not less than three years. The issuer of the letter of credit shall be required to notify JEA and the beneficiary thereof, not later than 30 months prior to the stated expiration date of the letter of credit, as to whether such expiration date shall be extended, and if so, shall indicate the new expiration date.
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> (d) If such notice indicates that the expiration date shall not be extended, JEA shall deposit in the Initial Subaccount an amount sufficient to cause the cash or Investment Securities on deposit in the Initial Subaccount, together with any other qualifying reserve fund credit instruments, to equal the Debt Service Reserve Requirement for the Initial Subaccount, such deposit to be paid in equal installments on at least a semi-annual basis over the remaining term of the letter of credit, unless the reserve fund credit instrument is replaced by a reserve fund credit instrument meeting the requirements in any of clauses (a) through (c) above. The letter of credit shall permit a draw in full not less than two weeks prior to the expiration or termination of such letter of credit if the letter of credit has not been replaced or renewed. The beneficiary of the letter of credit shall draw upon the letter

of credit prior to its expiration or termination unless an acceptable replacement is in place or the Initial Subaccount is fully funded in its required amount.

(e) The use of any reserve fund credit instrument pursuant to the Second Power Park Resolution shall be subject to receipt of an opinion of counsel acceptable to JEA as to the due authorization, execution, delivery and enforceability of such instrument in accordance with its terms, subject to applicable laws affecting creditors' rights generally, and, in the event the issuer of such credit instrument is not a domestic entity, an opinion of foreign counsel. In addition, the use of an irrevocable letter of credit shall be subject to receipt of an opinion of counsel acceptable to JEA and the Credit Enhancer, if any, for the Bonds Additionally Secured by the Initial Subaccount and in form and substance satisfactory to JEA and the Credit Enhancer, if any, for the Bonds Additionally Secured by the Initial Subaccount to the effect that payments under such letter of credit would not constitute avoidable preferences under Section 547 of the U.S. Bankruptcy Code or similar state laws with avoidable preference provisions in the event of the filing of a petition for relief under the U.S. Bankruptcy Code or similar state laws by or against JEA.

(f) The obligation to reimburse the issuer of a reserve fund credit instrument for any fees, expenses, claim or draws upon such reserve fund credit instrument shall be subordinate to the payment of debt service on the Bonds. Subject to the second and third succeeding sentences, the right of the issuer of a reserve fund credit instrument to payment or reimbursement for claims or draws under such reserve fund credit instrument and to payment or reimbursement of its fees and expenses shall be on a parity with the cash replenishment of the Initial Subaccount. The reserve fund credit instrument shall provide for a revolving feature under which the amount available thereunder will be reinstated to the extent of any reimbursement of draws or claims paid. If the revolving feature is suspended or terminated for any reason, the right of the issuer of the reserve fund credit instrument to reimbursement will be subordinated to cash replenishment of the Initial Subaccount to an amount equal to the difference between the full original amount available under the reserve fund credit instrument and the amount then available for further draws or claims. If (i) the issuer of a reserve fund credit instrument becomes insolvent or (ii) the issuer of a reserve fund credit instrument defaults in its payment obligations thereunder or (iii) the claims-paying ability of the issuer of the insurance policy or surety bond falls below the Highest Rating Category (as rated by any Rating Agency) or (iv) the rating of the issuer of the letter of credit falls below the Second Highest Rating Category (as rated by any Rating Agency), the obligation to reimburse the issuer of the reserve fund credit instrument shall be subordinate to the cash replenishment of the Initial Subaccount.

(g) If (i) the revolving reinstatement feature described in the preceding clause (f) is suspended or terminated or (ii) the rating of the claims paying ability of the issuer of the surety bond or insurance policy falls below the Highest Rating Category (as rated by any Rating Agency) or (iii) the rating of the issuer of the letter of credit falls below the Second Highest Rating Category (as rated by any Rating Agency), JEA shall either (X) deposit into the Initial Subaccount an amount sufficient to cause the cash or Investment Securities and any other reserve fund credit instrument then on deposit in the Initial Subaccount to equal the Debt Service Reserve Requirement for the Initial Subaccount, such amount to be paid over the ensuing five years in equal installments deposited at least semi-annually or (Y) replace such instrument with a surety bond, insurance policy or letter of credit meeting the requirements in any of clauses (a) through (c) above within six months of such occurrence. In the event (1) the rating of the claims-paying ability of the issuer of the surety bond or insurance policy falls below "A" or (2) the rating of the issuer of the letter of credit falls below "A" or (3) the issuer of the reserve fund credit instrument defaults in its payment obligations or (4) the issuer of the reserve fund credit instrument becomes insolvent, JEA shall either (X) deposit into the Initial Subaccount an amount sufficient to cause the cash or Investment Securities and any other reserve fund credit instruments on deposit in the Initial Subaccount to equal to Debt Service Reserve Requirement for the Initial Subaccount, such amount to be paid over the ensuing year in equal installments on at least a monthly basis or (Y) replace such instrument with a surety bond, insurance policy or letter of credit meeting the requirements in any of clauses (a) through (c) above within six months of such occurrence.

(h) Where applicable, the amount available for draws or claims under the reserve fund credit instrument may be reduced by the amount of cash or value of Investment Securities deposited in the Initial Subaccount pursuant to clause (X) of the final sentence of the preceding clause (g).

(i) In the event that a reserve fund credit instrument shall be deposited into the Initial Subaccount as aforesaid, any amounts owed by JEA to the issuer of such reserve fund credit instrument as a result of a draw thereon or a claim thereunder, as appropriate, shall be included in any calculation of debt service requirements required to be made pursuant to the Second Power Park Resolution for purposes of the rate covenant contained in the Second Power Park Resolution.

(j) The beneficiary of any reserve fund credit instrument shall ascertain the necessity for a claim or draw upon such reserve fund credit instrument and provide notice timely to the issuer of the reserve fund credit instrument in accordance with its terms in order to receive proceeds thereunder prior to each interest payment date for the Bonds of any Initial Subaccount Additionally Secured Bonds.

(k) Cash on deposit in the Initial Subaccount shall be used (or investments purchased with such cash shall be liquidated and the proceeds applied as required) prior to any drawing on any reserve fund credit instrument. If and to the extent that more than one reserve fund credit instrument is deposited in the Initial Subaccount, drawings thereunder and repayments of costs associated therewith shall be made on a pro rata basis, calculated by reference to the maximum amounts available thereunder.

On April 3, 2007, simultaneously with the issuance of JEA's St. Johns River Power Park System Revenue Bonds, Issue Three, Series One (the "Series One Bonds"), JEA caused XL Capital Assurance Inc. ("XLCA") to issue a debt service reserve insurance policy (the "XLCA Reserve Policy") for deposit to the credit of the Initial Subaccount in the Debt Service Reserve Account in the Debt Service Fund 2d. The XLCA Reserve Policy is in an initial amount equal to $6,396,976.26, is non-cancelable, terminates on October 1, 2037 or earlier retirement of the Series One Bonds, and satisfied the requirements with respect to a reserve fund credit instrument contained in the Second Power Park Resolution at the time of its deposit to the Initial Subaccount. Because of a rating downgrade of XLCA, JEA has made a deposit to the Initial Subaccount in the amount of the XLCA Reserve Policy.

Renewal and Replacement Fund 2d

Amounts in the Renewal and Replacement Fund 2d shall be applied to the Costs of the System, the payment of extraordinary operation and maintenance costs and contingencies and payments with respect to the prevention or correction of any unusual loss or damage in connection with all or part of the System, all to the extent not paid as Operation and Maintenance Expenses or from the proceeds of Bonds, Subordinated Indebtedness or other evidences of indebtedness of JEA. Amounts in the Renewal and Replacement Fund

2d also may be applied (a) to the purchase, redemption, payment or provision for payment of Bonds or Subordinated Indebtedness, or interest thereon or (b) upon determination of the Governing Body, to the payment of the costs of enlargements, extensions, improvements and replacements of capital assets of any other utility system owned and operated by JEA and not constituting a part of the System.

If and to the extent provided in the Supplemental Resolution authorizing Bonds of a Series or Subordinated Indebtedness, amounts from the proceeds of such Bonds or Subordinated Indebtedness may be deposited in the Renewal and Replacement Fund 2d for any purpose of such Fund or may be deposited in the "Renewal and Replacement Fund" established under the First Resolution for any purpose of such Fund.

If at any time the amounts in the Debt Service Account or any separate subaccount in the Debt Service Reserve Account in the Debt Service Fund 2d shall be less than the current requirements of such Account or subaccount, respectively, then JEA shall transfer from the Renewal and Replacement Fund 2d for deposit in the Debt Service Account or such separate subaccount(s) in the Debt Service Reserve Account, as the case may be, the amount necessary to make up such deficiency (or, if the amount in said Fund shall be less than the amount necessary to make up the deficiencies with respect to the Debt Service Account and all of the separate subaccounts in the Debt Service Reserve Account, then the amount in said Fund shall be applied first to make up the deficiency in the Debt Service Account, and any balance remaining shall be applied ratably to make up the deficiencies with respect to the separate subaccounts in the Debt Service Reserve Account, in proportion to the deficiency in each such subaccount).

If at any time the amounts in the Subordinated Indebtedness Fund shall be less than the current requirement of such Fund and the amounts on deposit in the Debt Service Account and each separate subaccount in the Debt Service Reserve Account in the Debt Service Fund 2d shall equal the current requirements of such Account and subaccounts, respectively, and such amounts are not required for the payment of Operation and Maintenance Expenses, then JEA shall transfer from the Renewal and Replacement Fund 2d for deposit in the Subordinated Indebtedness Fund the amount necessary (or all the moneys in the Renewal and Replacement Fund 2d if less than the amount necessary) to make up such deficiency.

General Reserve Fund 2d

JEA shall withdraw from the General Reserve Fund 2d and apply moneys in the following amounts and in the following order of priority: (a) JEA shall pay Operation and Maintenance Expenses due and unpaid, (b) JEA shall deposit in the Debt Service Account and the Debt Service Reserve Account in the Debt Service Fund 2d the amount necessary (or all the moneys in the General Reserve Fund 2d if less than the amount necessary) to make up any deficiencies in said Accounts, and (c) JEA shall deposit in the Renewal and Replacement Fund 2d the amount necessary (or all the moneys in the General Reserve Fund 2d if less than the amount necessary) to make up any deficiencies in payments to such Fund required the Second Power Park Resolution.

Amounts in the General Reserve Fund 2d not required to meet a deficiency or for transfer as required above shall upon determination of JEA be applied to or set aside for any one or more of the following:

(a) the purchase (and delivery to the Bond Registrar for cancellation) or redemption of Bonds and expenses in connection with the purchase or redemption of such Bonds;

(b) payment of any reserves which JEA determines shall be required for such purposes;

(c) transfer to the Renewal and Replacement Fund 2d for application to the purposes of such Fund; and

(d) any other lawful purpose of JEA.

Additional Bonds

JEA may issue one or more series of additional Bonds for any lawful purpose of JEA relating to the System. All such Bonds will be payable from the Trust Estate pledged pursuant to the Second Power Park Resolution and secured thereby on a parity with all other Bonds. In addition, each series of Bonds may be additionally secured by amounts on deposit in a separate subaccount in the Debt Service Reserve Account in the Debt Service Fund 2d established under the Second Power Park Resolution (which may be the Initial Subaccount therein). Set forth below are certain conditions applicable to the issuance of additional Bonds:

> ***Debt Service Reserve.*** If, at JEA's option, any series of additional Bonds is to be additionally secured by amounts on deposit in the Initial Subaccount in the Debt Service Reserve Account in the Debt Service Fund 2d established under the Second Power Park Resolution, the issuance of the additional Bonds of such series is further conditioned upon the deposit to the Initial Subaccount of moneys or reserve fund credit instruments, or a combination thereof, in an amount such that the balance in such Subaccount equals the Debt Service Reserve Requirement for such Subaccount calculated immediately after the delivery of such Bonds.
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> ***No Default.*** In addition, Bonds of any series other than Refunding Bonds may be issued only if JEA certified that upon the issuance of such series JEA will not be in default in the performance of any of the covenants, conditions, agreements or provisions contained in the Second Power Park Resolution.

Subordinated Indebtedness

JEA may, at any time, or from time to time, issue Subordinated Indebtedness for any lawful purpose of JEA related to the System, which Subordinated Indebtedness shall be payable out of, and may be secured by a pledge of, such amounts in the Subordinated Indebtedness Fund as may from time to time be available for the purpose of payment thereof; *provided*, *however*, that any pledge shall be, and shall be expressed to be, subordinate in all respects to the pledge of the Trust Estate created by the Second Power Park Resolution as security for the Bonds.

Investment of Certain Funds

Unless further limited as to maturity by the provisions of a Supplemental Resolution, moneys held in the Funds and Accounts established under the Second Power Park Resolution may be invested and reinvested by JEA in Investment Securities which will provide moneys not later than such times as shall be needed for payments to be made from such Funds and Accounts. In making any investment in any Investment Securities with moneys in any Fund or Account established under the Second Power Park Resolution and held by JEA, JEA may combine such moneys with moneys in any other Fund or Account held by JEA, but solely for purposes of making such investment in such Investment Securities.

Interest (net of that which represents a return of accrued interest paid in connection with the purchase of any investment) earned on any moneys or investments in such Funds and Accounts, other than the Construction Fund 2d, shall be paid into the Revenue Fund 2d. Interest earned on any moneys or investments in the Construction Fund 2d shall be held in such Fund for the purposes thereof or paid into the Revenue Fund 2d.

Nothing contained in the Second Power Park Resolution shall prevent JEA, to the extent permitted by law, from entering into securities lending agreements or bonds borrowed agreements ("lending agreements") with banks which are members of the Federal Deposit Insurance Corporation, having capital stock, surplus and undivided earnings aggregating at least $25,000,000 and government bond dealers recognized as primary dealers by the Federal Reserve Bank of New York, secured by securities, which are obligations described in the definition of Investment Securities; *provided* that each such lending agreement (a) is in commercially reasonable form and is for a commercially reasonable period, and (b) results in a transfer to JEA of legal title to, or a grant to JEA of a prior perfected security interest in, identified securities which are obligations described in the definition of Investment Securities and which are free and clear of any claims by third parties and are segregated in a custodial or trust account held by a third party (other than the borrower) as the agent solely of, or in trust solely for the benefit of, JEA; *provided* that such securities acquired or pledged pursuant to such lending agreements shall have a current market value not less than 102 percent of the market value of the securities loaned by JEA under such agreement. Any Investment Securities loaned by JEA under any such agreement shall be released from the lien of the pledge of the Trust Estate created under the Second Power Park Resolution , but only if all rights of JEA under the lending agreement (including, but not limited to, the monetary obligations to JEA of the bank and/or government bond dealer party to such agreement) and any related collateral agreement and all rights of JEA to the identified securities transferred or pledged to JEA in connection therewith are substituted for the securities loaned, and such rights of JEA are by the Second Power Park Resolution declared to be subject to the lien of the pledge of the Trust Estate created under the Second Power Park Resolution to the same extent that the loaned Investment Securities formerly were subject.

Redemption

In the case of any redemption of Bonds, JEA shall give written notice to the Bond Registrar(s) therefor and the Paying Agents of the redemption date, of the Series, and of the principal amounts of the Bonds of each maturity of such Series and of the Bonds of each interest rate within a maturity to be redeemed (which Series, maturities, interest rates within a maturity and principal amounts thereof to be redeemed shall be determined by JEA in its sole discretion, subject to any limitations with respect thereto contained in the Second Power Park Resolution or any Supplemental Resolution authorizing the Series of which such Bonds are a part). Such notice shall be filed with such Bond Registrars and the Paying Agents for the Bonds to be redeemed at least 40 days prior to the redemption date (or such shorter period (a) as shall be specified in the Supplemental Resolution authorizing the Series of the Bonds to be redeemed or (b) as shall be acceptable to such Bond Registrars and Paying Agents). In the event notice of redemption shall have been given, and unless such notice shall have been revoked or shall cease to be in effect in accordance with the terms thereof, there shall be paid on or prior to the redemption date to the appropriate Paying Agents an amount which, in addition to other moneys, if any, available therefor held by such Paying Agents, will be sufficient to redeem on the redemption date at the Redemption Price thereof, plus interest accrued and unpaid to the redemption date, all of the Bonds to be redeemed.

Covenants as to Rates, Fees and Charges

JEA shall at all times fix, establish, maintain, charge and collect rates, fees and charges for the use or the sale of the output, capacity or service of the System which shall be sufficient to provide Net Revenues in each Bond Year which shall be at least equal to the greater of (a) 115 percent of the Aggregate Debt Service for such Bond Year; *provided*, *however,* that any Principal Installment which is a Refundable Principal Installment may be excluded from Aggregate Debt Service for purposes of the foregoing but only to the extent that JEA intends to pay such Principal Installment from sources other than Revenues, and (b) the amount which, together with other available funds, shall be sufficient for the payment of:

(a) the amount to be paid during such Bond Year into the Debt Service Account in the Debt Service Fund 2d (other than amounts required to be paid into such Account out of the proceeds of Bonds, Subordinated Indebtedness or other evidences of indebtedness of JEA);

(b) the amount, if any, to be paid during such Bond Year into each separate subaccount in the Debt Service Reserve Account in the Debt Service Fund 2d (other than amounts required to be paid into any such subaccount out of the proceeds of Bonds, Subordinated Indebtedness or other evidences of indebtedness of JEA);

(c) the amount, if any, to be paid during such Bond Year into the Subordinated Indebtedness Fund (other than amounts required to be paid into such Fund out of the proceeds of Bonds, Subordinated Indebtedness or other evidences of indebtedness of JEA);

(d) the amount, if any, to be paid during such Bond Year into the Renewal and Replacement Fund 2d (other than amounts required to be paid into such Fund out of the proceeds of Bonds, Subordinated Indebtedness or other evidences of indebtedness of JEA); and

(e) all other charges and liens whatsoever payable out of Revenues during such Bond Year.

The Second Power Park Resolution establishes charges to JEA for the account of the Electric System, for the output, capacity, use and service of the System which are due on such dates and in such aggregate amounts as shall be sufficient to provide Net Revenues in each Bond Year sufficient to comply with the provision above.

JEA will not furnish or supply or cause to be furnished or supplied any use, output, capacity or service of the System free of charge to any person, firm or corporation, public or private.

Certain Other Covenants

Creation of Liens; Sale and Lease of Property. JEA shall not issue any bonds, notes, debentures or other evidences of indebtedness of similar nature, other than the Bonds, payable out of or secured by a security interest in or pledge of the Trust Estate or any portion thereof, any separate subaccount in the Debt Service Reserve Account in the Debt Service Fund 2d or other moneys, securities or funds held or set aside by JEA or by the Fiduciaries under the Second Power Park Resolution and shall not create or cause to be created any lien or charge on the Trust Estate or any portion thereof, any separate subaccount in the Debt Service Reserve Account in the Debt Service Fund 2d or such moneys, securities or funds; *provided, however*, that nothing contained in the Second Power Park Resolution shall prevent JEA from issuing, if and to the extent permitted by law, (a) Bond Anticipation Notes or other evidences of indebtedness payable out of, and which may be secured by a pledge of (i) the proceeds of sale of Bonds or investment income therefrom, or (ii) amounts in the Construction Fund 2d derived from the proceeds of sale of said Bond Anticipation Notes or investment income therefrom as may from time to time be available for payment of such Bond Anticipation Notes or other evidences of indebtedness (including redemption premiums, if any, and interest thereon) as part of the Costs of the System, or (iii) Revenues to be derived on and after such date as the pledge of the Revenues provided in the Second Power Park Resolution shall be discharged and satisfied as provided in the Second Power Park Resolution, or (b) Subordinated Indebtedness.

No part of the System shall be sold, mortgaged, leased or otherwise disposed of, except as follows:

(a) JEA may dispose of, sell or exchange at any time and from time to time any property or facilities constituting part of the System only if (i) JEA shall determine that such property or facilities are not needed or useful in the operation of the System, or (ii) the net book value of the property or facilities disposed of, sold or exchanged is not more than 15 percent of the net book value of the property and facilities of the System, or (iii) there shall be filed with the records of JEA a certificate of the Consulting Engineer stating, in its opinion, that the disposal, sale or exchange of such property or facilities will not materially impair the ability of JEA to comply during the current or any future Fiscal Year with the rate covenant described under "Covenant as to Rates, Fees and Other Charges." The proceeds of any sale or exchange of any property or facilities constituting a part of the System not used to acquire other property necessary or desirable for the safe or efficient operation of the System shall forthwith be deposited in the Revenue Fund 2d; *provided, however*, that the amount of any such deposit to the Revenue Fund 2d shall not constitute or be deemed to constitute Revenues for any purpose of the Second Power Park Resolution;

(b) JEA may lease or make contracts or grant licenses for the operation of, or make arrangements for the use of, or grant easements or other rights with respect to, any part of the System, to the extent required by the Joint Ownership Agreement;

(c) In addition to the Joint Ownership Agreement, JEA may lease or make contracts or grant licenses for the operation of, or make arrangements for the use of, or grant easements or other rights with respect to, any part of the System; *provided* that any such lease, contract, license, arrangement, easement or right (i) does not impede the operation by JEA of the System and (ii) does not in any manner impair or adversely affect the rights or security of the Holders of the Bonds under the Second Power Park Resolution; *provided*, *further*, that if the depreciated cost of the property to be covered by any such lease, contract, license, arrangement, easement or other right is in excess of 15 percent of the then current accumulated Cost of Acquisition and Construction (as defined in the First Resolution) of the System, JEA shall first file with the records of JEA a certificate of an Authorized Officer of JEA to the effect that the action of JEA with respect thereto does not result in a breach of the conditions under this clause (c). Any payments received by JEA under or in connection with any such lease, contract, license, arrangement, easement or right in respect of the System or any part thereof shall constitute Revenues;

(d) JEA may permanently discontinue the acquisition or construction of any portion of the System as provided in the Second Power Park Resolution; and

(e) JEA may acquire by lease or lease purchase additions and improvements to the System. The agreement pursuant to which such lease or lease purchase is made may provide that upon termination of such lease or lease purchase JEA shall be obligated to return the property subject to such lease or lease purchase, or such portion thereof as has not been fully paid for, to the lessor or its designee.

Maintenance of Insurance. JEA shall at all times keep or cause to be kept the properties of the System which are of an insurable nature and of the character usually insured by those operating properties similar to such properties of the System insured against loss or damage by fire and from other causes customarily insured against and in such relative amounts as are usually obtained. JEA shall at all times maintain or cause to be maintained insurance or reserves against loss or damage from such hazards and risks to the person and property of others as are usually insured or reserved against by those operating properties similar to the properties of the System.

JEA shall also use its best efforts to maintain or cause to be maintained any additional or other insurance which it shall deem necessary or advisable to protect its interests and those of the Holders of the Bonds.

Any such insurance shall be in the form of policies or contracts for insurance with insurers of good standing and shall be payable to JEA unless otherwise required by the Joint Ownership Agreement.

Reconstruction; Application of Insurance Proceeds; Condemnation Awards. If any useful portion of the System shall be damaged or destroyed or taken by any governmental authority under the power of eminent domain or otherwise ("Condemnation"), JEA shall, as expeditiously as possible, continuously and diligently prosecute or cause to be prosecuted the reconstruction or replacement thereof, unless there shall be filed with the records of JEA a certificate of an Authorized Officer of JEA setting forth a determination by JEA that, taking into account all relevant facts and circumstances, including, if and to the extent JEA deems appropriate, the advice of the Consulting Engineer as to engineering matters, its attorneys as to legal matters and other consultants and advisors, such reconstruction or replacement is not in the interest of JEA and the Holders of the Bonds or unless it is determined under the provisions under the Joint Ownership Agreement that such reconstruction or replacement is not to be undertaken. Except as provided in the Second Power Park Resolution, the proceeds of any insurance paid or award received on account of such damage, destruction (other than any business interruption loss insurance or insurance proceeds deposited in the Construction Fund 2d pursuant to the Second Power Park Resolution) or Condemnation unless held and applied under the Joint Ownership Agreement shall be held by JEA in a special account and made available for, and to the extent necessary be applied to, the cost of such reconstruction or replacement. Pending such application, such proceeds may be invested by JEA in Investment Securities which mature not later than such times as shall be necessary to provide moneys when needed to pay such costs of reconstruction or replacement. Interest earned on such account or investments shall be deposited in the Revenue Fund 2d. Any such proceeds not applied within 36 months after receipt thereof by JEA to repairing or replacing damaged, destroyed or taken property, or in respect of which notice in writing of intention to apply the same to the work of repairing or replacing the property damaged, destroyed or taken shall not have been filed with the records of JEA within such 36 months, or which JEA shall at any time determine are not to be so applied, unless otherwise applied, shall, unless otherwise applied or to be applied under the Joint Ownership Agreement, upon determination of JEA, be deposited in the Revenue Fund 2d; *provided*, *however*, that the amount of any such deposit to the Revenue Fund 2d shall not constitute or be deemed to constitute Revenues for any purpose of the Second Power Park Resolution. Notwithstanding the foregoing, in the event that payments for any such repairing or replacing of property damaged, destroyed or taken prior to the availability of proceeds of insurance or Condemnation therefor are made from the Renewal and Replacement Fund 2d, or from other funds of JEA not held in any Fund or Account established pursuant to the Second Power Park Resolution, such proceeds when received shall be deposited in the Renewal and Replacement Fund 2d to the extent of such payments therefrom, or shall be paid over to JEA, free and clear of any trust, lien or pledge securing the Bonds or otherwise existing under the Second Power Park Resolution, as appropriate.

If the proceeds of insurance or Condemnation authorized by this Section to be applied to the reconstruction or replacement of any portion of the System are insufficient for such purpose, the deficiency may be supplied out of moneys in the Renewal and Replacement Fund 2d.

The proceeds of business interruption loss insurance, if any, shall be paid into the Revenue Fund 2d unless otherwise required by the First Resolution or the Joint Ownership Agreement.

Joint Ownership Agreement: Enforcement and Amendment. Upon the satisfaction and discharge of the First Resolution, JEA shall collect and forthwith deposit in the Revenue Fund 2d all amounts payable to it pursuant to Section Eight of the Joint Ownership Agreement or otherwise payable to it for the sale of the output, capacity, use or service of the System or any part thereof or otherwise with respect to the

System. JEA shall enforce the provisions of the Joint Ownership Agreement and duly perform its covenants and agreements thereunder.

Allocation to Electric System of Output and Capacity of System; Obligations of Electric System. JEA shall allocate to and make available for the account of the Electric System in each year that portion of the output, capacity, use and service of the System which is in excess of the output, capacity, use and service of the System sold to FPL pursuant to Section Eight of the Joint Ownership Agreement. JEA shall make payments from the Electric System which will provide:

(i) in each month, Revenues equal to:

(a) the Operation and Maintenance Expenses due and payable during such month (but with no duplication for amounts paid therefor pursuant to the First Resolution);

(b) the amount, if any, to be set aside in the Revenue Fund 2d (other than amounts required to be paid into such Fund out of the proceeds of Bonds) as a general reserve for Operation and Maintenance Expenses or as a reserve for the acquisition of fuel in accordance with the then current Annual Budget,

(c) the Monthly Debt Service Deposit for such month,

(d) the amount, if any, to be paid during such month into the Debt Service Reserve Account in the Debt Service Fund 2d (other than amounts required to be paid into such Account out of the proceeds of Bonds),

(e) to the extent not paid into the revenue fund established pursuant to the First Resolution, all other direct and indirect costs of operating and maintaining the System, if any, which are not payable under the Second Power Park Resolution, but which are required to be paid by JEA under the Joint Ownership Agreement, including but not limited to (X) all costs, expenses, liabilities and charges which constitute "Costs of Operation" under the Joint Ownership Agreement and (Y) all losses, costs, damages and expenses payable to FPL under Section 13.6 of the Joint Ownership Agreement, and

(f) all other charges or liens (other than Costs of Acquisition and Construction of Initial Facilities or any Additional Facilities) whatsoever payable out of Revenues during such month, including payments of damages awarded pursuant to judgments of any court; and

During any period in which the Debt Service for any Series of Bonds containing Build America Bonds shall be calculated in the manner provided in the *proviso* contained in clause (i) of the first paragraph of the definition thereof contained in Section 101 hereof, no later than each interest payment date for such Build America Bonds then Outstanding, JEA shall withdraw from the Revenue Fund 2d and transfer to the Debt Service Account in the Debt Service Fund 2d an amount equal to the amount of the cash subsidy payment payable to JEA by the U.S. Treasury in respect of the interest payable on such Build America Bonds on such interest payment date, without regard to any reduction thereto made by the U.S. Treasury for the purpose of offsetting any amount due from JEA to it. Any such cash subsidy payment received by JEA from the U.S. Treasury in respect of the interest payable on any Build America Bonds shall be deposited by JEA upon the receipt thereof in the Revenue Fund 2d, but no such payment shall constitute Revenues for any purpose of the Resolution.

(ii) in each 12-month period ending September 30, the Renewal and Replacement Requirement for such period.

So long as the Electric Resolution shall not be satisfied and discharged, all payments to be made pursuant to the applicable provision of the Second Power Park Resolution shall constitute a "Cost of Operation and Maintenance" (as defined in the Electric Resolution) to be paid directly from the "Revenue Fund" established under the Electric Resolution. After the satisfaction and discharge of the Electric Resolution, JEA shall continue to make such payments from the revenues, income, rents and receipts derived by JEA from the ownership and operation of the Electric System as an operating expense of said Electric System. All such payments from the Electric System shall be made whether or not the System or any part thereof is completed, operable or operating and notwithstanding the suspension, interruption, interference, reduction or curtailment of the output of the System for any reason whatsoever, in whole or in part.

So long as the Electric Resolution shall not be satisfied and discharged, JEA shall not consent or agree to or permit any amendment or supplement to the Electric Resolution (other than a supplement thereto to authorize a series of additional parity bonds as permitted by the Electric Resolution) which will in any manner materially impair or materially adversely affect the obligation of JEA to pay for the output, capacity, use and service of the System in accordance with the Second Power Park Resolution or the priority of such obligation under the Electric Resolution, or which will in any manner impair or materially adversely affect the rights or security of the Holders of the Bonds under the Second Power Park Resolution.

Except as otherwise provided in this paragraph, after the satisfaction and discharge of the Electric Resolution and the satisfaction and discharge of the First Resolution, (i) JEA shall not become liable for any bonds, notes, debentures or other evidences of indebtedness of similar nature payable out of or secured by a pledge of or lien or charge on any of the revenues, income, rents or receipts to be derived by JEA from the ownership or operation of the Electric System which shall rank on a parity with or in priority over the obligation of JEA to pay, from the revenues, income, rents and receipts derived by JEA from the ownership or operation of the Electric System, for the output, capacity, use and service of the System in accordance with the applicable provision in the Second Power Park Resolution, and (ii) JEA shall not become liable for any obligation under any agreement to purchase or pay for electric power and energy or other goods or services whether or not the same are made available or furnished or any other obligation under which JEA lends credit to or guarantees any debt, claim or other obligation of any other person, firm or corporation which shall rank in priority over the obligation of JEA to pay, from the revenues, income, rents and receipts derived by JEA from the ownership or operation of the Electric System, for the output, capacity, use or service of the System in accordance with the applicable provision in the Second Power Park Resolution; *provided, however*, that nothing contained in this paragraph shall prohibit or restrict JEA from establishing one or more other separate bulk power supply utilities or systems pursuant to Chapter 80-513, Laws of Florida, as amended, or any other law, and issuing its bonds therefore as provided in said Chapter 80-513, as amended, or such other law, and from making payments from the revenues, income, rents and receipts derived by JEA from the ownership or operation of the Electric System for the purchase of output, capacity, use or service of any of the facilities of any such separate bulk power supply utility or system, including payments with respect to debt service on such bonds, on a parity with (but no in priority over) the obligation of JEA to pay, from the revenues, income, rents and receipts derived by JEA from the ownership or operation of the Electric System, for the output, capacity, use and service of the System in accordance with the applicable provision of the Second Power Park Resolution.

Operation and Maintenance of the Electric System. JEA shall at all times operate or cause to be operated the Electric System properly and in an efficient and economical manner, consistent with good business and utility operating practices, and shall maintain, preserve, reconstruct and keep the same or cause the same to be so maintained, preserved, reconstructed and kept, with the appurtenances and every part and parcel thereof, in good repair, working order and condition, and shall from time to time make, or cause to be made, all necessary and proper repairs, replacements and renewals so that at all times the operation of the Electric System may be properly and advantageously conducted.

Rates and Fees of the Electric System. JEA shall at all times fix, establish, maintain, charge and collect fees and other charges for the sale of the output, capacity, use or service of the Electric System as shall be required to provide moneys from the Electric System at least sufficient in each fiscal year with respect to the Electric System for the payment of all charges or liens whatsoever payable out of revenues of the Electric System during such fiscal year, including the obligation of JEA to pay from the Electric System for output, capacity, use and service of the System in accordance with the applicable provision of the Second Power Park Resolution.

Except as otherwise provided in the Electric Resolution, JEA will not furnish or supply or cause to be furnished or supplied any use, output, capacity or service of the Electric System, free of charge to any person, firm or corporation, public or private, and JEA will enforce promptly the payment of any and all accounts owing to JEA by reason of the ownership and operation of the Electric System.

Maintenance of Insurance for the Electric System. JEA shall at all times keep or cause to be kept the properties of the Electric System which are of an insurable nature and of the character usually insured by those operating properties similar to the Electric System insured against loss or damage by fire and from other causes customarily insured against and in such relative amounts as are usually obtained. JEA shall at all times maintain or cause to be maintained insurance or reserves against loss or damage from such hazards and risks to the person and property of others as are usually insured or reserved against by those operating properties similar to the properties of the Electric System.

Any such insurance shall be in the form of policies or contracts for insurance with insurers of good standing and shall be payable to JEA.

Reconstruction of the Electric System. If any useful portion of the Electric System shall be damaged or destroyed or taken by any governmental authority under the power of eminent domain or otherwise, JEA shall, as expeditiously as possible, continuously and diligently prosecute or cause to be prosecuted the reconstruction or replacement thereof, unless there is executed a certificate by an Authorized Officer of JEA to the effect that such reconstruction and replacement is not in the interest of JEA and the Holders of the Bonds.

Events of Default; Remedies

If one or more of the following Events of Default shall happen:

(a) if default shall be made in the due and punctual payment of the principal or Redemption Price of any Bond when and as the same shall become due and payable, whether at maturity or by call for redemption, or otherwise (determined without giving effect to any payments made with funds provided by any Credit Enhancer pursuant to any Credit Enhancement);

(b) if default shall be made in the due and punctual payment of any installment of interest on any Bond or the unsatisfied balance of any Sinking Fund Installment therefor (except when such Sinking Fund Installment is due on the maturity date of such Bond), when and as such interest installment or Sinking Fund Installment shall become due and payable (determined without giving effect to any payments made with funds provided by any Credit Enhancer pursuant to any Credit Enhancement) and such default shall continue for a period of 30 days;

(c) if default shall be made by JEA in the performance or observance of any other of the covenants, agreements or conditions on its part in the Second Power Park Resolution or in the Bonds contained, and such default shall continue for a period of 60 days after written notice thereof to JEA by the Holders of not less than 10 percent in principal amount of the Bonds Outstanding;

(d) if there shall occur the dissolution (without a successor being named to assume the rights and obligations) or liquidation of JEA or the filing by JEA of a voluntary petition in bankruptcy, or adjudication of JEA as a bankrupt, or assignment by JEA for the benefit of its creditors, or the entry by JEA into an agreement of composition with its creditors, or the approval by a court of competent jurisdiction of a petition applicable to JEA in any proceeding for its reorganization instituted under the provisions of the Bankruptcy Code, as amended, or under any similar act in any jurisdiction which may now be in effect or hereafter enacted; or

(e) if an order or decree shall be entered, with the consent or acquiescence of JEA, appointing a receiver or receivers of the System, or any part thereof, or of the rents, fees, charges or other revenues therefrom, or if such order or decree, having been entered without the consent or acquiescence of JEA, shall not be vacated or discharged or stayed within 90 days after the entry thereof;

then, and in each and every such case, so long as such Event of Default shall not have been remedied, unless the principal of all the Bonds shall have already become due and payable, the Holders of not less than 25 percent in principal amount of the Bonds Outstanding (by notice in writing to JEA), may declare the principal of all the Bonds then Outstanding, and the interest accrued thereon, to be due and payable immediately, and upon any such declaration the same shall become and be immediately due and payable, anything contained to the contrary in the Second Power Park Resolution or in any of the Bonds notwithstanding; *provided, however,* that in the event that a Supplemental Resolution authorizing Bonds for which Credit Enhancement is being provided provides that the principal of such Bonds, and the accrued interest thereon, may not be declared due and payable immediately (nor such declaration be rescinded and annulled, as provided in the following sentence) without the consent in writing of the Credit Enhancer therefor, then such Bonds, and the interest accrued thereon, shall not become due and payable immediately as aforesaid (nor may such declaration be rescinded and annulled, as provided in the following sentence) without such written consent, and, in that event, the remedies available to the Holders of such Bonds (or such Credit Enhancer, on behalf of such Holders) shall be limited to those set forth in the Second Power Park Resolution. The right of the Holders of not less than 25 percent in principal amount of the Bonds to make such declaration as aforesaid, however, is subject to the condition that if, at any time after such declaration, but before the Bonds shall have matured by their terms, all overdue installments of interest upon the Bonds, together with interest on such overdue installments of interest to the extent permitted by law and all other sums then payable by JEA under the Second Power Park Resolution (except the principal of, and interest accrued since the next preceding interest date on, the Bonds due and payable solely by virtue of such declaration) shall either be paid by or for the account of JEA or provision shall be made for such payment, and all defaults under the Bonds or under the Second Power Park Resolution (other than the payment of principal and interest due and payable solely by reason of such declaration) shall be made good or adequate provision shall be made therefor, then and in every such case the Holders of 25 percent in principal amount of the Bonds Outstanding, by written notice to JEA, may rescind such declaration and annul such default in its entirety, but no such rescission or annulment shall extend to or affect any subsequent default or impair or exhaust any right or power consequent thereon. See "Action by Credit Enhancer When Action by Holders of Bonds Required" herein.

During the continuance of an Event of Default, JEA shall apply all moneys, securities, funds and Revenues held or received by JEA under the Second Power Park Resolution (other than amounts on deposit in any separate subaccount in the Debt Service Reserve Account in the Debt Service Fund 2d) as follows and in the following order:

(a) Operation and Maintenance Expenses -- to the payment of the amounts required for Operation and Maintenance Expenses and for the reasonable renewals, repairs and replacements of the System necessary in the judgment of JEA to prevent a loss of Revenues;

(b) Principal or Redemption Price and Interest -- to the payment of the interest and principal or Redemption Price then due on the Bonds, as follows:

(c) unless the principal of all the Bonds shall have become or have been declared due and payable,

First: Interest -- to the payment to the persons entitled thereto of all installments of interest then due in the order of the maturity of such installments, together with accrued and unpaid interest on the Bonds theretofore called for redemption, and, if the amount available shall not be sufficient to pay in full any installment or installments maturing on the same date, then to the payment thereof ratably, according to the amounts due thereon, to the persons entitled thereto, without any discrimination or preference; and

Second: Principal or Redemption Price -- to the payment to the persons entitled thereto of the unpaid principal or Redemption Price of any Bonds which shall have become due, whether at maturity or by call for redemption, in the order of their due dates, and, if the amount available shall not be sufficient to pay in full all the Bonds due on any date, then to the payment thereof ratably, according to the amounts of principal or Redemption Price due on such date, to the persons entitled thereto, without any discrimination or preference; or

(a) if the principal of all the Bonds shall have become or have been declared due and payable, to the payment of the principal and interest then due and unpaid upon the Bonds without preference or priority of principal over interest or of interest over principal, or of any installment of interest over any other installment of interest, or of any Bond over any other Bond, ratably, according to the amounts due respectively for principal and interest, to the persons entitled thereto without any discrimination or preference except as to any difference in the respective rates of interest specified in the Bonds; and

(b) Subordinated Indebtedness -- to the payment of principal, redemption price and interest then due on Subordinated Indebtedness in accordance with the Supplemental Resolution(s) authorizing such Subordinated Indebtedness.

During the continuance of an Event of Default, JEA shall apply all amounts on deposit in each separate subaccount in the Debt Service Reserve Account in the Debt Service Fund 2d as follows and in the following order:

(a) unless the principal of all of the Bonds shall have become or have been declared due and payable, First: Interest -- to the payment to the persons entitled thereto of all installments of interest then due on the Bonds of each Additionally Secured Series secured by such separate subaccount in the order of the maturity of such installments, together with accrued and unpaid interest on the Bonds of such Additionally Secured Series theretofore called for redemption, and, if the amount available shall not be sufficient to pay in full any such installment or installments maturing on the same date, then to the payment thereof ratably, according to the amounts due thereon, to the persons entitled thereto, without any discrimination or preference; and

Second: Principal or Redemption Price -- to the payment to the persons entitled thereto of the unpaid principal or sinking fund Redemption Price of any Bonds of such Additionally Secured Series which shall have become due, whether at maturity or by call for redemption, in the order of their due dates, and, if the amount available shall not be sufficient to pay in full all such Bonds due on any date, then to the payment thereof ratably, according to the amounts of principal or sinking fund Redemption Price due on such date, to the persons entitled thereto, without any discrimination or preference; or

(b) if the principal of all of the Bonds shall have become or have been declared due and payable, to the payment of the principal and interest then due and unpaid upon the Bonds of each Additionally Secured Series secured by such separate subaccount without preference or priority of principal over interest or of interest over principal, or of any installment of interest over any other installment of interest, or of any such Bond over any other such Bond, ratably, according to the amounts due respectively for principal and interest, to the persons entitled thereto without any discrimination or preference except as to any difference in the respective rates of interest specified in such Bonds.

If and whenever all overdue installments of interest on all Bonds, together with the reasonable and proper charges, expenses and liabilities of the Fiduciaries, and all other sums payable by JEA under the Second Power Park Resolution including the principal and Redemption Price of and accrued unpaid interest on all Bonds which shall then be payable by declaration or otherwise, shall either be paid by or for the account of JEA, and all defaults under the Second Power Park Resolution or the Bonds shall be made good, JEA and the Holders shall be restored, respectively, to their former positions and rights under the Second Power Park Resolution. No such restoration of JEA and the Holders to their former positions and rights shall extend to or affect any subsequent default under the Second Power Park Resolution or impair any right consequent thereon.

Powers of Amendment

Any modification or amendment of the Second Power Park Resolution and of the rights and obligations of JEA and of the Holders of the Bonds thereunder, in any particular, may be made by a Supplemental Resolution, with the written consent given as provided in the Second Power Park Resolution (a) of the Holders of not less than a majority in principal amount of the Bonds affected by such modification or amendment Outstanding at the time such consent is given, and (b) in case the modification or amendment changes the terms of any Sinking Fund Installment, of the Holders of not less than a majority in principal amount of the Bonds of the particular Series and maturity entitled to such Sinking Fund Installment and Outstanding at the time such consent is given; *provided, however,* that if such modification or amendment will, by its terms, not take effect so long as any Bonds of any specified like Series and maturity remain Outstanding, the consent of the Holders of such Bonds shall not be required and such Bonds shall not be deemed to be Outstanding for the purpose of any calculation of Outstanding Bonds under this Section. No such modification or amendment shall permit a change in the terms of redemption or maturity of the principal of any Outstanding Bond or of any installment of interest thereon or a reduction in the principal amount or the Redemption Price thereof or in the rate of interest thereon without the consent of the Holder of such Bond, or shall reduce the percentages or otherwise affect the classes of Bonds the consent of the Holders of which is required to effect any such modification or amendment, or shall change or modify any of the rights or obligations of any Fiduciary without its written assent thereto. For the purpose of this Section, a Series shall be deemed to be affected by a modification or amendment of the Second Power Park Resolution if the same adversely affects or diminishes the rights of the Holders of Bonds of such Series. JEA may in its discretion determine whether or not in accordance with the foregoing powers of amendment Bonds of any particular Series or maturity or any particular Commercial Paper Notes or Medium-Term Notes would be affected by any modification or amendment of the Second Power Park Resolution and any such determination shall, absent manifest error, be binding and conclusive on JEA and all Holders of Bonds. For the purpose of this Section, a change in the terms of redemption of any Outstanding Bond shall be deemed only to affect such Bond, and shall be deemed not to affect any other Bond. For the purpose of this Section, the Holders of any Bonds may include the initial Holders thereof, regardless of whether such Bonds are being held for resale. See “Action by Credit Enhancer When Action by Holders of Bonds Required” herein.

Amendment to the Second Power Park Resolution

For any one or more of the following purposes and at any time or from time to time, a Supplemental Resolution of JEA may be adopted, which, upon its adoption and compliance with the applicable provisions of the Second Power Park Resolution, shall be fully effective in accordance with its terms:

(a) to close the Second Power Park Resolution against, or provide limitations and restrictions in addition to the limitations and restrictions contained in the Second Power Park Resolution on, the authentication and delivery of Bonds or the issuance of other evidences of indebtedness;

(b) to add to the covenants and agreements of JEA in the Second Power Park Resolution other covenants and agreements to be observed by JEA which are not contrary to or inconsistent with the Second Power Park Resolution as theretofore in effect;

(c) to add to the limitations and restrictions in the Second Power Park Resolution other limitations and restrictions to be observed by JEA which are not contrary to or inconsistent with the Second Power Park Resolution as theretofore in effect;

(d) to authorize Bonds of a Series and, in connection therewith, specify and determine the matters and things referred to in Article II, and also any other matters and things relative to such Bonds which are not contrary to or inconsistent with the Second Power Park Resolution as theretofore in effect, or to amend, modify or rescind any such authorization, specification or determination at any time prior to the first authentication and delivery of such Bonds;

(e) to provide for the issuance, execution, delivery, authentication, payment, registration, transfer and exchange of Bonds in coupon form payable to bearer or in uncertificated form, and, in connection therewith, to specify and determine any matters and things relative thereto;

(f) to confirm, as further assurance, any security interest or pledge under, and the subjection to any security interest or pledge created or to be created by, the Second Power Park Resolution of the Revenues or of any other moneys, securities or funds;

(g) if and to the extent authorized in a Supplemental Resolution authorizing an Additionally Secured Series of Bonds, to specify the qualifications of any provider of an obligation similar to a surety bond, insurance policy or letter of credit for deposit into the particular subaccount in the Debt Service Reserve Account securing the Bonds of such Additionally Secured Series;

(h) to modify any of the provisions of the Second Power Park Resolution in any other respect whatever; *provided* that (i) such modification shall be, and be expressed to be, effective only after all Bonds of each Series Outstanding at the date of the adoption of such Supplemental Resolution shall cease to be Outstanding, and (ii) such Supplemental Resolution shall be specifically referred to in the text of all Bonds of any Series authenticated and delivered after the date of the adoption of such Supplemental Resolution and of Bonds issued in exchange therefor or in place thereof; and

(i) to authorize Subordinated Indebtedness and, in connection therewith, specify and determine any matters and things relative to such Subordinated Indebtedness which are not contrary to or inconsistent with the Second Power Park Resolution as theretofore in effect, or to amend, modify or rescind any such authorization, specification or determination at any time prior to the first authentication and delivery of such Subordinated Indebtedness.

Supplemental Resolutions Effective Upon Delivery of Counsel's Opinion as to No Material Adverse Effect

For any one or more of the following purposes and at any time or from time to time, a Supplemental Resolution may be adopted, which, upon (a) delivery of a Counsel's Opinion to the effect that the provisions of such Supplemental Resolution will not have a material adverse effect on the interests of the Holders of Outstanding Bonds (in rendering such opinion, such counsel may rely on such certifications of (i) any banking or financial institution serving as financial advisor to JEA, as to financial and economic matters, (ii) the Consulting Engineer, as to matters within its field of expertise and (iii) such other experts, as to matters within their fields of expertise as it, in its reasonable judgment, determines necessary or appropriate) and (b) compliance with the applicable provision of the Second Power Park Resolution, shall be fully effective in accordance with its terms:

(i) to cure any ambiguity, supply any omission, or cure or correct any defect or inconsistent provision in the Second Power Park Resolution;

(ii) to insert such provisions clarifying matters or questions arising under the Second Power Park Resolution as are necessary or desirable and are not contrary to or inconsistent with the Second Power Park Resolution as theretofore in effect; or

(iii) to make any other modification to or amendment of the Second Power Park Resolution which such counsel in its reasonable judgment shall determine will not have a material adverse effect on the interests of Holders of the Bonds.

Notwithstanding any other provision of the Second Power Park Resolution, in determining whether the interests of the Holders of Outstanding Bonds are materially adversely affected, such counsel shall consider the effect on the Holders of any Bonds for which Credit Enhancement has been provided without regard to such Credit Enhancement.

Defeasance

If all Bonds and interest due or to become due therein are paid in full, then the pledge of moneys and securities and all covenants, agreements and other obligations of JEA to the Holders of the Bonds, will thereupon cease, terminate and become void and be discharged and satisfied.

If any Bonds are paid in full, then such Bonds shall cease to be entitled to any lien, benefit or security under the Second Power Park Resolution, and all covenants, agreements and obligations of JEA to the Holders of such Bonds shall thereupon cease, terminate and become void and be discharged and satisfied.

Bonds are deemed to have been paid and are not entitled to the lien benefit and security of the Second Power Park Resolution whenever the following conditions (or such other conditions as may be set forth in the Supplemental Subordinated Resolution authorizing such Bonds) are met (a) in case any of said Bonds are to be redeemed on any date prior to their maturity, JEA shall have given to the Escrow Agent therefor instructions accepted in writing by such Escrow Agent to give notice of redemption thereof, (b) there shall have been deposited with the Escrow Agent therefor either moneys, or Defeasance Securities the principal of and the interest on which when due will provide moneys which, together with the moneys, if any, deposited with such Escrow Agent at the same time, shall be sufficient, to pay when due the principal or Redemption Price, if applicable, and interest due and to become due on such Bonds, and (c) in the event said Bonds are not to be redeemed or paid at maturity within the next succeeding 60 days, JEA shall have given such Escrow Agent instructions to give to the Holders of such Bonds a notice that the above deposit has been made and that said Bonds are deemed to have been paid and stating such maturity or redemption date upon which moneys are expected to be available for the payment of the principal or Redemption Price, if applicable, on said Bonds.

For purposes of determining whether Variable Rate Bonds shall be deemed to have been paid prior to the maturity or redemption date thereof, as the case may be, by the deposit of moneys, or Defeasance Securities and moneys, if any, in accordance with the provisions of the Second Power Park Resolution, the interest to come due on such Variable Rate Bonds on or prior to the maturity date or redemption date thereof, as the case may be, shall be calculated at the maximum rate permitted by the terms thereof; *provided, however*, that if on any date, as a result of such Variable Rate Bonds having borne interest at less than such maximum rate for any period, the total amount of moneys and Defeasance Securities on deposit with the Escrow Agent for the payment of interest on such Variable Rate Bonds is in excess of the total amount which would have been required to be deposited with the Escrow Agent on such date in respect of such Variable Rate Bonds in order to satisfy the provisions of the Second Power Park Resolution, the Escrow Agent shall, if requested by JEA, pay the amount of such excess to JEA free and clear of any trust, lien or pledge securing the Bonds or otherwise existing under the Second Power Park Resolution.

Option Bonds shall be deemed to have been paid in accordance with the provisions of the Second Power Park Resolution only if, in addition to satisfying the requirements of clauses (a) and (c) of such sentence, there shall have been deposited with the Escrow Agent moneys in an amount which shall be sufficient to pay when due the maximum amount of principal of and premium, if any, and interest on such Bonds which could become payable to the Holders of such Bonds upon the exercise of any options provided to the Holders of such Bonds; *provided, however*, that if, at the time a deposit is made with the Escrow Agent pursuant to the provisions of the Second Power Park Resolution, the options originally exercisable by the Holder of an Option Bond are no longer exercisable, such Bond shall not be considered an Option Bond for purposes of this paragraph. If any portion of the moneys deposited with the Escrow Agent for the payment of the principal of and premium, if any, and interest on Option Bonds is not required for such purpose the Escrow Agent shall, if requested by JEA, pay the amount of such excess to JEA free and clear of any trust, lien or pledge securing said Bonds or otherwise existing under the Second Power Park Resolution.

Action by Credit Enhancer When Action by Holders of Bonds Required

Except as otherwise provided in a Supplemental Resolution authorizing Bonds for which Credit Enhancement is being provided, if not in default in respect of any of its obligations with respect to Credit Enhancement for the Bonds of a Series, or a maturity within a Series, the Credit Enhancer for, and not the actual Holders of, the Bonds of a Series, or a maturity within a Series or an interest rate within a maturity, for which such Credit Enhancement is being provided, shall be deemed to be the Holder of Bonds of any Series, or maturity within a Series or an interest rate within a maturity, as to which it is the Credit Enhancer at all times for the purpose of (a) giving any approval or consent to the effectiveness of any Supplemental Resolution or any amendment, change or modification of the Second Power Park Resolution, which requires the written approval or consent of Holders; *provided*, *however*, that the provisions of this Section shall not apply to any change in the terms of redemption or maturity of the principal of any Outstanding Bond or of any installment of interest thereon or a reduction in the principal amount or the Redemption Price thereof or in the rate of interest thereon, or shall reduce the percentages or otherwise affect the classes of Bonds the consent of the Holders of which is required to effect any such modification or amendment, or shall change or modify any of the rights or obligations of any Fiduciary without its written assent thereto and (b) giving any approval or consent, exercising any remedies or taking any other action following the occurrence of an Event of Default under the Second Power Park Resolution.

Special Provisions Relating to Capital Appreciation Bonds, Deferred Income Bonds and Reimbursement Obligations

The principal and interest portions of the Accreted Value of Capital Appreciation Bonds or the Appreciated Value of Deferred Income Bonds becoming due at maturity or by virtue of a Sinking Fund Installment shall be included in the calculations of accrued and unpaid and accruing interest or Principal Installments made under the definitions of Debt Service, Accrued Aggregate Debt Service and Aggregate Debt Service only from and after the date (the “Calculation Date”) which is one year prior to the date on which such Accreted Value or Appreciated Value, as the case may be, becomes so due, and the principal and interest portions of such Accreted Value or Appreciated Value shall be deemed to accrue in equal daily installments from the Calculation Date to such due date.

For the purposes of (a) receiving payment of the Redemption Price if a Capital Appreciation Bond is redeemed prior to maturity, or (b) receiving payment of a Capital Appreciation Bond if the principal of all Bonds is declared immediately due and payable following an Event of Default, or (c) computing the principal amount of Bonds held by the Holder of a Capital Appreciation Bond in giving to JEA any notice, consent, request, or demand pursuant to the Second Power Park Resolution for any purpose whatsoever, the principal amount of a Capital Appreciation Bond shall be deemed to be its then current Accreted Value.

For the purposes of (a) receiving payment of the Redemption Price if a Deferred Income Bond is redeemed prior to maturity, or (b) receiving payment of a Deferred Income Bond if the principal of all Bonds is declared immediately due and payable following an Event of Default, or (c) computing the principal amount of Bonds held by the Holder of a Deferred Income Bond in giving to JEA any notice, consent, request or demand pursuant to the Second Power Park Resolution for any purpose whatsoever, the principal amount of a Deferred Income Bond shall be deemed to be its then current Appreciated Value.

Except as otherwise provided in a Supplemental Resolution authorizing a Series of Reimbursement Obligations, for the purposes of (a) receiving payment of a Reimbursement Obligation, whether at maturity, upon redemption or if the principal of all Bonds is declared immediately due and payable following an Event of Default or (b) computing the principal amount of Bonds held by the Holder of a Reimbursement Obligation in giving to JEA any notice, consent, request, or demand pursuant to the Second Power Park Resolution for any purpose whatsoever, the principal amount of a Reimbursement Obligation shall be deemed to be the actual principal amount that JEA shall owe thereon, which shall equal the aggregate of the amounts advanced to, or on behalf of, JEA in connection with the Bonds of the Series or maturity or interest rate within a maturity for which such Reimbursement Obligation has been issued to evidence JEA's obligation to repay any advances or loans made in respect of the Credit Enhancement or liquidity support provided for such Bonds, less any prior repayments thereof.

APPENDIX F

SUMMARY OF CERTAIN PROVISIONS OF THE RESTATED AND AMENDED BULK POWER SUPPLY SYSTEM RESOLUTION

The following is a summary of certain provisions of the Restated and Amended Bulk Power Supply System Resolution. Summaries of certain definitions contained in the Restated and Amended Bulk Power Supply System Resolution are set forth below. Other terms defined in the Restated and Amended Bulk Power Supply System Resolution for which summary definitions are not set forth are indicated by capitalization. This summary does not purport to be a complete description of the terms of the Restated and Amended Bulk Power Supply System Resolution and, accordingly, is qualified by reference thereto and is subject to the full text thereof.

The Restated and Amended Bulk Power Supply System Resolution is available for viewing and downloading on JEA's website at https://www.jea.com/About/Investor_Relations/Bonds/. Copies of the Restated and Amended Bulk Power Supply System Resolution also may be obtained from JEA; *provided* that a reasonable charge may be imposed for the cost of reproduction. The term "Bonds" as used in the Restated and Amended Bulk Power Supply System Resolution and this summary has the same meaning as the term "Additional Bulk Power Supply System Bonds" as used in the Annual Disclosure Report to which this summary is attached.

Definition of Terms

The following are summaries of certain definitions in the Restated and Amended Bulk Power Supply System Resolution.

Accreted Value shall mean, as of any date of computation with respect to any Capital Appreciation Bond, an amount equal to the principal amount of such Bond plus the interest accrued on such Bond from the date of original issuance of such Bond to the periodic date specified in the Supplemental Resolution authorizing such Capital Appreciation Bond on which interest on such Bond is to be compounded (hereinafter, a "Periodic Compounding Date") next preceding the date of computation or the date of computation if a Periodic Compounding Date, such interest to accrue at the interest rate per annum of the Capital Appreciation Bonds set forth in the Supplemental Resolution authorizing such Bonds, compounded periodically on each Periodic Compounding Date, plus, if such date of computation shall not be a Periodic Compounding Date, a portion of the difference between the Accreted Value as of the immediately preceding Periodic Compounding Date (or the date of original issuance if the date of computation is prior to the first Periodic Compounding Date succeeding the date of original issuance) and the Accreted Value as of the immediately succeeding Periodic Compounding Date, calculated based upon an assumption that, unless otherwise provided in the Supplemental Resolution authorizing such Capital Appreciation Bonds, Accreted Value accrues in equal daily amounts on the basis of a year consisting of twelve 30-day months.

Accrued Aggregate Debt Service shall mean, as of any date of calculation, an amount equal to the sum of the amounts of accrued Debt Service with respect to all Series, calculating the accrued Debt Service with respect to each Series at an amount equal to the sum of (a) interest on the Bonds of such Series accrued and unpaid and to accrue to the end of the then current calendar month, and (b) Principal Installments due and unpaid and that portion of the Principal Installments for such Series next due which would have accrued (if deemed to accrue in the manner set forth in the definition of Debt Service) to the end of such calendar month; *provided*, *however*, that (a) there shall be excluded from the calculation of Accrued Aggregate Debt Service any Principal Installments which are Refundable Principal Installments, (b) the principal and interest portions of the Accreted Value of Capital Appreciation Bonds or the Appreciated Value of Deferred Income Bonds shall be included in the calculation of Accrued Aggregate Debt Service at the times and in the manner provided in the Restated and Amended Bulk Power Supply System Resolution and (c) if the calculation of the Debt Service Reserve Requirement for any separate subaccount in the Debt Service Reserve Account in the Debt Service Fund takes into account Accrued Aggregate Debt Service, then, for purposes of such calculation, Accrued Aggregate Debt Service shall be calculated only with respect to the Bonds of the Series secured thereby.

Additionally Secured Series shall mean a Series of Bonds for which the Supplemental Resolution authorizing such Series provides that the payment of the principal or sinking fund Redemption Price, if any, of, and interest on, the Bonds of such Series shall be secured, in addition to the pledge created pursuant to the Restated and Amended Bulk Power Supply System Resolution in favor of all of the Bonds, by amounts on deposit in a separate subaccount to be designated therefor in the Debt Service Reserve Account in the Debt Service Fund.

Aggregate Debt Service for any period shall mean, as of any date of calculation, the sum of the amounts of Debt Service for such period with respect to all Series; *provided*, *however*, that the principal and interest portions of the Accreted Value of Capital Appreciation Bonds or the Appreciated Value of Deferred Income Bonds shall be included in the calculation of Aggregate Debt Service at the times and in the manner provided in the Restated and Amended Bulk Power Supply System Resolution; and *provided*, *further*, that if the calculation of the Debt Service Reserve Requirement for any separate subaccount in the Debt Service Reserve Account in the Debt Service Fund takes into account Aggregate Debt Service, then, for purposes of such calculation, Aggregate Debt Service shall be calculated only with respect to the Bonds of the Series secured thereby.

Annual Budget shall mean, with respect to any Project, the annual budget or budgets, as amended or supplemented, adopted or in effect for a particular Fiscal Year as provided in the Restated and Amended Bulk Power Supply System Resolution.

Appreciated Value shall mean, with respect to any Deferred Income Bond, (i) as of any date of computation prior to the Current Interest Commencement Date with respect to such Deferred Income Bond, an amount equal to the principal amount of such Bond plus the interest accrued on such Bond from the date of original issuance of such Bond to the periodic date specified in the Supplemental Resolution authorizing such Deferred Income Bond on which interest on such Bond is to be compounded (hereinafter, a "Periodic Compounding Date") next preceding the date of computation or the date of computation if a Periodic Compounding Date, such interest to accrue at the interest rate per annum of the Deferred Income Bonds set forth in the Supplemental Resolution authorizing such Bonds, compounded periodically on each Periodic Compounding Date, plus, if such date of computation shall not be a Periodic Compounding Date, a portion of the difference between the Appreciated Value as of the immediately preceding Periodic Compounding Date (or the date of original issuance if the date of computation is prior to the first Periodic Compounding Date succeeding the date of original issuance) and the Appreciated Value as of the immediately succeeding Periodic Compounding Date, calculated based upon an assumption that, unless otherwise provided in the Supplemental Resolution authorizing such Deferred Income Bonds, Appreciated Value accrues in equal daily amounts on the basis of a year consisting of twelve 30-day months and (ii) as of any date of computation on and after the Current Interest Commencement Date, the Appreciated Value on the Current Interest Commencement Date.

Authorized Officer of JEA shall mean (a) the Chair, the Vice Chair or the Secretary of the Governing Body, (b) the Managing Director and Chief Executive Officer, the Chief Operating Officer, the Chief Financial Officer or the Director, Treasury Services of JEA (or any officer of JEA serving in a capacity equivalent to that of any of the foregoing officers) or (c) any other officer or employee of JEA authorized to perform specific acts or duties by resolution duly adopted by the Governing Body.

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Bond Anticipation Notes shall mean notes or other evidences of indebtedness from time to time issued in anticipation of the issuance of Bonds, the proceeds of which have been or are required to be applied to one or more of the purposes for which Bonds may be issued, the payment of which notes is to be made from the proceeds of the Bonds in anticipation of the issuance of which said notes are issued.

Bond Year shall mean the 12-month period commencing on October 1 in any year and ending on September 30 of the following year.

Build America Bonds shall mean any Bonds with respect to which JEA has irrevocably elected, pursuant to Section 54AA(g) of the Code, or any similar federal program creating subsidies for municipal borrowers for which JEA qualifies, to receive cash subsidy payments from the U.S. Treasury equal to a portion of the interest payable on such Bonds.

Certified Interest Rate shall mean, as of any date of determination:

(a) with respect to (i) any Commercial Paper Notes or Medium-Term Notes or (ii) any Variable Rate Bonds maturing on a particular date that were, at the date of the original issuance thereof, the subject of a Counsel's Opinion to the effect that the interest thereon is excluded from gross income for federal income tax purposes pursuant to Section 103 of the Code, a rate of interest equal to the lesser of (A) the average of the Variable Rate Tax-Exempt Index for the five years preceding such date of determination and (B) the average rate of interest borne by such Commercial Paper Notes, Medium-Term Notes or Variable Rate Bonds, as the case may be, for the 12 months preceding such date of determination; *provided*, *however*, if such Commercial Paper Notes, Medium-Term Notes or Variable Rate Bonds, as the case may be are then being issued or shall not have been Outstanding for 12 months, then the rate of interest determined pursuant to this clause (a) shall be the rate determined pursuant to the foregoing subclause (i),

(b) with respect to (i) any Commercial Paper Notes or Medium-Term Notes or (ii) any Variable Rate Bonds maturing on a particular date that were not, at the date of the original issuance thereof, the subject of a Counsel's Opinion to the effect that the interest thereon is excluded from gross income for federal income tax purposes pursuant to Section 103 of the Code, a rate of interest equal to the lesser of (A) the average of the Variable Rate Taxable Index for the five years preceding such date of determination and (B) the average rate of interest borne by such Commercial Paper Notes, Medium-Term Notes or Variable Rate Bonds, as the case may be, for the 12 months preceding such date of determination; *provided*, *however*, if such Commercial Paper Notes, Medium-Term Notes or Variable Rate Bonds, as the case may be, are then being issued or shall not have been Outstanding for 12 months, then the rate of interest determined pursuant to this clause (b) shall be the rate determined pursuant to the foregoing subclause (i); and

(c) for purposes of calculating the Debt Service Reserve Requirement for any particular subaccount in the Debt Service Reserve Account in the Debt Service Fund and with respect to (i) any Commercial Paper Notes or Medium-Term Notes or (ii) any Variable Rate Bonds maturing on a particular date, the interest rate set forth in a certificate of an Authorized Officer of JEA executed on or prior to the date of the initial issuance of such Commercial Paper Notes, Medium-Term Notes or Variable Rate Bonds, as the case may, as determined as follows: a Certified Interest Rate shall be that rate of interest determined by JEA, or a banking or financial institution or financial advisory firm selected by JEA, as the rate of interest such Commercial Paper Notes, Medium-Term Notes or Variable Rate Bonds, as the case may be, would bear if, assuming the same maturity date, terms and provisions (other than interest rate and redemption provisions) as such proposed

Commercial Paper Notes, Medium-Term Notes or Variable Rate Bonds, as the case may be, and on the basis of JEA's credit ratings with respect to the Bonds (other than Bonds for which credit enhancement is provided by a third party), such proposed Commercial Paper Notes, Medium-Term Notes or Variable Rate Bonds, as the case may be, were issued at a fixed interest rate.

Commercial Paper Payment Plan shall mean, with respect to any Series of Commercial Paper Notes and as of any time, the then current Commercial Paper Payment Plan for such Notes contained in a certificate of an Authorized Officer of JEA delivered pursuant to the Restated and Amended Bulk Power Supply System Resolution setting forth the sources of funds expected to be utilized by JEA to pay the principal of and interest on such Commercial Paper Notes or any subsequent certificate of an Authorized Officer of JEA thereafter executed to reflect changes, if any, in the expectations of JEA with respect to the sources of funds to be utilized to pay principal of and interest on such Commercial Paper Notes; *provided*, *however*, that if any Commercial Paper Payment Plan provides for the refunding of any Commercial Paper Note with proceeds of (a) Bonds other than Commercial Paper Notes or Medium-Term Notes or (b) Subordinated Indebtedness, in either such case, that JEA intends to pay from Revenues, the principal of such Commercial Paper Note shall, for purposes of the Commercial Paper Payment Plan, be assumed to come due over a period commencing with the due date of the Commercial Paper Note and ending not later than the earlier of (x) the 40th anniversary of the first issuance of Commercial Paper Notes of such Series or (y) the 30th anniversary of the due date of the Commercial Paper Note to be refunded, in installments such that the principal and interest payable on such Commercial Paper Notes in each Fiscal Year in such period will be equal to the principal and interest payable on such Commercial Paper Notes in each other Fiscal Year in such period.

Costs shall mean, with respect to any Project, the costs, expenses and liabilities paid or incurred or to be paid or incurred by JEA in connection with the planning, engineering, designing, acquiring, constructing, installing, financing, repairing, extending, improving, reconstructing, retiring, decommissioning and disposing thereof and the obtaining of all governmental approvals, certificates, permits and licenses with respect thereto (including, for this purpose, any acquisition by JEA of an interest in an existing facility), including, but not limited to, any good faith or other similar payment or deposits required in connection with the acquisition or construction of such Project, or any part thereof, the cost of acquisition by or for JEA of real and personal property or any interests therein, costs of physical construction or acquisition of such Project, or any part thereof, and costs of JEA incidental to such construction or acquisition, the cost of acquisition of fuel or fuel inventory or facilities for the production or transportation of fuel, all costs relating to injury and damage claims relating to such Project, or any part thereof, all costs relating to the settlement or renegotiation of any contract entered into in connection with any Project, the cost of any indemnity or surety bonds and premiums on insurance, preliminary investigation and development costs, engineering fees and expenses, contractors' fees and expenses, the costs of labor, materials, equipment and utility services and supplies, legal and financial advisory fees and expenses, interest and financing costs, including, without limitation, bank commitment and letter of credit fees and bond insurance and indemnity premiums, discounts to the underwriters or purchasers thereof, amounts required to be paid under any interest rate exchanges or swaps, cash flow exchanges, options, caps, floors or collars and termination fees related to the foregoing, in each case made in connection with the issuance of Bonds, Subordinated Indebtedness or other evidences of indebtedness of JEA relating to the Project, fees and expenses of the Fiduciaries, administration and general overhead expense and costs of keeping accounts and making reports required by the Restated and Amended Bulk Power Supply System Resolution, amounts, if any, required by the Restated and Amended Bulk Power Supply System Resolution to be paid into the Debt Service Fund to provide, among other things, for interest accruing on Bonds and to provide for the Debt Service Reserve Requirement or to be paid into the Revenue Fund or the Renewal and Replacement Fund for any of the respective purposes thereof, payments when due (whether at the maturity of principal or the due date of interest or upon redemption) on any indebtedness of JEA, including Bonds, Bond Anticipation Notes and Subordinated Indebtedness, issued to finance or refinance any of the foregoing, and all federal, state and local taxes and payments in lieu of taxes in connection with any Project, or any part thereof, and working capital and reserves for any of the foregoing and shall include reimbursements to JEA for any of the above items theretofore paid by or on behalf of JEA.

It is intended that this definition be broadly construed to encompass all costs, expenses and liabilities of JEA related to the Project which on the date of the Restated and Amended Bulk Power Supply System Resolution or in the future shall be permitted to be funded with the proceeds of Bonds pursuant to the provisions of Florida law.

Credit Enhancement shall mean, with respect to the Bonds of a Series, a maturity within a Series or an interest rate within a maturity, an insurance policy, letter of credit, surety bond or any other similar obligation, whereby the issuer thereof becomes unconditionally obligated to pay when due, to the extent not paid by JEA or otherwise, the principal of and interest on such Bonds.

Credit Enhancer shall mean any person or entity which, pursuant to a Supplemental Resolution, is designated as a Credit Enhancer and which provides Credit Enhancement for the Bonds of a Series, a maturity within a Series or an interest rate within a maturity.

Current Interest Commencement Date shall mean, with respect to any particular Deferred Income Bonds, the date specified in the Supplemental Resolution authorizing such Deferred Income Bonds (which date must be prior to the maturity date for such Deferred Income Bonds) after which interest accruing on such Deferred Income Bonds shall be payable periodically on dates specified in such Supplemental Resolution, with the first such payment date being the first such periodic date immediately succeeding such Current Interest Commencement Date.

Debt Service for any period shall mean, as of any date of calculation and with respect to any Series, an amount equal to the sum of (a) interest accruing during such period on Bonds of such Series, except to the extent that such interest is to be paid from deposits into the Debt Service Account in the Debt Service Fund made from the proceeds of Bonds, Subordinated Indebtedness or other evidences of indebtedness of JEA (including amounts, if any, transferred thereto from the Construction Fund); *provided*, that in the event that the Bonds of any Series (or any portion thereof) shall constitute Build America Bonds, then in respect of the interest payable on such Bonds, for purposes of this definition, the interest on the Bonds of such Series shall be calculated net of the amount of the cash subsidy payments due from the U.S. Treasury. If for whatever reason, JEA no longer receives cash subsidy payments from the U.S. Treasury in respect of the interest payable on such Bonds (other than as a result of the U.S. Treasury reducing a particular payment by offsetting an amount due from JEA to it), for purposes of this definition, the interest on the Bonds of such Series shall be calculated without regard to such subsidy, and (b) that portion of each Principal Installment for such Series which would accrue during such period if such Principal Installment were deemed to accrue daily in equal amounts from the next preceding Principal Installment due date for such Series (or, (i) in the case of Bonds other than Reimbursement Obligations, if (A) there shall be no such preceding Principal Installment due date or (B) such preceding Principal Installment due date is more than one year prior to the due date of such Principal Installment, then, from a date one year preceding the due date of such Principal Installment or from the Date of Issuance of Bonds of such Series, whichever date is later, and (ii) in the case of Reimbursement Obligations, in accordance with the terms thereof and the Supplemental Resolution authorizing such Reimbursement Obligations), except to the extent that such Principal Installment is paid or to be paid from the proceeds of Bonds, Subordinated Indebtedness or other evidences of indebtedness of JEA. Such interest and Principal Installments for such Series shall be calculated on the assumption that (i) no Bonds (except for Option Bonds actually tendered for payment prior to the stated maturity thereof) of such Series Outstanding at the date of calculation will cease to be Outstanding except by reason of the payment of each Principal Installment on the due date thereof, (ii) the principal amount of Option Bonds tendered for payment before the stated maturity thereof shall be deemed to accrue on the date required to be paid pursuant to such tender and (iii) the principal and interest portions of the Accreted Value of Capital Appreciation Bonds or the Appreciated Value of Deferred Income Bonds shall be included in the calculation of Debt Service at the times and in the manner provided in the Restated and Amended Bulk Power Supply System Resolution; *provided, however,* that if the calculation of the Debt Service Reserve Requirement for any separate subaccount in the Debt Service Reserve Account in the Debt Service Fund takes into account Debt Service, then, for purposes of such calculation, Debt Service shall be calculated only with respect to the Bonds of the Series secured thereby.

For the purpose of computing Debt Service for any future period (i) any Variable Rate Bonds, Commercial Paper Notes and Medium-Term Notes Outstanding during such period shall be assumed to bear interest during such period at the Certified Interest Rate applicable thereto and, in the case of Commercial Paper Notes and Medium-Term Notes Outstanding, such period shall be assumed to have Principal Installments that come due in accordance with the then current Commercial Paper Payment Plan or Medium-Term Note Payment Plan applicable thereto and (ii) any Option Bonds Outstanding during such period shall be assumed to mature on the stated maturity date thereof.

Notwithstanding anything to the contrary contained in the Restated and Amended Bulk Power Supply System Resolution, (a) if JEA has in connection with any Bonds entered into a Designated Swap Obligation which provides that, in respect of a notional amount corresponding to the principal amount or issue price of such Bonds, JEA is to pay to a Designated Swap Obligation Provider an amount determined based upon a variable rate of interest and the Designated Swap Obligation Provider is to pay to JEA an amount determined based upon a fixed rate of interest, then, for purposes of calculating Debt Service with respect to such Bonds for purposes of the rate covenant contained in the Restated and Amended Bulk Power Supply System Resolution, it will be assumed that such Bonds bear interest at a rate equal to the sum of (i) the lesser of (A) the average of the variable rate payable by JEA pursuant to such Designated Swap Obligation for the five years preceding the date of determination (or such lesser period preceding the date of determination if in effect for less than five years), calculating such rate based upon the method, formula or index with respect thereto set forth in such Designated Swap Obligation and (B) the average of the actual rates paid by JEA pursuant to such Designated Swap Obligation for the 12 months preceding such date of determination; *provided, however*, if such Designated Swap Obligation shall not have been in effect for 12 months, then the rate of interest determined pursuant to this clause (i) shall be the rate determined pursuant to the foregoing subclause (i) and (ii) the difference (whether positive or negative) between (A) the fixed rate of interest on such Bonds and (B) the fixed rate of interest payable to JEA pursuant to such Designated Swap Obligation and (b) if JEA has in connection with any Variable Rate Bonds, Commercial Paper Notes or Medium-Term Notes entered into a Designated Swap Obligation which provides that, in respect of a notional amount of such Variable Rate Bonds, Commercial Paper Notes or Medium-Term Notes, as the case may be, JEA is to pay to a Designated Swap Obligation Provider an amount determined based upon a fixed rate of interest and the Designated Swap Obligation Provider is to pay to JEA an amount determined based upon a variable rate of interest, then, for purposes of calculating Debt Service with respect to such Variable Rate Bonds, Commercial Paper Notes or Medium-Term Notes, as the case may be, for purposes of the rate covenant contained in the Restated and Amended Bulk Power Supply System Resolution, it will be assumed that such Variable Rate Bonds, Commercial Paper Notes or Medium-Term Notes, as the case may be, bear interest at the fixed rate of interest payable by JEA pursuant to such Designated Swap Obligation.

Debt Service Reserve Requirement shall mean, with respect to each separate subaccount in the Debt Service Reserve Account in the Debt Service Fund unless otherwise specified in the Supplemental Resolution establishing such subaccount, as of any date of calculation, an amount equal to the maximum amount of interest to accrue on all Additionally Secured Bonds of all Series secured thereby then Outstanding in the then current or any future Bond Year (assuming, for this purpose, that all Additionally Secured Series secured thereby that bear interest at a variable or floating rate except as provided below shall bear interest during such period at the Certified Interest Rate applicable thereto; *provided*, if such variable or floating rate debt shall have been converted synthetically to a fixed interest rate pursuant to an interest rate swap transaction that has a term equal to, and the notional amount of which amortizes at the same times and in the same amounts as, such Additionally Secured Series in terms of series and maturity, in which case, such Additionally Secured Series shall be deemed to bear interest at the fixed rate payable by JEA under such interest rate swap transaction for so long as such interest rate swap transaction shall remain in effect; *provided*, *further*, *however*, that if, at the time of the original issuance thereof, the interest rate on such Additionally Secured Series of a particular series and maturity shall have been converted synthetically to a fixed interest rate pursuant to such an interest rate swap transaction, but such interest rate swap transaction shall be terminated prior to the final maturity date of such Additionally Secured Series and another interest rate swap transaction has not been entered into in replacement thereof, then the Debt Service Requirement for such Additionally Secured Series shall be recalculated as of the date of termination of such interest rate swap transaction, based upon the Certified Interest Rate established for such Additionally Secured Series at the time of original issuance thereof, and any resulting deficiency in the amount on deposit in the separate subaccount shall be required to be funded within one year of such termination with money and one or more additional reserve fund credit instruments) excluding interest on such Bonds to be paid from deposits in the Debt Service Account in the Debt Service Fund made from the proceeds of Bonds, Subordinated Indebtedness or other evidences of indebtedness of JEA (including amounts, if any, transferred thereto from the Construction Fund).

For the purpose of the calculation of the Debt Service Reserve Requirement in the event that the Bonds of any Series shall constitute Build America Bonds, then until such time, if any, as JEA, for whatever reason, no longer receives cash subsidy payments from the U.S. Treasury in respect of the interest payable on such Bonds (other than as a result of the U.S. Treasury reducing a particular payment by offsetting an amount due from JEA to it), the interest on such Bonds shall be calculated net of the amount of such subsidy; *provided*, *however*, that if at any time the specified percentage of the interest payable on such Bonds represented by such subsidy shall be permanently reduced, then the amount of such Debt Service Reserve Requirement shall be increased to reflect the amount of interest payable on such Bonds that no longer is payable to JEA by the U.S. Treasury, and the amount of such increase shall be required to be funded in equal semiannual installments over a five (5)-year period, with the first such installment becoming due on the first April 1 or October 1 that is at least six (6) months following the date on which such specified percentage is so reduced, except that if at any time from the commencement of such funding, either (x) any of such Bonds shall cease to be Outstanding or (y) the amount of such Debt Service Reserve Requirement shall be reduced for any reason whatsoever, then the obligation of JEA to make deposits during the balance of such period shall be redetermined (taking into account the amount (if any) of such Bonds that remain Outstanding and the amount (if any) of such reduction in such Debt Service Reserve Requirement) and the resulting reduction in the amount required to be deposited to the Initial Subaccount shall be evenly apportioned over the remainder of such five (5)-year period and provided, further, that in the event that JEA, for whatever reason, ceases to receive cash subsidy payments from the U.S. Treasury in respect of the interest payable on any such Bonds (other than as a result of the U.S. Treasury reducing a particular payment by offsetting an amount due from JEA to it), then the amount of such Debt Service Reserve Requirement shall be increased to reflect the full amount of interest payable on such Bonds, and such increase shall be required to be funded in equal semiannual installments over a five (5)-year period, with the first such installment becoming due on the first April 1 or October 1 that is at least six (6) months following the date on which JEA does not receive the first such cash subsidy payment that it theretofore was qualified to receive, except that if at any time from the commencement of such funding, either (x) any of such Bonds shall cease to be Outstanding or (y) the amount of such Debt Service Reserve Requirement shall be reduced for any reason whatsoever, then the obligation of JEA to make deposits during the balance of such period shall be redetermined (taking into account the amount (if any) of such Bonds that remain Outstanding and the amount (if any) of such reduction in such Debt Service Reserve Requirement) and the resulting reduction in the amount required to be deposited to the Initial Subaccount shall be evenly apportioned over the remainder of such five (5)-year period. Notwithstanding any other provision of this resolution, any one or more installments of any increase in the Debt Service Reserve Requirement with respect to the Initial Subaccount in the Debt Service Reserve Account in the Sinking Fund provided for in the preceding sentence may be prepaid at any time in whole or in part by JEA by designating in JEA's records that such payment(s) is (or are) to be treated as a prepayment.

Defeasance Securities shall mean, unless otherwise provided with respect to the Bonds of a Series in the Supplemental Resolution authorizing such Bonds,

> (a) any bonds or other obligations which constitute direct obligations of, or as to principal and interest are unconditionally guaranteed by, the United States of America, including obligations of any of the federal agencies set forth in clause (c) below to the extent unconditionally guaranteed by the United States of America, which shall not be subject to redemption prior to their maturity other than at the option of the holder thereof or as to which an irrevocable notice of redemption of such securities on a specified redemption date has been given and such securities are not otherwise subject to redemption prior to such specified date other than at the option of the holder thereof,
>
> (b) any bonds or other obligations of any state of the United States of America or of any agency, instrumentality or local governmental unit of any such state (i) which are not callable prior to maturity, or which have been duly called for redemption by the obligor on a date or dates specified and as to which irrevocable instructions have been given to a trustee in respect of such bonds or other obligations by the obligor to give due notice of such redemption on such date or dates, which date or dates shall be also specified in such instructions, (ii) which are secured as to principal and interest and redemption premium, if any, by a fund consisting only of cash or bonds or other obligations of the character described in clause (a) above which fund may be applied only to the payment of such principal of and interest and redemption premium, if any, on such bonds or other obligations on the maturity date or dates thereof or the redemption date or dates specified in the irrevocable instructions referred to in subclause (i) of this clause (b), as appropriate, (iii) as to which the principal of and interest on the bonds and obligations of the character described in clause (a) above on deposit in such fund along with any cash on deposit in such fund are sufficient to pay principal of and interest and redemption premium, if any, on the bonds or other obligations described in this clause (b) on the maturity date or dates thereof or on the redemption date or dates specified in the irrevocable instructions referred to in subclause (i) of this clause (b), as appropriate and (iv) which at the time of their purchase hereunder are rated "AAA" or "Aaa," as applicable, by any two of Standard & Poor's Credit Market Services, a business of Standard & Poor's Financial Services LLC, a limited liability company, organized and existing under the laws of the State of Delaware ("S&P"), Fitch Ratings and Moody's Investors Service ("Moody's"),
>
> (c) obligations of any state of the United States of America or any political subdivision thereof or any agency or instrumentality of any state or political subdivision which are not callable for redemption prior to maturity, or which have been duly called for redemption by the obligor on a date or dates specified and as to which irrevocable instructions have been given to a trustee in respect of such obligations by the obligor to give due notice of such redemption on such date or dates, which date or dates shall also be specified in such instructions, and which shall be rated in the highest whole rating category by two nationally recognized rating agencies,

(d) certificates that evidence ownership of the right to payments of principal and/or interest on (i) obligations described in clauses (a) and (b) of this definition provided that such obligations shall be held in trust by a bank or trust company or a national banking association authorized to exercise corporate trust powers and subject to supervision or examination by federal, state, or territorial or District of Columbia authority and having a combined capital, surplus and undivided profits of not less than $50,000,000, or (ii) obligations described in the foregoing clause (c), in any such case, which shall not be subject to redemption prior to their maturity other than at the option of the holder thereof or as to which an irrevocable notice of redemption of such obligations on a specified redemption date has been given and such obligations are not otherwise subject to redemption prior to such specified date other than at the option of the holder thereof,

(e) deposits in interest-bearing time deposits or certificates of deposit which shall not be subject to redemption or repayment prior to their maturity or due date other than at the option of the depositor or holder thereof or as to which an irrevocable notice of redemption or repayment of such time deposits or certificates of deposit on a specified redemption or repayment date has been given and such time deposits or certificates of deposit are not otherwise subject to redemption or repayment prior to such specified date other than at the option of the depositor or holder thereof, and which are fully secured by obligations described in clause (a) or clause (b) of this definition to the extent not fully insured by the Federal Deposit Insurance Corporation,

(f) agreements or contracts with insurance companies or other financial institutions, or subsidiaries or affiliates thereof (hereinafter in this paragraph referred to as "Providers"), (i) whose outstanding unsecured senior indebtedness or claims-paying ability, as the case may be, shall be rated at the time the investment is made, or who shall have a "financial programs rating" or other equivalent rating, in the highest whole rating category by at least two nationally recognized statistical rating organizations or (ii) whose obligations under such agreements or contracts shall be unconditionally guaranteed by another insurance company or other financial institution, or subsidiary or affiliate thereof, whose outstanding unsecured senior indebtedness or claims-paying ability, as the case may be, shall be rated, or who shall have a "financial programs rating" or other equivalent rating, in the highest whole rating category by at least two nationally recognized statistical rating organizations, pursuant to which agreements or contracts the Provider shall be absolutely, unconditionally and irrevocably obligated to repay the moneys invested by JEA and interest thereon at a guaranteed rate, without any right of recoupment, counterclaim or set off; the Provider may have the right to assign its obligations under any Investment Agreement to any other insurance company or other financial institution, or subsidiary or affiliate thereof; *provided*, *however*, that such assignee also shall be an insurance company or other financial institution, or subsidiary or affiliate thereof, satisfying the requirements set forth in either clause (a) or clause (b) above, and

(g) upon compliance with the applicable provisions of the Restated and Amended Bulk Power Supply System Resolution, such securities (i) as are described in clause (a) of this definition and (ii) as are described in clause (d) of this definition so long as such securities evidence ownership of the right to payments of principal and/or interest on obligations described in clause (a) of such definition; in each case *provided* that, notwithstanding such clauses, such securities which are subject to redemption prior to maturity at the option of the issuer thereof on a specified date or dates.

Deferred Income Bonds shall mean any Bonds issued under the Restated and Amended Bulk Power Supply System Resolution as to which interest accruing prior to the Current Interest Commencement Date is (a) compounded periodically on dates specified in the Supplemental Resolution authorizing such Deferred Income Bonds and (b) payable only at the maturity, earlier redemption or other payment thereof pursuant to the Restated and Amended Bulk Power Supply System Resolution or the Supplemental Resolution authorizing such Deferred Income Bonds.

Designated Swap Obligation shall mean, to the extent from time to time permitted by law, any interest rate swap transaction (a) which is entered into by JEA for the purpose of converting synthetically the interest rate on any particular Bonds from a fixed rate to a variable rate or from a variable rate to a fixed rate (regardless of whether such Designated Swap Obligation shall have a term equal to the remaining term of such Bonds) and (b) which has been designated in a certificate of an Authorized Officer of JEA filed with the records of JEA as such (which certificate shall specify the Bonds with respect to which such Designated Swap Obligation is entered into).

Electric Resolution shall mean the resolution adopted by JEA on March 30, 1982, authorizing the issuance of Electric System Revenue Bonds, as amended.

Electric System shall mean the Electric System of JEA as defined in the Electric Resolution.

Highest Rating Category shall mean a rating in the highest rating category given by the applicable Rating Agency for that general category of security or obligation.

Investment Securities shall mean and include (x) each of the following securities, obligations and investments and (y) any other securities, obligations and investments, in either case, if and to the extent that at the time the same shall be legal for investment of JEA's funds:

(a) any bonds or other obligations which constitute direct obligations of, or as to principal and interest are unconditionally guaranteed by, the United States of America, including obligations of any of the federal agencies set forth in clause (b) below to the extent unconditionally guaranteed by the United States of America;

(b) bonds, debentures, or other evidences of indebtedness issued or guaranteed by any agency or corporation which has been or may hereafter be created pursuant to an Act of Congress as an agency or instrumentality of the United States of America which at the time of their purchase hereunder are rated "AAA" by S&P and "Aaa" by Moody's, if rated by both rating agencies, and, if rated by one such rating agency, shall have a rating of "AAA" or "Aaa" by S&P or Moody's, as the case may be;

(c) obligations of any state of the United States of America or any political subdivision thereof or any agency or instrumentality of any state or political subdivision; *provided* that at the time of their purchase hereunder such obligations are rated in either of the two highest whole rating categories by two nationally recognized rating agencies;

(d) direct and general obligations of the State of Florida for the payment of the principal of and interest on which the full faith and credit of said State is pledged, or any bonds or other obligations which as to principal and interest are unconditionally guaranteed by the State of Florida;

(e) certificates that evidence ownership of the right to payments of principal and/or interest on obligations described in clauses (a) and (b) of this definition; *provided* that such obligations shall be held in trust by a bank or trust company or a national banking association authorized to exercise corporate trust powers and subject to supervision or examination of federal, state, territorial or District of Columbia authority and having a combined capital, surplus and undivided profits of not less than $50,000,000;

(f) certificates of deposit, whether negotiable or non-negotiable, and banker's acceptances issued by any bank, trust company or national banking association, in each case, having a combined capital, surplus and undivided profits of not less than $100,000,000; *provided* that at the time of their purchase hereunder such instruments are (i) rated not lower than the second highest whole rating category by two nationally recognized rating agencies, (ii) issued by a bank, trust company or nationally recognized association (A) which bank, trust company or national banking association's deposit obligations have been issued the highest possible rating (giving effect to any refinement or graduation of ratings by a numerical or symbolic modifier or otherwise) by (I) Moody's or S&P or (II) two nationally recognized rating agencies or (B) which bank, trust company or national banking association has issued and outstanding senior unsecured indebtedness rated not lower than the second highest whole rating category by two nationally recognized rating agencies; *provided* that, if after the purchase of any such certificates of deposit, the ratings thereon or with respect to the issuer thereof, as the case may be, shall fall below the requirements set forth in subclause (i) or (ii) of this clause (f), JEA shall sell such certificates of deposit, or (iii) fully insured by the Federal Deposit Insurance Corporation or secured, to the extent not insured by the Federal Deposit Insurance Corporation, by such securities as are described in clause (a) of this definition which securities shall at all times have a market value at least equal to the principal amount of such certificates of deposit or banker's acceptances;

(g) commercial paper that, at the date of investment, is rated "P-1" by Moody's Investors Service and "A-1" by S&P, or if not so rated by both such rating agencies, then rated "P-1" by Moody's or "A-1" by S&P or "F-1" by Fitch Ratings and rated with the highest possible rating (giving effect to any refinement or graduation of ratings with a numerical or symbolic modifier or otherwise) by one other nationally recognized rating agency;

(h) any repurchase agreement with any bank or trust company organized under the laws of any state of the United States of America or any national banking association or government bond dealer reporting to, trading with, and recognized as a primary dealer by the Federal Reserve Bank of New York, which agreement relates to the sale and repurchase of any one or more of the securities described in clauses (a) and (b) above and which, in the judgment of JEA, conforms as to terms and conditions with then prevailing prudent standards in the financial markets;

(i) shares of an investment company organized under the Investment Company Act of 1940, as amended (or successor provision of law), which invests in assets exclusively in obligations of the type described in the other clauses of this definition which shares shall be rated "AA" or above if rated by S&P and "Aa2" or above if rated by Moody's;

(j) interests in the State of Florida Local Government Surplus Funds Trust Fund or other similar common trust fund for which such state, or a constitutional or statutory officer or agency thereof, shall be the custodian; and

(k) any agreements or contracts with insurance companies or other financial institutions, which agreements or contracts (i) shall be rated at the date of investment of such agreements or contracts in the highest whole rating category by two nationally recognized rating agencies, or (ii) are issued or entered into by (A) an insurance company whose claims paying ability shall be rated at the date of investment in such agreements or contracts in the highest whole rating category by two nationally recognized rating agencies or (B) an insurance company or other financial institution that has issued and outstanding senior unsecured indebtedness rated at the date of investment in such agreements or contracts in the highest whole rating category by two nationally recognized rating agencies, and whereby under each such agreement or contract the insurance company or other financial institution shall be absolutely and unconditionally obligated to repay the moneys invested by JEA and interest thereon, without any right of recoupment, counterclaim or set off. Any such agreement or contract may provide that, with the approval of JEA, the insurance company or other financial institution may have the right to assign its obligations under any such agreement or contract to any other insurance company or other financial institution.

Medium-Term Note Payment Plan shall mean, with respect to any Series of Medium-Term Notes and as of any time, the then current Medium-Term Note Payment Plan for such Notes contained in a certificate of an Authorized Officer of JEA delivered pursuant to the Restated and Amended Bulk Power Supply System Resolution and setting forth the sources of funds expected to be utilized by JEA to pay the principal of and interest on such Medium-Term Notes or any subsequent certificate of an Authorized Officer of JEA thereafter executed to reflect changes, if any, in the expectations of JEA with respect to the sources of funds to be utilized to pay principal of and interest on such Medium-Term Notes; *provided, however*, that if any Medium-Term Note Payment Plan provides for the refunding of any Medium-Term Note with proceeds of (a) Bonds other than Commercial Paper Notes or Medium-Term Notes or (b) Subordinated Indebtedness, in either such case, that JEA intends to pay from Revenues, the principal of such Medium-Term Notes shall, for purposes of the Medium-Term Note Payment Plan, be assumed to come due over a period commencing with the due date of the Medium-Term Note and ending not later than the earlier of (a) the 40th anniversary of the first issuance of Medium-Term Notes of such Series or (b) the 30th anniversary of the due date of the Medium-Term Note to be refunded, in installments such that the principal and interest payable on such Medium-Term Notes in each Fiscal Year in such period will be equal to the principal and interest payable on such Medium-Term Notes in each other Fiscal Year in such period.

Net Revenues shall mean, for any period, the Revenues during such period, determined on an accrual basis, minus Operation and Maintenance Expenses during such period, determined on an accrual basis, to the extent paid or to be paid from Revenues.

One-Month LIBOR Rate shall mean, as of any date of determination, the offered rate for deposits in U.S. dollars for a one-month period which appears on the Telerate Page 3750 at approximately 11:00 a.m., London time, on such date, or if such date is not a date on which dealings in U.S. dollars are transacted in the London interbank market, then on the next preceding day on which such dealings were transacted in such market.

Operation and Maintenance Expenses shall mean (i) JEA's expenses for operation and maintenance of all Projects, and ordinary repairs, renewals, replacements and reconstruction of all Projects, including all JEA's costs of producing and delivering electric power and energy from all Projects and payments (other than payments out of the proceeds of Bonds, Subordinated Indebtedness or other evidences of indebtedness of JEA) into reserves in the Revenue Fund for items of Operation and Maintenance Expenses the payment of which is not immediately required, and shall include, without limiting the generality of the foregoing, fuel costs (including fuel hedges), costs of transmission service, rents, administrative and general expenses, costs of financial products, engineering expenses, legal, accounting and financial advisory expenses, salaries, management fees, payments to pension, retirement, health and hospitalization funds, insurance and surety bond premiums, any taxes or payments in lieu of taxes and payments required to be paid by JEA under any Project Agreement which are to be applied pursuant to the terms thereof to the payment of such costs and expenses, all to the extent properly allocable to the Projects in accordance with generally accepted accounting principles, or required to be incurred under or in connection with the performance of JEA's obligations under any Project Agreement, (ii) any other current expenses or obligations required to be paid by JEA under the provisions of the Restated and Amended Bulk Power Supply System Resolution or by law or regulation, all to the extent properly allocable to the Projects in accordance with generally accepted accounting principles, or required to be paid by JEA under any Project Agreement, (iii) the fees and expenses of the Fiduciaries and (iv) the costs and expenses in connection with the purchase or redemption of Bonds. Notwithstanding the foregoing, operation and Maintenance Expenses shall not include any allowance for depreciation or amortization and there shall be included in operation and Maintenance Expenses only that, portion of the total administrative and general expenses of JEA which are properly allocable to the Projects.

Option Bonds shall mean Bonds which by their terms may be tendered by and at the option of the Holder thereof for payment by JEA prior to the stated maturity thereof, or the maturities of which may be extended by and at the option of the Holder thereof.

Principal Installment shall mean, as of any date of calculation and with respect to any Series, so long as any Bonds thereof are Outstanding, (a) the principal amount of Bonds (including, in the case of any Option Bond, the principal amount thereof tendered for payment prior to the stated maturity thereof) of such Series due (or so tendered for payment) on a certain future date for which no Sinking Fund Installments have been established, or (b) the unsatisfied balance (determined as provided in the Restated and Amended Bulk Power Supply System Resolution) of any Sinking Fund Installments due on a certain future date for Bonds of such Series, plus the amount of the sinking fund redemption premiums, if any, which would be applicable upon redemption of such Bonds on such future date in a principal amount equal to said unsatisfied balance of such Sinking Fund Installments, or (c) if such future dates coincide as to different Bonds of such Series, the sum of such principal amount of Bonds and of such unsatisfied balance of Sinking Fund Installments due on such future date plus such applicable redemption premiums, if any.

Project shall mean (i) the Scherer 4 Project or (ii) any Additional Project. Each Project shall be a separate bulk power supply utility or system within the meaning of Chapter 80-513, Laws of Florida, Special Acts of 1980, as amended. "Project" shall not include JEA's Electric System, the SJRPP System, or any other separate utility or system which JEA elects to acquire, construct and operate as a separate bulk power supply utility or system, or any part of any of the foregoing, and which is not financed with the proceeds of Bonds issued under the Restated and Amended Bulk Power Supply System Resolution or Subordinated Indebtedness.

Project Agreements shall mean, with respect to the Scherer 4 Project, the Scherer 4 Project Agreements and, with respect to any Additional Project, all of the contracts entered into by JEA relating to the ownership, lease, construction and operation of such Project, as from time to time amended or supplemented, and designated in a Supplemental Resolution or Supplemental Resolutions.

Refundable Principal Installment shall mean any Principal Installment for any Series of Bonds which JEA intends to pay with moneys which are not Revenues; *provided* that (a) in the case of Bonds other than Commercial Paper Notes or Medium-Term Notes, such intent shall have been expressed in the Supplemental Resolution authorizing such Series of Bonds, (b) in the case of Commercial Paper Notes, such intent shall be expressed in the then current Commercial Paper Payment Plan for such Commercial Paper Notes and (c) in the case of Medium-Term Notes, such intent shall be expressed in the then current Medium-Term Note Payment Plan for such Medium-Term Notes; *provided, further*, that such Principal Installment shall be a Refundable Principal Installment only through the penultimate day of the month preceding the month in which such Principal Installment comes due or such earlier time as JEA no longer intends to pay such Principal Installment with moneys which are not Revenues.

Reimbursement Obligations shall mean all Bonds issued to evidence JEA's obligation to repay any advances or loans made to, or behalf of, JEA in connection with any Credit Enhancement or liquidity support for the Bonds of a series (or a maturity or maturities or interest rate within a maturity thereof).

Renewal and Replacement Requirement shall mean for each Bond Year, 12.5 percent of Aggregate Debt Service for such Bond Year or such greater amount as shall be determined from time to time by the Governing Body as being prudent and appropriate.

Revenues shall mean (i) all revenues, income, rents and receipts derived or to be derived by JEA from or attributable or relating to the ownership and operation of all Projects, including all payments made by JEA from its Electric System into the Revenue Fund pursuant to the Restated and Amended Bulk Power Supply System Resolution for output, capacity, use or service of the Projects, (ii) the proceeds of any insurance covering business interruption loss relating to any Project derived or to be derived by JEA and (iii) interest and gains on the sale of securities received or to be received on any moneys or securities held pursuant to the Restated and Amended Bulk Power Supply System Resolution and paid or required to be paid into the Revenue Fund. Revenues shall not include any income, fees, charges, receipts, profits or other moneys derived by JEA from its ownership or operation of the Electric System (except that payments made or to be made by JEA into the Revenue Fund from the Electric System pursuant to the Restated and Amended Bulk Power Supply System Resolution, as referred to in clause (i) of the preceding sentence, shall become Revenues when and to the extent such payments have been accrued) or of any other separate bulk power supply utility or system of the nature referred to in the last sentence of the definition of Project. For any purpose of the Restated and Amended Bulk Power Supply System Resolution that requires the computation of Revenues with respect to any period of time, "Revenues" shall include such amounts described in the second preceding sentence derived or to be derived or received or to be received, as the case may be, during such period, determined on an accrual basis, plus (x) the amounts, if any, paid from the Rate Stabilization Fund into the Revenue Fund during such period (excluding from (x) amounts included in the Revenues for such period representing interest earnings transferred from the Rate Stabilization Fund to the Revenue Fund pursuant to the Restated and Amended Bulk Power Supply System Resolution) and minus (y) the amounts, if any, paid from the Revenue Fund into the Rate Stabilization Fund during such period. Notwithstanding the foregoing, all cash subsidy payments received by JEA from the U.S. Treasury in respect of the interest payable on any Build America Bonds shall not constitute "Revenues" for any purpose of the Resolution.

Scherer 4 shall mean Plant Robert W. Scherer Unit No. 4, an 846 MW coal-fired, steam electric generating unit located near Forsyth, Georgia.

Scherer 4 Project shall mean (a) the following, all of which may be acquired by JEA in one or more transactions: (i) an undivided ownership interest in Scherer 4 of not more than 23.64 percent, (ii) an undivided ownership interest in the Additional Unit Common Facilities (as defined in the Scherer 4 Purchase Agreement) of not more than 11.82 percent, (iii) an undivided ownership interest in the Plant Scherer Common Facilities (as defined in the Scherer 4 Purchase Agreement) of not more than 5.91 percent and (iv) an undivided ownership interest in the Plant Scherer Coal Stockpile (as defined in the Scherer 4 Purchase Agreement) of not more than 5.91 percent and (b) any Capital Improvements thereto.

SJRPP Resolution shall mean the resolution adopted by JEA on March 30, 1982 entitled "St. Johns River Power Park System Revenue Bond Resolution," as amended and supplemented, together with a resolution adopted by JEA on February 20, 2007 entitled "St. Johns River Power Park System Second Revenue Bond Resolution."

SJRPP System shall mean the bulk power supply utility or system owned and operated by JEA pursuant to the SJRPP Resolution.

Second Highest Rating Category shall mean a rating not lower than the second highest rating category (not taking into account numerical or plus or minus or other gradations within a rating category) given by that Rating Agency for that general category of security or obligation.

SIFMA Municipal Swap Index shall mean the rate determined on the basis of an index based upon the weekly interest rates of tax exempt variable rate issues included in a database maintained by the Securities Industry and Financial Markets Association ("SIFMA") or any successor indexing agent which meets specific criteria established by SIFMA.

Trust Estate shall mean (a) the proceeds of the sale of the Bonds, (b) the Revenues, and (c) all Funds and Accounts established by the Restated and Amended Bulk Power Supply System Resolution (other than (x) the Debt Service Reserve Account in the Debt Service Fund, (y) the Renewal and Replacement Fund and (z) the Decommissioning Fund which may be established pursuant to the Restated and Amended Bulk Power Supply System Resolution), including the investments and investment income, if any, thereof.

U.S. Treasury shall mean the U.S. Treasury or any party designated by the federal government to issue cash subsidy payments on Build America Bonds.

Variable Rate Bond shall mean any Bond not bearing interest throughout its term at a specified rate or specified rates determined at the time of issuance of the Series of Bonds, of which such Bond is one.

Variable Rate Taxable Index shall mean the One-Month LIBOR Rate or, if the One-Month LIBOR Rate no longer shall be available, the Alternate Variable Rate Taxable Index.

Variable Rate Tax-Exempt Index shall mean the SIFMA Municipal Swap Index or, if the SIFMA Municipal Swap Index no longer shall be available, the Alternate Variable Rate Tax-Exempt Index.

Pledge

The Bonds are special obligations of JEA payable from and secured by the funds pledged therefor. Pursuant to the Restated and Amended Bulk Power Supply System Resolution, there is pledged for the payment of the principal and Redemption Price of, and interest on, the Bonds in accordance with their terms and the provisions of the Restated and Amended Bulk Power Supply System Resolution, subject only to the provisions of the Restated and Amended Bulk Power Supply System Resolution permitting the application thereof for the purposes and on the terms and conditions set forth in the Restated and Amended Bulk Power Supply System Resolution, the Trust Estate.

Pursuant to the Restated and Amended Bulk Power Supply System Resolution, there are pledged, as additional security for the payment of the principal or sinking fund Redemption Price, if any, of, and interest on, the Bonds of each Additionally Secured Series secured thereby, subject only to the provisions of the Restated and Amended Bulk Power Supply System Resolution permitting the application thereof for the purposes and on the terms and conditions set forth in the Restated and Amended Bulk Power Supply System Resolution, amounts on deposit in any separate subaccount established in the Debt Service Reserve Account in the Debt Service Fund, including the investments and investment income, if any, thereof.

Application of Revenues

Revenues are pledged by the Restated and Amended Bulk Power Supply System Resolution to payment of principal of and interest and redemption premium on the Bonds of all Series, subject to the provisions of the Restated and Amended Bulk Power Supply System Resolution permitting application for other purposes. For application of the Revenues, the Restated and Amended Bulk Power Supply System Resolution establishes a Construction Fund, Revenue Fund, Debt Service Fund, which shall consist of a Debt Service Account and a Debt Service Reserve Account, and within such Debt Service Reserve Account an Initial Subaccount; Subordinated Indebtedness Fund, Rate Stabilization Fund, Renewal and Replacement Fund and General Reserve Fund. All of such funds are held by JEA; *provided* that if and to the extent provided in a Supplemental Resolution authorizing Subordinated Indebtedness, the Subordinated Indebtedness Fund shall be held by the entity specified in such Supplemental Resolution.

Construction Fund

There shall be paid into the Construction Fund the amounts required to be so paid by the provisions of the Restated and Amended Bulk Power Supply System Resolution and there may be paid into the Construction Fund, at the option of JEA, any moneys received for or in connection with any Project by JEA from any other source, unless required to be otherwise applied as provided by the Restated and Amended Bulk Power Supply System Resolution or any Project Agreement. Amounts in the Construction Fund shall be applied to the payment of the Costs in the manner provided in the Restated and Amended Bulk Power Supply System Resolution. There shall be established within the Construction Fund a separate Project Account for each Project.

The proceeds of insurance maintained pursuant to the Restated and Amended Bulk Power Supply System Resolution against physical loss of or damage to any Project or of contractors' performance bonds or other assurances of completion with respect thereto pertaining to the period of construction or acquisition thereof, shall, upon receipt by JEA, be paid into the appropriate Project Account in the Construction Fund, unless required to be applied otherwise pursuant to the provisions of any Project Agreement relating to such Project.

Amounts in each Project Account shall be applied to the purpose or purposes specified in the Restated and Amended Bulk Power Supply System Resolution or any Supplemental Resolution authorizing Bonds relating to the Project for which such Project Account was established.

To the extent that other moneys are not available therefor, amounts in the Construction Fund shall be applied to the payment of the principal of and interest on the Bonds when due.

JEA may withdraw amounts from the appropriate Project Account for the payment of amounts due and owing on account of Costs of the Project.

Amounts credited to any Project Account in the Construction Fund which JEA determines at any time to be in excess of the amounts required for the purposes thereof shall be deposited in the Debt Service Reserve Account in the Debt Service Fund if and to the extent necessary to make the amount in any separate subaccount therein equal to the Debt Service Reserve Requirement related thereto (or, if such excess shall be less than the amount necessary to make up the deficiencies with respect to all of the separate subaccounts in the Debt Service Reserve Account, then such excess shall be applied ratably, in proportion to the deficiency in each such subaccount), and any balance of such excess shall be deposited (a) in the General Reserve Fund for (i) application to the purchase, redemption, payment or provision for payment of Bonds or interest thereon or (ii) transfer to the Renewal and Replacement Fund for application as provided in the Restated and Amended Bulk Power Supply System Resolution; *provided, however*, that in the event such balance deposited in the General Reserve Fund is less than $100,000, such balance may be applied to or set aside for any lawful purpose of JEA, (b) in the Renewal and Replacement Fund or (c) in any other Project Account in the Construction Fund for application to the payment of the Costs of any Project then under construction and/or being acquired.

Revenues and Revenue Fund

Pursuant to the Restated and Amended Bulk Power Supply System Resolution, all Revenues are to be deposited promptly by JEA to the credit of the Revenue Fund.

After payment of Operation and Maintenance Expenses, the Restated and Amended Bulk Power Supply System Resolution provides that the Revenue Fund should be applied monthly to the extent available in the following order:

(a) in the Debt Service Fund, (i) for credit to the Debt Service Account, an amount at least equal to the amount, if any, required so that the balance in said Account shall equal the Accrued Aggregate Debt Service as of the last day of the then current month; *provided* that (A) for the purposes of computing the amount to be deposited in said Account, there shall be excluded from the balance in said Account the amount, if any, set aside in said Account from the proceeds of Bonds, Subordinated Indebtedness or other evidences of indebtedness of JEA (including amounts, if any, transferred thereto from the Construction Fund) for the payment of interest on Bonds less that amount of such proceeds to be applied in accordance with the Restated and Amended Bulk Power Supply System Resolution to the payment of interest accrued and unpaid and to accrue on Bonds to the last day of the then current calendar month; and (B) any amount deposited into said Account during any month that is in excess of the minimum amount required to be deposited therein during such month may be deemed by JEA to be accumulated therein with respect to (1) any Sinking Fund Installment or (2) any principal amount of Bonds (including, in the case of any Option Bond, the principal amount thereof tendered for payment prior to the stated maturity thereof) due (or so tendered for payment) on a certain future date for which no Sinking Fund Installments have been established or (3) some combination of (1) and (2), and interest thereon; and (ii) for deposit in each separate subaccount in the Debt Service Reserve Account, the amount, if any, required so that the balance in each such subaccount shall equal the Debt Service Reserve Requirement related thereto as of the last day of the then current month (or, if the amount on deposit in the Revenue Fund shall not be sufficient to make the deposits required to be made pursuant to this clause (ii) with respect to all of the separate subaccounts in the Debt Service Reserve Account, then such amount on deposit in the Revenue Fund shall be applied ratably, in proportion to the amount necessary for deposit into each such subaccount);

(b) in the Subordinated Indebtedness Fund, an amount at least equal to the amount, if any, as shall be required to be deposited therein in the then current month to pay principal or sinking fund installments of and premiums, if any, and interest on each issue of Subordinated Indebtedness coming due in such month, whether as a result of maturity or prior call for redemption, and to provide reserves therefor, as required by the Supplemental Resolution authorizing such issue of Subordinated Indebtedness;

(c) in the Rate Stabilization Fund, the amount, if any (i) budgeted for deposit into such Fund as set forth in the then current Annual Budget or (ii) otherwise determined by an Authorized Officer of JEA to be deposited therein; *provided* that such deposit need not be made until the last day of the Fiscal Year;

(d) in the Renewal and Replacement Fund, an amount determined in the discretion of an Authorized Officer of JEA; *provided*, *however*, that the amount deposited therein in each Fiscal Year shall be at least equal to the Renewal and Replacement Requirement for that Fiscal Year; and

(e) if any Decommissioning Funds shall have been established pursuant to the Restated and Amended Bulk Power Supply System Resolution, in each Decommissioning Fund, the amount budgeted for credit to said Fund for the then current month as set forth in the then current Annual Budget relating to the Project for which such Fund has been established (or, if the amount on deposit in the Revenue Fund shall not be sufficient to make the payments required to be made pursuant to this paragraph (e) with respect all of the Decommissioning Funds, then such amount on deposit in the Revenue Fund shall be applied (i) ratably, in proportion to the amount budgeted for credit to each such Decommissioning Fund or (ii) in such other manner as JEA may determine).

As of the last day of each Bond Year after payment of the Operation and Maintenance Expenses for such Bond Year and after all payments required to be made into the Rate Stabilization Fund, the Debt Service Fund, the Subordinated Indebtedness Fund, the Renewal and Replacement Fund and the Decommissioning Funds out of Revenues have been made for such Bond Year, JEA shall withdraw from the Revenue Fund and deposit in the General Reserve Fund the remaining balance, if any, of amounts on deposit in the Revenue Fund (other than amounts set aside therein as working capital or reserves for Operation and Maintenance Expenses).

Notwithstanding the provisions above, so long as there shall be held in the Debt Service Fund an amount sufficient to pay in full all Outstanding Bonds in accordance with their terms (including the maximum amount of principal or applicable sinking fund Redemption Price and interest which could become payable thereon), no deposits shall be required to be made into the Debt Service Fund.

Debt Service Fund -- Debt Service Reserve Account

There shall be established in the Debt Service Reserve Account in the Debt Service Fund one or more separate subaccounts, each of which subaccounts shall be for the benefit and security of one or more Series of Bonds, in the manner and to the extent provided in the Restated and Amended Bulk Power Supply System Resolution or the Supplemental Resolution establishing each such subaccount, as the case may be.

If on any day on which the principal or sinking fund Redemption Price of or interest on the Bonds shall be due, the amount on deposit in the Debt Service Account in the Debt Service Fund (exclusive of amounts, if any, set aside in said Account from the proceeds of Bonds, Subordinated Indebtedness or other evidences of indebtedness of JEA (including amounts, if any, transferred thereto from the Construction Fund) for the payment of interest on Bonds on a future date) shall be less than the amount required to pay such principal, Redemption Price or interest, then JEA shall apply amounts from each separate subaccount in the Debt Service Reserve Account to the extent necessary to cure the deficiency that exists with respect to the Additionally Secured Series of the Bonds secured thereby.

Whenever the moneys on deposit in any subaccount established in the Debt Service Reserve Account shall exceed the Debt Service Reserve Requirement related thereto, and after giving effect to any surety bond, insurance policy, letter of credit or other similar obligation that may be credited to such subaccount in accordance with the provisions of the Supplemental Resolution establishing such subaccount, such excess shall be retained therein or deposited in the Revenue Fund; *provided*, *however*, that the amount of any such deposit to the Revenue Fund shall not constitute or be deemed to constitute Revenues for any purpose of the Restated and Amended Bulk Power Supply System Resolution.

Whenever the amount in the Debt Service Reserve Account, together with the amount in the Debt Service Account, is sufficient to pay in full all Outstanding Bonds in accordance with their terms (including the maximum amount of principal or applicable sinking fund Redemption Price and interest which could become payable thereon), the funds on deposit in the Debt Service Reserve Account shall be transferred to the Debt Service Account. Prior to said transfer, all investments held in the Debt Service Reserve Account shall be liquidated to the extent necessary in order to provide for the timely payment of principal or Redemption Price, if applicable, and interest on the Bonds.

In the event of the refunding or defeasance of any Bonds of an Additionally Secured Series, JEA may withdraw from the separate subaccount in the Debt Service Reserve Account established for the benefit of the Bonds of such Additionally Secured Series all or any portion of the amounts accumulated therein and deposit such amounts with the Escrow Agent for the Bonds being refunded or defeased to be held for the payment of the principal or Redemption Price, if applicable, and interest on the Bonds being refunded or defeased; *provided* that such withdrawal shall not be made unless (a) immediately thereafter the Bonds being refunded or defeased shall be deemed to have been paid pursuant to the Restated and Amended Bulk Power Supply System Resolution, and (b) the amount remaining in such separate subaccount in the Debt Service Reserve Account, after giving effect to any surety bond, insurance policy, letter of credit or other similar obligation that may be credited to such subaccount in accordance with the provisions of the Supplemental Resolution establishing such subaccount, and after giving effect to the issuance of any obligations being issued to refund any Bonds being refunded and the disposition of the proceeds thereof, shall not be less than the Debt Service Reserve Requirement related thereto. In the event of such refunding or defeasance, JEA may also withdraw from such separate subaccount in the Debt Service Reserve Account all or any portion of the amounts accumulated therein and deposit such amounts in any Fund or Account under the Restated and Amended Bulk Power Supply System Resolution; *provided* that such withdrawal shall not be made unless items (a) and (b) referred to hereinabove have been satisfied; *provided*, *further*, that, at the time of such withdrawal, there shall exist no deficiency in any Fund or Account held under the Restated and Amended Bulk Power Supply System Resolution.

Establishment of Initial Subaccount in the
Debt Service Reserve Account and Application Thereof

The Restated and Amended Bulk Power Supply System Resolution establishes an Initial Subaccount in the Debt Service Reserve Account in the Debt Service Fund. Amounts held by JEA in the Initial Subaccount shall constitute a trust fund for the benefit of the Holders of the Bonds of any Series, if and to the extent that the Supplemental Resolution authorizing such Bonds provides that such Bonds shall be additionally secured by amounts on deposit in the Initial Subaccount; *provided*, *however*, that if the Bonds of any Series hereafter issued are to be additionally secured by amounts on deposit in the Initial Subaccount, then it shall be a condition precedent to the authentication and delivery of such Bonds that the amount on deposit in the Initial Subaccount, after giving effect to any surety bond, insurance policy or letter of credit that may be credited to the Initial Subaccount in accordance with the provisions of the Restated and Amended Bulk Power Supply System Resolution, and after giving effect to the issuance of such Bonds, shall not be less than the Debt Service Reserve Requirement for the Initial Subaccount. The Bonds of any Series that are additionally secured by amounts on deposit in the Initial Subaccount as aforesaid are herein referred to collectively as the “Initial Subaccount Additionally Secured Bonds.” As of the date of the Annual Disclosure Report to which this Appendix is attached, the Initial Subaccount secures JEA’s Outstanding Bulk Power Supply Revenue Bonds, Scherer 4 Project Issue, Series 2010A (Federally Taxable - Issuer Subsidy - Build America Bonds) and Series 2014A.

If on any day on which the principal or sinking fund Redemption Price of or interest on the Bonds shall be due the amount on deposit in the Debt Service Account in the Debt Service Fund (exclusive of amounts, if any, set aside in said Account from the proceeds of Bonds, Subordinated Indebtedness or other evidences of indebtedness of JEA (including amounts, if any, transferred thereto from the Construction

Fund) for the payment of interest on Bonds on a future date) shall be less than the amount required to pay such principal, Redemption Price or interest, then JEA shall apply amounts from the Initial Subaccount to the extent necessary to cure the deficiency that exists with respect to the Initial Subaccount Additionally Secured Bonds.

In lieu of maintaining moneys or investments in the Initial Subaccount, JEA at any time may cause to be deposited into the Initial Subaccount for the benefit of the Holders of the Initial Subaccount Additionally Secured Bonds an irrevocable surety bond, an insurance policy or a letter of credit (referred to in the Restated and Amended Bulk Power Supply System Resolution as a "reserve fund credit instrument") satisfying the requirements set forth below in an amount equal to the difference between the Debt Service Reserve Requirement for the Initial Subaccount and the sums of moneys or value of Investment Securities on deposit in the Initial Subaccount, if any, upon provision of such reserve fund credit instrument.

(a) A surety bond or insurance policy issued by a company licensed to issue an insurance policy guaranteeing the timely payment of debt service on the Initial Subaccount Additionally Secured Bonds (a "municipal bond insurer") may be deposited in the Initial Subaccount to meet the Debt Service Reserve Requirement for the Initial Subaccount if the claims paying ability of the issuer thereof shall be rated in the Highest Rating Category by each Rating Agency.

(b) A surety bond or insurance policy issued by an entity other than a municipal bond insurer may be deposited in the Initial Subaccount to meet the Debt Service Reserve Requirement for the Initial Subaccount; *provided* that such entity or its claims paying ability is rated in the Highest Rating Category by each Rating Agency.

(c) An unconditional irrevocable letter of credit issued by a bank may be deposited in the Initial Subaccount to meet the Debt Service Reserve Requirement for the Initial Subaccount if the issuer thereof is rated at least the Second Highest Rating Category by each Rating Agency. The letter of credit shall be payable in one or more draws upon presentation by the beneficiary thereof of a sight draft accompanied by its certificate that it then holds insufficient funds to make a required payment of principal or interest on the Initial Subaccount Additionally Secured Bonds. The draws shall be payable within two days of presentation of the sight draft. The letter of credit shall be for a term of not less than three years. The issuer of the letter of credit shall be required to notify JEA and the beneficiary thereof, not later than 30 months prior to the stated expiration date of the letter of credit, as to whether such expiration date shall be extended, and if so, shall indicate the new expiration date.

(d) If such notice indicates that the expiration date shall not be extended, JEA shall deposit in the Initial Subaccount an amount sufficient to cause the cash or Investment Securities on deposit in the Initial Subaccount, together with any other qualifying reserve fund credit instruments, to equal the Debt Service Reserve Requirement for the Initial Subaccount, such deposit to be paid in equal installments on at least a semiannual basis over the remaining term of the letter of credit, unless the reserve fund credit instrument is replaced by a reserve fund credit instrument meeting the requirements in any of clauses (a) through (c) above. The letter of credit shall permit a draw in full not less than two weeks prior to the expiration or termination of such letter of credit if the letter of credit has not been replaced or renewed. The beneficiary of the letter of credit shall draw upon the letter of credit prior to its expiration or termination unless an acceptable replacement is in place or the Initial Subaccount is fully funded in its required amount.

(e) The use of any reserve fund credit instrument pursuant to the Restated and Amended Bulk Power Supply System Resolution shall be subject to receipt of an opinion of counsel acceptable to JEA as to the due authorization, execution, delivery and enforceability of such instrument in accordance with its terms, subject to applicable laws affecting creditors' rights generally, and, in the event the issuer of such credit instrument is not a domestic entity, an opinion of foreign counsel. In addition, the use of an irrevocable letter of credit shall be subject to receipt of an opinion of counsel acceptable to JEA and the Credit Enhancer, if any, for the Bonds Additionally Secured by the Initial Subaccount and in form and substance satisfactory to JEA and the Credit Enhancer, if any, for the Bonds Additionally Secured by the Initial Subaccount to the effect that payments under such letter of credit would not constitute avoidable preferences under Section 547 of the U.S. Bankruptcy Code or similar state laws with avoidable preference provisions in the event of the filing of a petition for relief under the U.S. Bankruptcy Code or similar state laws by or against JEA.

(f) The obligation to reimburse the issuer of a reserve fund credit instrument for any fees, expenses, claim or draws upon such reserve fund credit instrument shall be subordinate to the payment of debt service on the Bonds. Subject to the second and third succeeding sentences, the right of the issuer of a reserve fund credit instrument to payment or reimbursement for claims or draws under such reserve fund credit instrument and to payment or reimbursement of its fees and expenses shall be on a parity with the cash replenishment of the Initial Subaccount. The reserve fund credit instrument shall provide for a revolving feature under which the amount available thereunder will be reinstated to the extent of any reimbursement of draws or claims paid. If the revolving feature is suspended or terminated for any reason, the right of the issuer of the reserve fund credit instrument to reimbursement will be subordinated to cash replenishment of the Initial Subaccount in an amount equal to the difference between the full original amount available under the reserve fund credit instrument and the amount then available for further draws or claims. If (i) the issuer of a reserve fund credit instrument becomes insolvent or (ii) the issuer of a reserve fund credit instrument defaults in its payment obligations thereunder or (iii) the claims-paying ability of the issuer of the insurance policy or surety bond falls below the Highest Rating Category (as rated by any Rating Agency) or (iv) the rating of the issuer of the letter of credit falls below the Second Highest Rating Category (as rated by any Rating Agency), the obligation to reimburse the issuer of the reserve fund credit instrument shall be subordinate to the cash replenishment of the Initial Subaccount.

(g) If (i) the revolving reinstatement feature described in the preceding clause (f) is suspended or terminated or (ii) (A) the rating of the claims paying ability of the issuer of the surety bond or insurance policy falls below the Second Highest Rating Category (as rated by any two of the Rating Agencies) and (B) within 45 days of the occurrence of such ratings reductions by two of the Rating Agencies JEA is unable to obtain confirmation of the underlying ratings on the Initial Subaccount Additionally Secured Bonds from all of the Rating Agencies at the respective ratings assigned to such Initial Subaccount Additionally Secured Bonds immediately before the decline in the rating by the first Rating Agency to reduce such rating or (iii) (A) the rating of the issuer of the letter of credit falls below the Second Highest Rating Category (as rated by any two of the Rating Agencies) and (B) within 45 days of the occurrence of such ratings reductions by two of the Ratings Agencies JEA is unable to obtain confirmation of the underlying ratings on the Initial Subaccount Additionally Secured Bonds from all of the Rating Agencies at the respective ratings assigned to such Initial Subaccount Additionally Secured Bonds immediately before the decline in the rating by the first Rating Agency to reduce such rating, JEA shall either (X) deposit into the Initial Subaccount an amount sufficient to cause the cash or Investment Securities and any other reserve fund credit instruments then on deposit in the Initial Subaccount to equal the Debt Service Reserve Requirement for the Initial Subaccount, such amount to be paid over the ensuing five years in equal installments deposited at least semiannually or (Y) replace such instrument with a surety bond, insurance policy or letter of credit meeting the requirements in any of clauses (a) through (c) above within six months of such occurrence. In the event (1) the rating of the claims-paying ability of the issuer of the surety bond or insurance policy falls below "A-" or "A3" by any two of the Rating Agencies or (2) the rating of the issuer of the letter of credit falls below "A-" or "A3" by any two of the Rating Agencies or (3) the issuer of the reserve fund credit instrument defaults in its payment obligations or (4) the issuer of the reserve fund credit instrument becomes insolvent, JEA shall either (X) deposit into the Initial Subaccount an amount sufficient to cause the cash or Investment Securities and any other reserve fund credit instruments on deposit in the Initial Subaccount to equal to Debt Service Reserve Requirement for the Initial Subaccount, such amount to be paid over the ensuing year in equal installments on at least a monthly basis or (Y) replace such instrument with a surety bond, insurance policy or letter of credit meeting the requirements in any of clauses (a) through (c) above within six months of such occurrence.

(h) Where applicable, the amount available for draws or claims under the reserve fund credit instrument may be reduced by the amount of cash or value of Investment Securities deposited in the Initial Subaccount pursuant to clause (X) of the final sentence of the preceding clause (g).

(i) In the event that a reserve fund credit instrument shall be deposited into the Initial Subaccount as aforesaid, any amounts owed by JEA to the issuer of such reserve fund credit instrument as a result of a draw thereon or a claim thereunder, as appropriate, shall be included in any calculation of debt service requirements required to be made pursuant to the Restated and Amended Bulk Power Supply System Resolution for purposes of the rate covenant contained in the Restated and Amended Bulk Power Supply System Resolution.

(j) The beneficiary of any reserve fund credit instrument shall ascertain the necessity for a claim or draw upon such reserve fund credit instrument and provide timely notice to the issuer of the reserve fund credit instrument in accordance with its terms in order to receive proceeds thereunder prior to each interest payment date for the Bonds of any Initial Subaccount Additionally Secured Bonds.

(k) Cash on deposit in the Initial Subaccount shall be used (or investments purchased with such cash shall be liquidated and the proceeds applied as required) prior to any drawing on any reserve fund credit instrument. If and to the extent that more than one reserve fund credit instrument is deposited in the Initial Subaccount, drawings thereunder and repayments of costs associated therewith shall be made on a pro rata basis, calculated by reference to the maximum amounts available thereunder.

Rate Stabilization Fund

Each Fiscal Year JEA shall transfer from the Rate Stabilization Fund to the Revenue Fund the amount, if any, budgeted for transfer into such Fund for the Fiscal Year as set forth in the then current Annual Budget or the amount otherwise determined by an Authorized Officer of JEA. JEA may, from time to time, withdraw amounts on deposit in the Rate Stabilization Fund and (i) transfer such amounts to any other Fund or Account established under the Restated and Amended Bulk Power Supply System

Resolution, (ii) use such amounts to purchase or redeem Bonds, or (iii) use such amounts to otherwise provide for the payment of Bonds or interest thereon.

Renewal and Replacement Fund

Amounts in the Renewal and Replacement Fund shall be applied to the Costs of any Project, including Capital Improvements thereto, the payment of extraordinary operation and maintenance costs and contingencies and payments with respect to the prevention or correction of any unusual loss or damage in connection with any Project, all to the extent not paid as Operation and Maintenance Expenses or from the proceeds of Bonds, Subordinated Indebtedness or other evidences of indebtedness of JEA. Amounts in the Renewal and Replacement Fund also may be applied (a) to the purchase, redemption, payment or provision for payment of Bonds or bonds issued under the Electric Resolution, or interest thereon or (b) upon determination of the Governing Body, to the payment of the costs of enlargements, extensions, improvements and replacements of capital assets of any other utility system owned and operated by JEA and not constituting a part of the Project.

If and to the extent provided in the Supplemental Resolution authorizing Bonds of a Series or Subordinated Indebtedness, amounts from the proceeds of such Bonds or Subordinated Indebtedness may be deposited in the Renewal and Replacement Fund for any purpose of such Fund.

If at any time the amounts in the Debt Service Account or any separate subaccount in the Debt Service Reserve Account in the Debt Service Fund shall be less than the current requirements of such Account or subaccount, respectively, and there shall not be on deposit in the General Reserve Fund available moneys sufficient to cure such deficiency, then JEA may transfer from the Renewal and Replacement Fund for deposit in the Debt Service Account or such separate subaccount(s) in the Debt Service Reserve Account, as the case may be, the amount necessary to make up such deficiency (or, if the amount in said Fund shall be less than the amount necessary to make up the deficiencies with respect to the Debt Service Account and all of the separate subaccounts in the Debt Service Reserve Account, then the amount in said Fund may be applied first to make up the deficiency in the Debt Service Account, and any balance remaining may be applied ratably to make up the deficiencies with respect to the separate subaccounts in the Debt Service Reserve Account, in proportion to the deficiency in each such subaccount).

If at any time the amounts in the Subordinated Indebtedness Fund shall be less than the current requirement of such Fund and the amounts on deposit in the Debt Service Account and each separate subaccount in the Debt Service Reserve Account in the Debt Service Fund shall equal the current requirements of such Account and subaccounts, respectively, and such amounts are not required for the payment of Operation and Maintenance Expenses, then JEA may transfer from the Renewal and Replacement Fund for deposit in the Subordinated Indebtedness Fund the amount necessary (or all the moneys in the Renewal and Replacement Fund if less than the amount necessary) to make up such deficiency.

If at any time amounts in the Renewal and Replacement Fund exceed the Renewal and Replacement Requirement, the excess, if not needed for any of the purposes specified in the Restated and Amended Bulk Power Supply System Resolution, may be deposited in the General Reserve Fund.

General Reserve Fund

JEA shall withdraw from the General Reserve Fund and apply moneys in the following amounts and in the following order of priority: (a) JEA shall pay Operation and Maintenance Expenses due and unpaid, (b) JEA shall deposit in the Debt Service Account and the Debt Service Reserve Account in the Debt Service Fund the amount necessary to make up any deficiencies in said Account and subaccounts (or, if the amount in the General Reserve Fund shall be less than the amount necessary to make up the deficiencies with respect to the Debt Service Reserve Account and all of the separate subaccounts in the Debt Service Reserve Account, then the amount in said Fund shall be applied first to make up the deficiency Debt Service Account, and any balance remaining shall be applied ratably to make up the deficiencies with respect to the separate subaccounts in the Debt Service Reserve Account, in proportion to the deficiency of each subaccount), (c) JEA shall deposit in the Subordinated Indebtedness Fund the amount necessary (or all of the moneys in the General Reserve Fund if less than the amount necessary) to make up any deficiencies in payments to such Fund required by the Restated and Amended Bulk Power Supply System Resolution and (d) JEA shall deposit in the Renewal and Replacement Fund the amount necessary (or all the moneys in the General Reserve Fund if less than the amount necessary) to make up any deficiencies in payments to such Fund required the Restated and Amended Bulk Power Supply System Resolution.

Amounts in the General Reserve Fund not required to meet a deficiency or for transfer as required above shall upon determination of JEA be applied to or set aside for any lawful purpose of JEA (including transfers to any other Fund or Account established under the Restated and Amended Bulk Power Supply System Resolution or transfers to JEA for application in connection with the Electric System, except that the amount of any such transfer to the Revenue Fund shall not constitute or be deemed to constitute Revenues for any purpose of the Restated and Amended Bulk Power Supply System Resolution); *provided, however*, that, subject to the provisions of the preceding paragraph, amounts deposited in the General Reserve Fund pursuant to the Amended and Restated Bulk Power Supply System Resolution and required thereby to be (i) applied to the purchase, redemption, payment or provision for payment of Bonds or interest thereon or (ii) transferred to the Renewal and Replacement Fund, shall be applied to such purposes.

Additional Bonds

JEA may issue one or more series or issues of additional Bonds for any lawful purpose of JEA relating to any Project. All such Bonds will be payable from the Trust Estate pledged pursuant to the Restated and Amended Bulk Power Supply System Resolution and secured thereby on a parity with all other Bonds or Bonds of particular Issues. In addition, each series of Bonds may be additionally secured by amounts on deposit in a separate subaccount in the Debt Service Reserve Account in the Debt Service Fund established under the Restated and Amended Bulk Power Supply System Resolution (which may be the Initial Subaccount therein). Set forth below are certain conditions applicable to the issuance of additional Bonds:

> ***Debt Service Reserve.*** If, at JEA's option, any series of additional Bonds is to be additionally secured by amounts on deposit in the Initial Subaccount in the Debt Service Reserve Account in the Debt Service Fund established under the Restated and Amended Bulk Power Supply System Resolution, the issuance of the additional Bonds of such series is further conditioned upon the deposit to the Initial Subaccount of moneys or reserve fund credit instruments, or a combination thereof, in an amount such that the balance in such Subaccount equals the Debt Service Reserve Requirement for such Subaccount calculated immediately after the delivery of such Bonds.
>
> ***No Default.*** In addition, Bonds of any series may be issued only if JEA certified that upon the issuance of such series JEA will not be in default in the performance of any of the covenants, conditions, agreements or provisions contained in the Restated and Amended Bulk Power Supply System Resolution.

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Subordinated Indebtedness

JEA may, at any time, or from time to time, issue Subordinated Indebtedness for any lawful purpose of JEA related to any Project, which Subordinated Indebtedness shall be payable out of, and may be secured by a pledge of, such amounts in the Subordinated Indebtedness Fund as may from time to time be available for the purpose of payment thereof; *provided*, *however*, that any pledge shall be, and shall be expressed to be, subordinate in all respects to the pledge of the Trust Estate created by the Restated and Amended Bulk Power Supply System Resolution as security for the Bonds.

Investment of Certain Funds

Unless further limited as to maturity by the provisions of a Supplemental Resolution, moneys held in the Funds and Accounts established under the Restated and Amended Bulk Power Supply System Resolution (other than any Decommissioning Fund) may be invested and reinvested by JEA in Investment Securities which will provide moneys not later than such times as shall be needed for payments to be made from such Funds and Accounts. Moneys held in any Decommissioning Fund shall be invested and reinvested by JEA in accordance with the Supplemental Resolution establishing such Fund. In making any investment in any Investment Securities with moneys in any Fund or Account established under the Restated and Amended Bulk Power Supply System Resolution and held by JEA, JEA may combine such moneys with moneys in any other Fund or Account held by JEA, but solely for purposes of making such investment in such Investment Securities.

Interest (net of that which represents a return of accrued interest paid in connection with the purchase of any investment) earned on any moneys or investments in such Funds and Accounts (and, in the discretion of JEA, any profit realized from the liquidation of such investment), other than the Construction Fund and any Decommissioning Fund shall be paid into the Revenue Fund. Interest earned on any moneys or investments in the Project Account in the Construction Fund held in such Project Account for the purposes thereof shall be held in such Fund for the purposes thereof or paid into the Revenue Fund. Interest earned on any moneys or investments in any Decommissioning Fund shall be applied as provided in the Supplemental Resolution establishing such Fund.

Nothing contained in the Restated and Amended Bulk Power Supply System Resolution shall prevent JEA, to the extent permitted by law, from entering into securities lending agreements or bonds borrowed agreements ("lending agreements") with banks which are members of the Federal Deposit Insurance Corporation, having capital stock, surplus and undivided earnings aggregating at least $25,000,000 and government bond dealers recognized as primary dealers by the Federal Reserve Bank of New York, secured by securities, which are obligations described in the definition of Investment Securities; *provided* that each such lending agreement (a) is in commercially reasonable form and is for a commercially reasonable period, and (b) results in a transfer to JEA of legal title to, or a grant to JEA of a prior perfected security interest in, identified securities which are obligations described in the definition of Investment Securities and which are free and clear of any claims by third parties and are segregated in a custodial or trust account held by a third party (other than the borrower) as the agent solely of, or in trust solely for the benefit of, JEA; *provided* that such securities acquired or pledged pursuant to such lending agreements shall have a current market value not less than 102 percent of the market value of the securities loaned by JEA under such agreement. Any Investment Securities loaned by JEA under any such agreement shall be released from the lien of the pledge of the Trust Estate created under the Restated and Amended Bulk Power Supply System Resolution, but only if all rights of JEA under the lending agreement (including, but not limited to, the monetary obligations to JEA of the bank and/or government bond dealer party to such agreement) and any related collateral agreement and all rights of JEA to the identified securities transferred or pledged to JEA in connection therewith are substituted for the securities loaned, and such rights of JEA are by the Restated and Amended Bulk Power Supply System Resolution declared to be subject to the lien of the pledge of the Trust Estate created under the Restated and Amended Bulk

Power Supply System Resolution to the same extent that the loaned Investment Securities formerly were subject.

Redemption

In the case of any redemption of Bonds, JEA shall give written notice to the Bond Registrar and the Paying Agents of the redemption date, of the Issue and Series, and of the principal amounts of the Bonds of each maturity of such Issue and Series and of the Bonds of each interest rate within a maturity to be redeemed (which Issue, Series, maturities, interest rates within a maturity and principal amounts thereof to be redeemed shall be determined by JEA in its sole discretion, subject to any limitations with respect thereto contained in the Restated and Amended Bulk Power Supply System Resolution or any Supplemental Resolution authorizing the Series of which such Bonds are a part). Such notice shall be filed with the Bond Registrar and the Paying Agents for the Bonds to be redeemed at least 40 days prior to the redemption date (or such shorter period (a) as shall be specified in the Supplemental Resolution authorizing the Issue and Series of the Bonds to be redeemed or (b) as shall be acceptable to such Bond Registrar and the Paying Agents). In the event notice of redemption shall have been given, and unless such notice shall have been revoked or shall cease to be in effect in accordance with the terms thereof, there shall be paid on or prior to the redemption date to the appropriate Paying Agents an amount which, in addition to other moneys, if any, available therefor held by such Paying Agents, will be sufficient to redeem on the redemption date at the Redemption Price thereof, plus interest accrued and unpaid to the redemption date, all of the Bonds to be redeemed.

Covenant as to Rates, Fees and Charges

JEA shall at all times fix, establish, maintain, charge and collect rates, fees and charges for the use or the sale of the output, capacity or service of all of the Projects which shall be sufficient to provide Net Revenues in each Bond Year which shall be at least equal to the greater of (i) 115 percent of the Aggregate Debt Service for such Bond Year; *provided*, *however*, that any Principal Installment which is a Refundable Principal Installment may be excluded from Aggregate Debt Service for purposes of the foregoing but only to the extent that JEA intends to pay such Principal Installment from sources other than Revenues, and (ii) the amount which, together with other available funds, shall be sufficient for the payment of:

(a) the amount to be paid during such Bond Year into the Debt Service Account in the Debt Service Fund (other than amounts required to be paid into such Account out of the proceeds of Bonds, Subordinated Indebtedness or other evidences of indebtedness of JEA);

(b) the amount, if any, to be paid during such Bond Year into each separate subaccount in the Debt Service Reserve Account in the Debt Service Fund (other than amounts required to be paid into any such subaccount out of the proceeds of Bonds, Subordinated Indebtedness or other evidences of indebtedness of JEA);

(c) the amount, if any, to be paid during such Bond Year into the Subordinated Indebtedness Fund (other than amounts required to be paid into such Fund out of the proceeds of Bonds, Subordinated Indebtedness or other evidences of indebtedness of JEA);

(d) the amount, if any, to be paid during such Bond Year into the Renewal and Replacement Fund (other than amounts required to be paid into such Fund out of the proceeds of Bonds, Subordinated Indebtedness or other evidences of indebtedness of JEA);

(e) if any Decommissioning Funds shall have been established pursuant to the Restated and Amended Bulk Power Supply System Resolution, the amount, if any to be paid during such Bond Year into each Decommissioning Fund (other than amounts required to be paid into any such Fund out of the proceeds of Bonds, Subordinated Indebtedness or other evidences of indebtedness of JEA); and

(f) all other charges and liens whatsoever payable out of Revenues during such Bond Year.

The Restated and Amended Bulk Power Supply System Resolution establishes charges to JEA for the account of the Electric System, for the output, capacity, use and service of the Projects which are due on such dates and in such aggregate amounts as shall be sufficient to provide Net Revenues in each Bond Year sufficient to comply with the provision above.

JEA generally will not furnish or supply or cause to be furnished or supplied any use, output, capacity or service of the Electric System free of charge to any person, firm or corporation, public or private.

Certain Other Covenants

Creation of Liens; Sale and Lease of Property. JEA shall not issue any bonds, notes, debentures or other evidences of indebtedness of similar nature, other than the Bonds, payable out of or secured by a security interest in or pledge of the Trust Estate or any portion thereof, any separate subaccount in the Debt Service Reserve Account in the Debt Service Fund or other moneys, securities or funds held or set aside by JEA or by the Fiduciaries under the Restated and Amended Bulk Power Supply System Resolution and shall not create or cause to be created any lien or charge on the Trust Estate or any portion thereof, any separate subaccount in the Debt Service Reserve Account in the Debt Service Fund or such moneys, securities or funds; *provided, however*, that nothing contained in the Restated and Amended Bulk Power Supply System Resolution shall prevent JEA from issuing, if and to the extent permitted by law, (a) Bond Anticipation Notes or other evidences of indebtedness payable out of, and which may be secured by a pledge of (i) the proceeds of sale of Bonds or investment income therefrom, or (ii) amounts in the Construction Fund derived from the proceeds of sale of said Bond Anticipation Notes or investment income therefrom as may from time to time be available for payment of such Bond Anticipation Notes or other evidences of indebtedness (including redemption premiums, if any, and interest thereon) as part of the Costs of any Project, or (iii) amounts in the General Reserve Fund as may from time to time be available for payment of such Bond Anticipation Notes or other evidences of indebtedness (including redemption premiums, if any, and interest thereon) or (iv) Revenues to be derived on and after such date as the pledge of the Revenues provided in the Restated and Amended Bulk Power Supply System Resolution shall be discharged and satisfied as provided in the Restated and Amended Bulk Power Supply System Resolution, or (b) Subordinated Indebtedness.

No part of any Project shall be sold, mortgaged, leased or otherwise disposed of, except as follows:

(a) JEA may dispose of, sell or exchange at any time and from time to time any property or facilities constituting part of such Project only if (i) JEA shall determine that such property or facilities are not needed or useful in the operation of such Project, or (ii) the net book value of the property or facilities, sold or exchanged is not more than 15 percent of the net book value of the property and facilities of such Project, or (iii) there shall be filed with the records of JEA a certificate of an Authorized Officer of JEA stating, in his or her opinion, that the disposal, sale or exchange of such property or facilities will not materially diminish the value of the output, capacity, use and service of such Project being made available for the account of the Electric System pursuant to the Restated and

Amended Bulk Power Supply System Resolution. The proceeds of any sale or exchange of any property or facilities constituting a part of a Project not used to acquire other property necessary or desirable for the safe or efficient operation of a Project shall forthwith be deposited in the General Reserve Fund or the Renewal and Replacement Fund, in either case, for application pursuant to the Restated and Amended Bulk Power Supply System Resolution;

(b) JEA may sell, lease or otherwise dispose of, or grant easements or other rights with respect to, any part of a Project to the extent required by or pursuant to the Project Agreements related thereto.

(c) In addition to the Project Agreements, JEA may lease or make contracts or grant licenses for the operation of, or make arrangements for the use of, or grant easements or other rights with respect to, any part of any Project; *provided* that any such lease, contract, license, arrangement, easement or right (i) does not impede the operation by JEA of such Project and (ii) does not materially adversely affect the rights or security of the Holders of the Bonds under the Restated and Amended Bulk Power Supply System Resolution. Any payments received by JEA under or in connection with any such lease, contract, license, arrangement, easement or right in respect of any Project or any part thereof shall constitute Revenues; or

(d) JEA may sell, lease or otherwise dispose of any Project or any part thereof, if, at the time of such sale, lease or other disposition, all Bonds issued to pay the Costs of such Project (including any Refunding Bonds issued to refund such Bonds) shall have been paid or deemed to have been paid within the meaning and with the effect expressed and the defeasance provisions of the Restated and Amended Bulk Power Supply System Resolution.

Maintenance of Insurance. JEA shall at all times keep or cause to be kept the properties of each Project which are of an insurable nature and of the character usually insured by those operating properties similar to such Project insured against loss or damage by fire and from other causes customarily insured against and in such relative amounts as are usually obtained, but only to the extent the cost therefor is reasonable, in the judgment of JEA. JEA shall at all times maintain or cause to be maintained insurance or reserves (in the nature of self insurance) against loss or damage from such hazards and risks to the person and property of others as are usually insured or reserved against by those operating properties similar to the properties of each Project.

JEA shall also use its best efforts to maintain or cause to be maintained any additional or other insurance which it shall deem necessary or advisable to protect its interests and those of the Bondholders.

Any such insurance shall be in the form of policies or contracts for insurance with insurers of good standing and shall be payable to JEA unless otherwise required by any Project Agreement.

Reconstruction; Application of Insurance Proceeds; Condemnation Awards. If any useful portion of any Project shall be damaged or destroyed or taken by any governmental authority under the power of eminent domain or otherwise ("Condemnation"), JEA shall, as expeditiously as possible, continuously and diligently proceed with the reconstruction or replacement thereof or take any other action deemed to be in the best interest of JEA. Except as provided in the Restated and Amended Bulk Power Supply System Resolution, the proceeds of any insurance paid or award received on account of such damage, destruction (other than any business interruption loss insurance or insurance proceeds deposited in the Construction Fund pursuant to the Restated and Amended Bulk Power Supply System Resolution) or Condemnation, unless held and applied under the applicable Project Agreements shall be held by JEA in a special account and made available for, and to the extent necessary be applied to, the cost of such reconstruction or replacement. Pending such application, such proceeds may be invested by JEA in Investment Securities which mature not later than such times as shall be necessary to provide moneys when needed to pay such costs of reconstruction or replacement or may be invested as otherwise provided for under such Project Agreements. Interest earned on such account or investments shall be deposited in the Revenue Fund unless otherwise required under such Project Agreements. Any such proceeds not applied within 36 months after receipt thereof by JEA to repairing or replacing damaged, destroyed or taken property, or in respect of which notice in writing of intention to apply the same to the work of repairing or replacing the property damaged, destroyed or taken shall not have been filed with the records of JEA within such 36 months, or which JEA shall at any time determine are not to be so applied, unless otherwise applied or to be applied under the applicable Project Agreements, shall be deposited (a) in the General Reserve Fund for (i) application to the purchase, redemption, payment or provision for payment of Bonds or interest thereon or (ii) transfer to the Renewal and Replacement Fund for application pursuant to the provisions of the Restated and Amended Bulk Power Supply System Resolution; *provided*, *however*, that in the event such amount deposited in the General Reserve Fund is less than $100,000, such amount may be applied to or set aside for any lawful purpose of JEA or (b) in the Renewal and Replacement Fund for application pursuant to the provisions of the Restated and Amended Bulk Power Supply System Resolution. Notwithstanding the foregoing, in the event that payments for any such repairing or replacing of property damaged, destroyed or taken prior to the availability of proceeds of insurance or Condemnation therefor are made from the Renewal and Replacement Fund, or from the General Reserve Fund, or from other funds of JEA not held in any Fund or Account established pursuant to the Restated and Amended Bulk Power Supply System Resolution, such proceeds when received shall be deposited in the Renewal and Replacement Fund or in the General Reserve Fund, in each case, to the extent of such payments therefrom, or shall be paid over to JEA, free and clear of any trust, lien or pledge securing the Bonds or otherwise existing under the Restated and Amended Bulk Power Supply System Resolution, as appropriate.

If the proceeds of insurance or Condemnation authorized by in the preceding paragraph to be applied to the reconstruction or replacement of any portion of any Project are insufficient for such purpose, the deficiency may be supplied out of moneys in the Renewal and Replacement Fund.

The proceeds of business interruption loss insurance, if any, shall be paid into the Revenue Fund unless otherwise required by the applicable Project Agreements.

Allocation to Electric System of Output and Capacity of System; Obligations of Electric System. JEA shall allocate to and make available for the account of the Electric System in each year 100 percent of the output, capacity, use and service of each Project. JEA shall make payments from the Electric System into the Revenue Fund for such output, capacity, use and service of each Project at the times and in the amounts which (i) will produce Net Revenues in each Bond Year at least equal to 115 percent of the Aggregate Debt Service for such Bond Year; *provided*, *however*, that any Principal Installment which is a Refundable Principal Installment may be excluded from Aggregate Debt Service for purposes of the foregoing but only to the extent that JEA intends to pay such Principal Installment from sources other than Revenues and (ii) will produce Revenues sufficient, together with other available funds, for the payment during each month of:

(a) the Operation and Maintenance Expenses due and payable during such month;

(b) the amount, if any, to be set aside in such month in the Revenue Fund (other than amounts required to be paid into such Fund out of the proceeds of Bonds, Subordinated Indebtedness or other evidences of indebtedness of JEA) as working capital or as reserves for Operation and Maintenance Expenses;

(c) the amount, to be paid during such month into the Debt Service Account in the Debt Service Fund (other than amounts required to be paid into such Account out of the proceeds of Bonds, Subordinated Indebtedness or other evidences of indebtedness of JEA);

(d) the amount, if any, to be paid during such month into each separate subaccount in the Debt Service Reserve Account in the Debt Service Fund (other than amounts required to be paid into any such subaccount out of the proceeds of Bonds, Subordinated Indebtedness or other evidences of indebtedness of JEA);

(e) the amount, if any, to be paid during such month into the Subordinated Indebtedness Fund (other than amounts required to be paid into such Fund out of the proceeds of Bonds, Subordinated Indebtedness or other evidences of indebtedness of JEA);

(f) the amount, if any, to be paid during such month into the Renewal and Replacement Fund (other than amounts required to be paid into such Fund out of the proceeds of Bonds, Subordinated Indebtedness or other evidences of indebtedness of JEA);

(g) if any Decommissioning Funds shall have been established pursuant to the Restated and Amended Bulk Power Supply System Resolution, the amount, if any, to be paid during such month into each Decommissioning Fund (other than amounts required to be paid into any such Fund out of the proceeds of Bonds, Subordinated Indebtedness or other evidences of indebtedness of JEA); and

(h) all other charges and liens whatsoever payable out of Revenues during such month.

During any period in which the Debt Service for any Series of Bonds containing Build America Bonds shall be calculated in the manner provided in the *proviso* contained in clause (i) of the first paragraph of the definition thereof contained in Section 101 hereof, no later than each interest payment date for such Build America Bonds then Outstanding, JEA shall withdraw from the Revenue Fund and transfer to the Debt Service Account in the Debt Service Fund an amount equal to the amount of the cash subsidy payment payable to JEA by the U.S. Treasury in respect of the interest payable on such Build America Bonds on such interest payment date, without regard to any reduction thereto made by the U.S. Treasury for the purpose of offsetting any amount due from JEA to it. Any such cash subsidy payment received by JEA from the U.S. Treasury in respect of the interest payable on any Build America Bonds shall be deposited by JEA upon the receipt thereof in the Revenue Fund, but no such payment shall constitute Revenues for any purpose of this Resolution.

So long as the Electric Resolution shall not be satisfied and discharged, all payments to be made in accordance with the preceding paragraph shall constitute a “Cost of Operation and Maintenance” (as defined in the Electric Resolution) to be paid directly from the “Revenue Fund” established under the Electric Resolution. After the satisfaction and discharge of the Electric Resolution, JEA shall continue to make such payments from the revenues, income, rents and receipts derived by JEA from the ownership and operation of the Electric System as an operating expense of said Electric System. All such payments from the Electric System shall be made whether or not any Project or any part thereof is completed, operable or operating and notwithstanding the suspension, interruption, interference, reduction or curtailment of the output of any Project for any reason whatsoever, in whole or in part.

So long as the Electric Resolution shall not be satisfied and discharged, JEA shall not consent or agree to or permit any amendment or supplement to the Electric Resolution (other than a supplement thereto to authorize a series of additional parity bonds as permitted by the Electric Resolution) which will in any manner materially impair or materially adversely affect the obligation of JEA to pay for the output, capacity, use and service of the Projects in accordance with the Restated and Amended Bulk Power Supply System Resolution or the priority of such obligation under the Electric Resolution.

Except as otherwise provided in this paragraph, after the satisfaction and discharge of the Electric Resolution, (i) JEA shall not become liable for any bonds, notes, debentures or other evidences of indebtedness of similar nature payable out of or secured by a pledge of or lien or charge on any of the revenues, income, rents or receipts to be derived by JEA from the ownership or operation of the Electric System which shall rank on a parity with or in priority over or, except for bonds, notes, debentures or other evidences of indebtedness issued in connection with obligations of the type described in clause (ii) below, on a parity with the obligation of JEA to pay, from the revenues, income, rents and receipts derived by JEA from the ownership or operation of the Electric System, for the output, capacity, use and service of the Projects in accordance with the applicable provision in the Restated and Amended Bulk Power Supply System Resolution, and (ii) JEA shall not become liable for any obligation under any agreement to purchase or pay for electric power and energy or other goods or services whether or not the same are made available or furnished or any other obligation under which JEA lends credit to or guarantees any debt, claim or other obligation of any other person, firm or corporation which shall rank in priority over the obligation of JEA to pay, from the revenues, income, rents and receipts derived by JEA from the ownership or operation of the Electric System, for the output, capacity, use or service of the Projects in accordance with the applicable provision in the Restated and Amended Bulk Power Supply System Resolution; *provided*, *however*, that nothing contained in this paragraph shall prohibit or restrict JEA from establishing one or more other separate bulk power supply utilities or systems pursuant to Chapter 80-513, Laws of Florida, as amended, or any other law, and issuing its bonds therefor as provided in said Chapter 80-513, as amended, or such other law, and from making payments from the revenues, income, rents and receipts derived by JEA from the ownership or operation of the Electric System for the purchase of output, capacity, use or service of any of the facilities of any such separate bulk power supply utility or system, including payments with respect to debt service on such bonds, on a parity with (but not in priority over) the obligation of JEA to pay, from the revenues, income, rents and receipts derived by JEA from the ownership or operation of the Electric System, for the output, capacity, use and service of any Project in accordance with the applicable provision in the Restated and Amended Bulk Power Supply System Resolution.

Operation and Maintenance of the Electric System. JEA shall at all times operate or cause to be operated the Electric System properly and in an efficient and economical manner, consistent with good business and utility operating practices, and shall maintain, preserve, reconstruct and keep the same or cause the same to be so maintained, preserved, reconstructed and kept, with the appurtenances and every part and parcel thereof, in good repair, working order and condition, and shall from time to time make, or cause to be made, all necessary and proper repairs, replacements and renewals so that at all times the operation of the Electric System may be properly and advantageously conducted.

Rates and Fees of the Electric System. JEA shall at all times fix, establish, maintain, charge and collect fees and other charges for the sale of the output, capacity, use or service of the Electric System as shall be required to provide moneys from the Electric System at least sufficient in each fiscal year with respect to the Electric System for the payment of all charges or liens whatsoever payable out of revenues of the Electric System during such fiscal year, including all payments required to be made by JEA out of revenues of the Electric System (i) pursuant to the SJRPP Resolution, (ii) pursuant to the Restated and Amended Bulk Power Supply System Resolution and (iii) in connection with any other bulk power supply utility or system previously created by JEA (other than (x) the SJRPP System and (y) all Projects the acquisition and/or construction of which have previously been authorized pursuant to the Restated and Amended Bulk Power Supply System Resolution).

[Remainder of page intentionally left blank]

Except as otherwise provided in the Electric Resolution, JEA will not furnish or supply or cause to be furnished or supplied any use, output, capacity or service of the Electric System, free of charge to any person, firm or corporation, public or private; and JEA will enforce promptly the payment of any and all accounts owing to JEA by reason of the ownership and operation of the Electric System.

Maintenance of Insurance for the Electric System. JEA shall at all times keep or cause to be kept the properties of the Electric System which are of an insurable nature and of the character usually insured by those operating properties similar to the Electric System insured against loss or damage by fire and from other causes customarily insured against and in such relative amounts as are usually obtained, but only to the extent the cost therefor is reasonable, in the judgment of JEA. JEA shall at all times maintain or cause to be maintained insurance or reserves (in the nature of self insurance) against loss or damage from such hazards and risks to the person and property of others as are usually insured or reserved against by those operating properties similar to the properties of the Electric System, but only to the extent the cost therefor is reasonable, in the judgment of JEA.

Any such insurance shall be in the form of policies or contracts for insurance with insurers of good standing and shall be payable to JEA.

Events of Default; Remedies

If one or more of the following Events of Default shall happen:

(a) if default shall be made in the due and punctual payment of the principal or Redemption Price of any Bond when and as the same shall become due and payable, whether at maturity or by call for redemption, or otherwise;

(b) if default shall be made in the due and punctual payment of any installment of interest on any Bond or the unsatisfied balance of any Sinking Fund Installment therefor (except when such Sinking Fund Installment is due on the maturity date of such Bond), when and as such interest installment or Sinking Fund Installment shall become due and payable and such default shall continue for a period of 30 days;

(c) if default shall be made by JEA in the performance or observance of any other of the covenants, agreements or conditions on its part in the Restated and Amended Bulk Power Supply System Resolution or in the Bonds contained, and such default shall continue for a period of 60 days after written notice thereof to JEA by the Holders of not less than 10 percent in principal amount of the Bonds Outstanding;

(d) if there shall occur the dissolution (without a successor being named to assume the rights and obligations) or liquidation of JEA or the filing by JEA of a voluntary petition in bankruptcy, or adjudication of JEA as a bankrupt, or assignment by JEA for the benefit of its creditors, or the entry by JEA into an agreement of composition with its creditors, or the approval by a court of competent jurisdiction of a petition applicable to JEA in any proceeding for its reorganization instituted under the provisions of the Bankruptcy Code, as amended, or under any similar act in any jurisdiction which may now be in effect or hereafter enacted; or

(e) if an order or decree shall be entered, with the consent or acquiescence of JEA, appointing a receiver or receivers of the System, or any part thereof, or of the rents, fees, charges or other revenues therefrom, or if such order or decree, having been entered without the consent or acquiescence of JEA, shall not be vacated or discharged or stayed within 90 days after the entry thereof;

then, and in each and every such case, so long as such Event of Default shall not have been remedied, unless the principal of all the Bonds shall have already become due and payable, the Holders of not less than 25 percent in principal amount of the Bonds Outstanding (by notice in writing to JEA), may declare the principal of all the Bonds then Outstanding, and the interest accrued thereon, to be due and payable immediately, and upon any such declaration the same shall become and be immediately due and payable, anything contained to the contrary in the Restated and Amended Bulk Power Supply System Resolution or in any of the Bonds notwithstanding; *provided*, *however*, that in the event that a Supplemental Resolution authorizing Bonds for which Credit Enhancement is being provided provides that the principal of such Bonds, and the accrued interest thereon, may not be declared due and payable immediately (nor such declaration be rescinded and annulled, as provided in the following sentence) without the consent in writing of the Credit Enhancer therefor, then such Bonds, and the interest accrued thereon, shall not become due and payable immediately as aforesaid (nor may such declaration be rescinded and annulled, as provided in the following sentence) without such written consent, and, in that event, the remedies available to the Holders of such Bonds (or such Credit Enhancer, on behalf of such Holders) shall be limited to those set forth in the Restated and Amended Bulk Power Supply System Resolution. The right of the Holders of not less than 25 percent in principal amount of the Bonds to make such declaration as aforesaid, however, is subject to the condition that if, at any time after such declaration, but before the Bonds shall have matured by their terms, all overdue installments of interest upon the Bonds, together with interest on such overdue installments of interest to the extent permitted by law and all other sums then payable by JEA under the Restated and Amended Bulk Power Supply System Resolution (except the principal of, and interest accrued since the next preceding interest date on, the Bonds due and payable solely by virtue of such declaration) shall either be paid by or for the account of JEA or provision shall be made for such payment, and all defaults under the Bonds or under the Restated and Amended Bulk Power Supply System Resolution (other than the payment of principal and interest due and payable solely by reason of such declaration) shall be made good or adequate provision shall be made therefor, then and in every such case the Holders of 25 percent in principal amount of the Bonds Outstanding, by written notice to JEA, may rescind such declaration and annul such default in its entirety, but no such rescission or annulment shall extend to or affect any subsequent default or impair or exhaust any right or power consequent thereon. See "Action by Credit Enhancer When Action by Holders of Bonds Required" herein.

During the continuance of an Event of Default, JEA shall apply all moneys, securities, funds and Revenues held or received by JEA under the Restated and Amended Bulk Power Supply System Resolution (other than (x) amounts on deposit in any separate subaccount in the Debt Service Reserve Account in the Debt Service Fund and (y) amounts on deposit in the Decommissioning Fund) as follows and in the following order:

(a) Operation and Maintenance Expenses -- to the payment of the amounts required for Operation and Maintenance Expenses and for the reasonable renewals, repairs and replacements of any Project necessary in the judgment of JEA to prevent a diminution in the value of the output, capacity, use and service of such Project being made available for the account of the Electric System pursuant to the Restated and Amended Bulk Power Supply System Resolution;

(b) Principal or Redemption Price and Interest -- to the payment of the interest and principal or Redemption Price then due on the Bonds, as follows:

(i) unless the principal of all the Bonds shall have become or have been declared due and payable,

First: Interest -- to the payment to the persons entitled thereto of all installments of interest then due in the order of the maturity of such installments, together with accrued and unpaid interest on the Bonds theretofore called for redemption, and, if the amount available shall not be sufficient to pay in full any installment or installments maturing on the same date, then to the payment thereof ratably, according to the amounts due thereon, to the persons entitled thereto, without any discrimination or preference; and

Second: Principal or Redemption Price -- to the payment to the persons entitled thereto of the unpaid principal or Redemption Price of any Bonds which shall have become due, whether at maturity or by call for redemption, in the order of their due dates, and, if the amount available shall not be sufficient to pay in full all the Bonds due on any date, then to the payment thereof ratably, according to the amounts of principal or Redemption Price due on such date, to the persons entitled thereto, without any discrimination or preference; or

(ii) if the principal of all the Bonds shall have become or have been declared due and payable, to the payment of the principal and interest then due and unpaid upon the Bonds without preference or priority of principal over interest or of interest over principal, or of any installment of interest over any other installment of interest, or of any Bond over any other Bond, ratably, according to the amounts due respectively for principal and interest, to the persons entitled thereto without any discrimination or preference except as to any difference in the respective rates of interest specified in the Bonds;

(c) Subordinated Indebtedness -- to the payment of principal, redemption price and interest then due on Subordinated Indebtedness in accordance with the Supplemental Resolution(s) authorizing such Subordinated Indebtedness.

During the continuance of an Event of Default, JEA shall apply all amounts on deposit in each separate subaccount in the Debt Service Reserve Account in the Debt Service Fund as follows and in the following order:

(d) unless the principal of all of the Bonds shall have become or have been declared due and payable,

First: Interest -- to the payment to the persons entitled thereto of all installments of interest then due on the Bonds of each Additionally Secured Series secured by such separate subaccount in the order of the maturity of such installments, together with accrued and unpaid interest on the Bonds of such Additionally Secured Series theretofore called for redemption, and, if the amount available shall not be sufficient to pay in full any such installment or installments maturing on the same date, then to the payment thereof ratably, according to the amounts due thereon, to the persons entitled thereto, without any discrimination or preference; and

Second: Principal or Redemption Price -- to the payment to the persons entitled thereto of the unpaid principal or sinking fund Redemption Price of any Bonds of such Additionally Secured Series which shall have become due, whether at maturity or by call for redemption, in the order of their due dates, and, if the amount available shall not be sufficient to pay in full all such Bonds due on any date, then to the payment thereof ratably, according to the amounts of principal or sinking fund Redemption Price due on such date, to the persons entitled thereto, without any discrimination or preference; or

(e) if the principal of all of the Bonds shall have become or have been declared due and payable, to the payment of the principal and interest then due and unpaid upon the Bonds of each Additionally Secured Series secured by such separate subaccount without preference or priority of principal over interest or of interest over principal, or of any installment of interest over any other installment of interest, or of any such Bond over any other such Bond, ratably, according to the amounts due respectively for principal and interest, to the persons entitled thereto without any discrimination or preference except as to any difference in the respective rates of interest specified in such Bonds.

During the continuance of an Event of Default, JEA shall apply all amounts on deposit in any Decommissioning Fund only for the purposes for which such Fund was established.

If and whenever all overdue installments of interest on all Bonds, together with the reasonable and proper charges, expenses and liabilities of the Fiduciaries, and all other sums payable by JEA under the Restated and Amended Bulk Power Supply System Resolution including the principal and Redemption Price of and accrued unpaid interest on all Bonds which shall then be payable by declaration or otherwise, shall either be paid by or for the account of JEA, and all defaults under the Restated and Amended Bulk Power Supply System Resolution or the Bonds shall be made good, JEA and the Holders shall be restored, respectively, to their former positions and rights under the Restated and Amended Bulk Power Supply System Resolution. No such restoration of JEA and the Holders to their former positions and rights shall extend to or affect any subsequent default under the Restated and Amended Bulk Power Supply System Resolution or impair any right consequent thereon.

Powers of Amendment

Any modification or amendment of the Restated and Amended Bulk Power Supply System Resolution and of the rights and obligations of JEA and of the Holders of the Bonds thereunder, in any particular, may be made by a Supplemental Resolution, with the written consent given as provided in the Restated and Amended Bulk Power Supply System Resolution (a) of the Holders of not less than a majority in principal amount of the Bonds affected by such modification or amendment Outstanding at the time such consent is given, and (b) in case the modification or amendment changes the terms of any Sinking Fund Installment, of the Holders of not less than a majority in principal amount of the Bonds of the particular Issue, Series and maturity entitled to such Sinking Fund Installment and Outstanding at the time such consent is given; *provided*, *however*, that if such modification or amendment will, by its terms, not take effect so long as any Bonds of any specified like Issue, Series and maturity remain Outstanding, the consent of the Holders of such Bonds shall not be required and such Bonds shall not be deemed to be Outstanding for the purpose of any calculation of Outstanding Bonds under this paragraph. No such modification or amendment shall permit a change in the terms of redemption or maturity of the principal of any Outstanding Bond or of any installment of interest thereon or a reduction in the principal amount or the Redemption Price thereof or in the rate of interest thereon without the consent of the Holder of such Bond, or shall reduce the percentages or otherwise affect the classes of Bonds the consent of the Holders of which is required to effect any such modification or amendment, or shall change or modify any of the rights or obligations of any Fiduciary without its written assent thereto. For the purpose of this paragraph, a Series shall be deemed to be affected by a modification or amendment of the Restated and Amended Bulk Power Supply System Resolution if the same adversely affects or diminishes the rights of the Holders of Bonds of such Series. JEA may in its discretion determine whether or not in accordance with the foregoing powers of amendment Bonds of any particular Series or maturity or any particular Commercial Paper Notes or Medium-Term Notes would be affected by any modification or amendment of the Restated and Amended Bulk Power Supply System Resolution and any such determination shall, absent manifest error, be binding and conclusive on JEA and all Holders of Bonds. For the purpose of this paragraph, a change in the terms of redemption of any Outstanding Bond shall be deemed only to affect such Bond, and shall be deemed not to affect any other Bond. For the purpose of this paragraph, the Holders of any Bonds may include the Holders thereof, regardless of whether such Bonds are being held for resale. See "Action by Credit Enhancer When Action by Holders of Bonds Required" herein.

Supplemental Resolutions

For any one or more of the following purposes and at any time or from time to time, a Supplemental Resolution of JEA may be adopted, which, upon its adoption and compliance with the applicable provisions of the Restated and Amended Bulk Power Supply System Resolution, shall be fully effective in accordance with its terms:

(a) to close the Restated and Amended Bulk Power Supply System Resolution against, or provide limitations and restrictions in addition to the limitations and restrictions contained in the Restated and Amended Bulk Power Supply System Resolution on, the authentication and delivery of Bonds or the issuance of other evidences of indebtedness;

(b) to add to the covenants and agreements of JEA in the Restated and Amended Bulk Power Supply System Resolution other covenants and agreements to be observed by JEA which are not contrary to or inconsistent with the Restated and Amended Bulk Power Supply System Resolution as theretofore in effect;

(c) to add to the limitations and restrictions in the Restated and Amended Bulk Power Supply System Resolution other limitations and restrictions to be observed by JEA which are not contrary to or inconsistent with the Restated and Amended Bulk Power Supply System Resolution as theretofore in effect;

(d) to authorize Bonds of an Issue or of a Series and, in connection therewith, specify and determine the matters and things referred to in the article of the Restated and Amended Bulk Power Supply System Resolution relating to the authorization and issuance of Bonds, and also any other matters and things relative to such Bonds which are not contrary to or inconsistent with the Restated and Amended Bulk Power Supply System Resolution as theretofore in effect, or to amend, modify or rescind any such authorization, specification or determination at any time prior to the first authentication and delivery of such Bonds;

(e) to provide for the issuance, execution, delivery, authentication, payment, registration, transfer and exchange of Bonds in coupon form payable to bearer or in uncertificated form, and, in connection therewith, to specify and determine any matters and things relative thereto;

(f) to confirm, as further assurance, any security interest or pledge under, and the subjection to any security interest or pledge created or to be created by, the Restated and Amended Bulk Power Supply System Resolution of the Revenues or of any other moneys, securities or funds;

(g) if and to the extent authorized in a Supplemental Resolution authorizing an Additionally Secured Series of Bonds, to specify the qualifications of any provider of an obligation similar to a surety bond, insurance policy or letter of credit for deposit into the particular subaccount in the Debt Service Reserve if and to the extent authorized in a

Supplemental Resolution authorizing an Additionally Account securing the Bonds of such Additionally Secured Series;

(h) to authorize the establishment of a Decommissioning Fund as provided in the Restated and Amended Bulk Power Supply System Resolution and, in connection therewith, to specify and determine the matters and things referred to therein or to modify any such matters and things in any other respect whatsoever;

(i) to modify any of the provisions of the Restated and Amended Bulk Power Supply System Resolution in any other respect whatever; *provided* that (i) such modification shall be, and be expressed to be, effective only after all Bonds of each Series Outstanding at the date of the adoption of such Supplemental Resolution shall cease to be Outstanding, and (ii) such Supplemental Resolution shall be specifically referred to in the text of all Bonds of any Series authenticated and delivered after the date of the adoption of such Supplemental Resolution and of Bonds issued in exchange therefor or in place thereof;

(j) to identify and authorize the acquisition and/or construction of any Project;

(k) to designate any agreement entered into in connection with a Project as a "Project Agreement" therefor; and

(l) to authorize Subordinated Indebtedness and, in connection therewith, specify and determine any matters and things relative to such Subordinated Indebtedness which are not contrary to or inconsistent with the Restated and Amended Bulk Power Supply System Resolution as theretofore in effect, or to amend, modify or rescind any such authorization, specification or determination at any time prior to the first authentication and delivery of such Subordinated Indebtedness.

Supplemental Resolutions Effective Upon Delivery of Counsel's Opinion as to No Material Adverse Effect

For any one or more of the following purposes and at any time or from time to time, a Supplemental Resolution may be adopted, which, upon (a) delivery of a Counsel's Opinion to the effect that the provisions of such Supplemental Resolution will not have a material adverse effect on the interests of the Holders of Outstanding Bonds (in rendering such opinion, such counsel may rely on such certifications of (i) any banking or financial institution serving as financial advisor to JEA, as to financial and economic matters, (ii) a consulting engineer, as to matters within its field of expertise and (iii) such other experts, as to matters within their fields of expertise as it, in its reasonable judgment, determines necessary or appropriate) and (b) compliance with the applicable provision of the Restated and Amended Bulk Power Supply System Resolution, shall be fully effective in accordance with its terms:

(a) to cure any ambiguity, supply any omission, or cure or correct any defect or inconsistent provision in the Restated and Amended Bulk Power Supply System Resolution;

(b) to insert such provisions clarifying matters or questions arising under the Restated and Amended Bulk Power Supply System Resolution as are necessary or desirable and are not contrary to or inconsistent with the Restated and Amended Bulk Power Supply System Resolution as theretofore in effect; or

(c) to make any other modification to or amendment of the Restated and Amended Bulk Power Supply System Resolution which such counsel in its reasonable judgment shall determine will not have a material adverse effect on the interests of the Bondholders.

Notwithstanding any other provision of the Restated and Amended Bulk Power Supply System Resolution, in determining whether the interests of the Holders of Outstanding Bonds are materially adversely affected, such counsel shall consider the effect on the Holders of any Bonds for which Credit Enhancement has been provided without regard to such Credit Enhancement.

Defeasance

If all Bonds and interest due or to become due therein are paid in full, then the pledge of the Trust Estate and all covenants, agreements and other obligations of JEA to the Holders of the Bonds, will thereupon cease, terminate and become void and be discharged and satisfied.

If any Bonds are paid in full, then such Bonds shall cease to be entitled to any lien, benefit or security under the Restated and Amended Bulk Power Supply System Resolution, and all covenants, agreements and obligations of JEA to the Holders of such Bonds shall thereupon cease, terminate and become void and be discharged and satisfied.

Bonds are deemed to have been paid and are not entitled to the lien, benefit and security of the Restated and Amended Bulk Power Supply System Resolution whenever the following conditions (or such other conditions as may be set forth in the Supplemental Subordinated Resolution authorizing such Bonds) are met (a) in case any of said Bonds are to be redeemed on any date prior to their maturity, JEA shall have given to the Escrow Agent therefor instructions accepted in writing by such Escrow Agent to give notice of redemption thereof, (b) there shall have been deposited with the Escrow Agent therefor either moneys, or Defeasance Securities the principal of and the interest on which when due will provide moneys which, together with the moneys, if any, deposited with such Escrow Agent at the same time, shall be sufficient, to pay when due the principal or Redemption Price, if applicable, and interest due and to become due on such Bonds, and (c) in the event said Bonds are not to be redeemed or paid at maturity within the next succeeding 60 days, JEA shall have given such Escrow Agent instructions to give to the Holders of such Bonds a notice that the above deposit has been made and that said Bonds are deemed to have been paid and stating such maturity or redemption date upon which moneys are expected to be available for the payment of the principal or Redemption Price, if applicable, on said Bonds.

For purposes of determining whether Variable Rate Bonds shall be deemed to have been paid prior to the maturity or redemption date thereof, as the case may be, by the deposit of moneys, or Defeasance Securities and moneys, if any, in accordance with the provisions of the Restated and Amended Bulk Power Supply System Resolution, the interest to come due on such Variable Rate Bonds on or prior to the maturity date or redemption date thereof, as the case may be, shall be calculated at the maximum rate permitted by the terms thereof; *provided*, *however*, that if on any date, as a result of such Variable Rate Bonds having borne interest at less than such maximum rate for any period, the total amount of moneys and Defeasance Securities on deposit with the Escrow Agent for the payment of interest on such Variable Rate Bonds is in excess of the total amount which would have been required to be deposited with the Escrow Agent on such date in respect of such Variable Rate Bonds in order to satisfy the provisions of the Restated and Amended Bulk Power Supply System Resolution, the Escrow Agent shall, if requested by JEA, pay the amount of such excess to JEA free and clear of any trust, lien or pledge securing the Bonds or otherwise existing under the Restated and Amended Bulk Power Supply System Resolution.

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Option Bonds shall be deemed to have been paid in accordance with the provisions of the Restated and Amended Bulk Power Supply System Resolution only if, in addition to satisfying the requirements of clauses (a) and (c) of the second preceding paragraph, there shall have been deposited with the Escrow Agent moneys in an amount which shall be sufficient to pay when due the maximum amount of principal of and premium, if any, and interest on such Bonds which could become payable to the Holders of such Bonds upon the exercise of any options provided to the Holders of such Bonds; *provided*, *however*, that if, at the time a deposit is made with the Escrow Agent pursuant to the provisions of the Restated and Amended Bulk Power Supply System Resolution, the options originally exercisable by the Holder of an Option Bond are no longer exercisable, such Bond shall not be considered an Option Bond for purposes of this paragraph. If any portion of the moneys deposited with the Escrow Agent for the payment of the principal of and premium, if any, and interest on Option Bonds is not required for such purpose the Escrow Agent shall, if requested by JEA, pay the amount of such excess to JEA free and clear of any trust, lien or pledge securing said Bonds or otherwise existing under the Restated and Amended Bulk Power Supply System Resolution.

Action by Credit Enhancer When Action by Holders of Bonds Required

Except as otherwise provided in a Supplemental Resolution authorizing Bonds for which Credit Enhancement is being provided, if not in default in respect of any of its obligations with respect to Credit Enhancement for the Bonds of a Series, or a maturity within a Series, the Credit Enhancer for, and not the actual Holders of, the Bonds of a Series, or a maturity within a Series or an interest rate within a maturity, for which such Credit Enhancement is being provided, shall be deemed to be the Holder of Bonds of any Series, or maturity within a Series or an interest rate within a maturity, as to which it is the Credit Enhancer at all times for the purpose of (a) giving any approval or consent to the effectiveness of any Supplemental Resolution or any amendment, change or modification of the Restated and Amended Bulk Power Supply System Resolution, which requires the written approval or consent of Holders; *provided*, *however*, that the provisions of this Section shall not apply to any change in the terms of redemption or maturity of the principal of any Outstanding Bond or of any installment of interest thereon or a reduction in the principal amount or the Redemption Price thereof or in the rate of interest thereon, or shall reduce the percentages or otherwise affect the classes of Bonds the consent of the Holders of which is required to effect any such modification or amendment, or shall change or modify any of the rights or obligations of any Fiduciary without its written assent thereto and (b) giving any approval or consent, exercising any remedies or taking any other action following the occurrence of an Event of Default under the Restated and Amended Bulk Power Supply System Resolution.

Special Provisions Relating to Capital Appreciation Bonds, Deferred Income Bonds and Reimbursement Obligations

The principal and interest portions of the Accreted Value of Capital Appreciation Bonds or the Appreciated Value of Deferred Income Bonds becoming due at maturity or by virtue of a Sinking Fund Installment shall be included in the calculations of accrued and unpaid and accruing interest or Principal Installments made under the definitions of Debt Service, Accrued Aggregate Debt Service and Aggregate Debt Service only from and after the date (the "Calculation Date") which is one year prior to the date on which such Accreted Value or Appreciated Value, as the case may be, becomes so due, and the principal and interest portions of such Accreted Value or Appreciated Value shall be deemed to accrue in equal daily installments from the Calculation Date to such due date.

For the purposes of (a) receiving payment of the Redemption Price if a Capital Appreciation Bond is redeemed prior to maturity, or (b) receiving payment of a Capital Appreciation Bond if the principal of all Bonds is declared immediately due and payable following an Event of Default, or (c) computing the principal amount of Bonds held by the Holder of a Capital Appreciation Bond in giving to JEA any notice, consent, request, or demand pursuant to the Restated and Amended Bulk Power Supply System Resolution for any purpose whatsoever, the principal amount of a Capital Appreciation Bond shall be deemed to be its then current Accreted Value.

For the purposes of (a) receiving payment of the Redemption Price if a Deferred Income Bond is redeemed prior to maturity, or (b) receiving payment of a Deferred Income Bond if the principal of all Bonds is declared immediately due and payable following an Event of Default, or (c) computing the principal amount of Bonds held by the Holder of a Deferred Income Bond in giving to JEA any notice, consent, request or demand pursuant to the Restated and Amended Bulk Power Supply System Resolution for any purpose whatsoever, the principal amount of a Deferred Income Bond shall be deemed to be its then current Appreciated Value.

Except as otherwise provided in a Supplemental Resolution authorizing a Series of Reimbursement Obligations, for the purposes of (a) receiving payment of a Reimbursement Obligation, whether at maturity, upon redemption or if the principal of all Bonds is declared immediately due and payable following an Event of Default or (b) computing the principal amount of Bonds held by the Holder of a Reimbursement Obligation in giving to JEA any notice, consent, request, or demand pursuant to the Restated and Amended Bulk Power Supply System Resolution for any purpose whatsoever, the principal amount of a Reimbursement Obligation shall be deemed to be the actual principal amount that JEA shall owe thereon, which shall equal the aggregate of the amounts advanced to, or on behalf of, JEA in connection with the Bonds of the Series or maturity or interest rate within a maturity for which such Reimbursement Obligation has been issued to evidence JEA's obligation to repay any advances or loans made in respect of the Credit Enhancement or liquidity support provided for such Bonds, less any prior repayments thereof.

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APPENDIX G

SUMMARY OF CERTAIN PROVISIONS OF THE POWER PARK JOINT OWNERSHIP AGREEMENT

The following is a brief summary of certain provisions of the Power Park Joint Ownership Agreement. This summary does not purport to be a complete or comprehensive statement of the contents of the Power Park Joint Ownership Agreement. This summary is entirely qualified by and reference is hereby made to the provisions of the Power Park Joint Ownership Agreement itself, copies of which may be obtained from JEA; *provided* that a reasonable charge may be imposed for the cost of reproduction.

Definitions

Unless the context otherwise requires, the terms defined in this section shall for the purposes of this summary have the meanings specified herein. The reader is cautioned that the definitions contained in this summary of the Power Park Joint Ownership Agreement may and do materially vary from the definitions of similar terms used elsewhere in the Annual Disclosure Report to which this summary is attached.

Bonds: The bonds, notes or other evidences of indebtedness issued from time to time by JEA pursuant to the First Power Park Resolution (or other applicable resolution or agreement in the case of notes or other evidences of indebtedness), except for certain bonds ("Other Bonds") issued to pay certain costs allocable solely to JEA, to pay any part of (i) Costs of Construction, (ii) Costs of Plant, (iii) interest accruing in whole or in part on bonds, notes or other evidences of indebtedness issued pursuant to the First Power Park Resolution (or other applicable resolution or agreement in the case of notes or other evidences of indebtedness), except for interest accruing in whole or in part on Other Bonds, prior to and during construction and for such additional period as JEA may reasonably determine to be necessary for placing the Joint Facilities in operation, (iv) amounts required by the First Power Park Resolution to be paid into the Debt Service Fund (as defined in the First Power Park Resolution), except for amounts to be paid into such Debt Service Fund attributable to Other Bonds, from the proceeds of bonds, notes or other evidences of indebtedness, (v) costs and expenses incurred in the issuance and sale of bonds, notes or other evidences of indebtedness issued pursuant to the First Power Park Resolution (or other applicable resolution or agreement in the case of notes or other evidences of indebtedness), except for costs and expenses incurred in the issuance and sale of Other Bonds, including but not limited to legal fees and expenses, discounts to the underwriters or other purchasers thereof, fees and expenses of underwriters or other purchasers thereof and fees and expenses of financial advisors, or (vi) the payment of principal, premium, if any, and interest when due (whether at the maturity of principal or at the due date of interest or upon redemption) on notes or other evidences of indebtedness issued in accordance with the provisions of clause (i) of subsection one of Section 707 of the First Power Park Resolution (relating to bond anticipation notes) to finance any of the costs referred to above in clauses (i) through (v), inclusive, which costs have not been, and are not to be, paid out of the proceeds of bonds, and any additional bonds and refunding bonds issued in accordance with the First Power Park Resolution.

Co-owner: JEA or FPL or any party substituted for JEA or FPL pursuant to Section 12.1 or 12.2 of the Power Park Joint Ownership Agreement. The "Co-owners" shall mean JEA and FPL and any party substituted for JEA or FPL pursuant to such Sections.

Costs of Construction: All costs, expenses, losses, liabilities and charges (except certain costs allocable principally to JEA) incurred or accrued by JEA or FPL in planning, design, engineering, acquisition, construction, contract preparation, installation, modifying, testing, environmental control, safety and completion of the Joint Facilities, including costs related to obtaining all licenses, approvals or permits from regulatory agencies required for construction, operation and ownership of the Joint Facilities which are incurred or accrued in connection with placing Coal Units No. 1 and No. 2 in commercial operation.

Costs of Operation: All direct and indirect costs of operating the Joint Facilities incurred or accrued by JEA or FPL pursuant to the terms of the Power Park Joint Ownership Agreement, including but not limited to all costs, expenses, losses, liabilities and charges incurred or accrued in operating, maintaining, repairing, supervising, fueling, staffing, insuring, testing, protecting, preserving, meeting legal, regulatory, permit and license requirements with respect to, and using the Joint Facilities, whether incurred in the name of JEA or FPL only or the name of both Co-owners, but excluding (i) any such items otherwise included as Costs of Construction, Costs of Plant or Other Costs and (ii) cost of Fuel or costs of Plant Materials and Operating Supplies as provided in Appendix B of the Power Park Joint Ownership Agreement.

Costs of Plant: All costs, expenses, losses, liabilities and charges (except certain costs principally allocable to JEA) incurred or accrued by JEA or FPL pursuant to the terms of the Power Park Joint Ownership Agreement for the Joint Facilities, after the Date of Commercial Operation with respect to each of Coal Units No. 1 and No. 2, which are directly or indirectly related to capital improvements, additions, betterments or replacements thereof, whether incurred in the name of JEA or FPL only or in the name of both Co-owners.

Generation Entitlement: The capacity in megawatts available to a Co-owner which is equal to such Co-owner's Generation Entitlement Percentage times the Net Electric Generating Capability.

Generation Entitlement Percentage: The percentage of the Net Electric Generating Capability of each of Coal Units No. 1 and No. 2 to which JEA or FPL, as the case may be, is entitled under the Power Park Joint Ownership Agreement.

Net Electric Generating Capability: With respect to each of Coal Units No. 1 and No. 2, at any time, the gross electric capability and associated electric energy of the Coal Unit at that time, less the electric energy utilized by such Coal Unit for all processes, auxiliary equipment and systems used or useful in connection with start-up, operation, maintenance, control, supply or shutdown of such Coal Unit, including appropriate station service transformer losses, available to the Co-owners at the high voltage bus at the Plant Site-located switchyard.

Ownership Interest: With respect to each Co-owner, the percentage of undivided ownership in the Joint Facilities. This percentage is subject to change as provided in Sections 12.1, 12.2 and 13.4.3 of the Power Park Joint Ownership Agreement.

Ownership and Construction

JEA and FPL each own an undivided interest in the Joint Facilities as tenants in common. The percentages of undivided ownership, and the rights and obligations of the Co-owners with respect to the output, capacity, use and service of the Joint Facilities are 80 percent for JEA and 20 percent for FPL (their respective "Ownership Interests").

The Costs of Construction and Costs of Plant of the Joint Facilities will be paid from the Construction and Plant Account. JEA and FPL will pay into the Construction and Plant Account, in proportion to their Ownership Interests, the amounts necessary to make such payments from the Construction and Plant Account pursuant to statements prepared monthly by the Project Management Committee. JEA as agent for the Co-owners shall have the sole responsibility, right and authority to withdraw and apply funds as necessary from the Construction and Plant Account to pay the Costs of Construction, the Costs of Plant and other specified expenditures to be made from such account.

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Energy Entitlements

JEA is entitled to a percentage (its "Generation Entitlement Percentage") of the Net Electric Generating Capability of Coal Units No. 1 and No. 2 at any given time equal to its Ownership Interest less the percentage of the total Net Electric Generating Capability of each of Coal Units No. 1 and No. 2 sold by JEA to FPL pursuant to Section 8 of the Power Park Joint Ownership Agreement. In Section 8 of the Power Park Joint Ownership Agreement JEA sold to FPL 37.5 percent of JEA's Ownership Interest in the Net Electric Generating Capability of Coal Units No. 1 and No. 2 (subject to the limitation that FPL may not receive in excess of 25 percent of the product of the nameplate capacity of JEA's Ownership Interest and the number of years from the date FPL first took energy pursuant to such sale until the latest maturity date of the Power Park Issue Two Bonds). FPL is required to make payments to JEA for the purchase of such Net Electric Generating Capability approximately equal to the sum of 37.5 percent of the debt service on the Power Park Issue Two Bonds, the administrative fees and expenses on the Power Park Issue Two Bonds, the variable Costs of Operation and certain other costs, proportionate to the amount of net electric generating capability sold to FPL.

Coordination and Administration of the Joint Facilities

To provide management, administration and control of the activities necessary for the completion and operation of the Joint Facilities, the Power Park Joint Ownership Agreement established an Executive Committee and four functional committees (a Project Management Committee, Operating Committee, Fuels Committee and Energy Dispatch Committee) subordinate to it. Each committee is composed of an equal number of representatives of JEA and FPL. The authority, responsibilities, operation and coordination of the various committees is extensively detailed in Article V of the Power Park Joint Ownership Agreement, to which the reader is referred.

Operations

JEA as agent for FPL and acting on its own behalf shall be responsible for the operation and maintenance of the Joint Facilities. JEA shall discharge such responsibility in accordance with the directives and authorizations of the Executive Committee or Operating Committee or in accordance with the policies and procedures developed by the Operating Committee and approved in accordance with the Power Park Joint Ownership Agreement.

Except as otherwise provided in the Power Park Joint Ownership Agreement the fixed Costs of Operation of the Joint Facilities shall be borne by the Co-owners in proportion to their Ownership Interests and the variable Costs of Operation (as such fixed and variable Costs of Operations are defined in Appendix B to the Power Park Joint Ownership Agreement) shall be borne by the Co-owners in proportion to their respective amounts of Generated Energy associated with their respective Ownership Interests.

Transmission of FPL's Generated Energy

JEA will provide transmission capability for delivery of FPL's Generated Energy from the coal units to FPL. FPL will pay a transmission charge to the Electric System for this service, the amount of such charge to be determined as provided in Appendix B to the Power Park Joint Ownership Agreement, such payment to be made whether or not the coal units or the transmission facilities are completed, operable or operating and notwithstanding any suspension, interruption, interference, reduction or curtailment of the output, capacity or service of either of the coal units or such transmission facilities for any reason whatsoever.

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Separate System and Funds of JEA

The Power Park Joint Ownership Agreement provides that JEA's Ownership Interest in the Joint Facilities will be financed, constructed and operated by JEA as a project under the provisions of Chapter 80-513, Laws of Florida, as amended (the "Bulk Power Act"), and will be financed and accounted for by JEA under the First Power Park Resolution as a separate bulk power supply system of JEA known as the St. Johns River Power Park System in accordance with the provisions of the Bulk Power Act.

Other Provisions

The Power Park Joint Ownership Agreement contains other provisions relating to insurance, damage or destruction of the Joint Facilities, assignment and transfer of interests in the Joint Facilities, liability of the parties for taxes, liabilities of third parties, force majeure, rights of the parties to audit, maintenance of records, authority of the agents of either Co-owner, supporting staff and staff committees, sale of respective Ownership Interests, unrelated use of the Joint Facilities and the project site, resolution of disputes through voluntary non-binding arbitration, and other matters related to the joint ownership, construction and operation of the Joint Facilities.

Events of Default and Remedies on Default

> ***(A)*** ***Events of Default***. The Events of Default specified in the Power Park Joint Ownership Agreement are (a) a failure of a Co-owner to make any monetary payment required of it under the Power Park Joint Ownership Agreement when due (except for certain failures by JEA related to an inability to sell Power Park Bonds), and (b) a failure of a Co-owner to perform any other obligation or duty under the Power Park Joint Ownership Agreement which failure has not been cured within 60 days after the giving of notice of such failure or, if there is a good faith dispute, issuance of a final court or arbitrational order or decision, or, in the case of either (a) or (b) if not reasonably curable within such 60 day period, good faith efforts to cure the same have not commenced during such period and are not being pursued with due diligence by said Co-owner in default.
>
> ***(B)*** ***Rights on Default***. A Co-owner in default shall have no right to receive its Generation Entitlement Percentage of the Net Electric Generating Capability or to exercise any other rights under the Power Park Joint Ownership Agreement until such default has been cured (but each Co-owner shall continue to be represented on and to participate in the decision making of the administrative and planning committees described above).

During the period of a default the non-defaulting Co-owner, in addition to other rights available at law or equity, has the right to take any or all of the capacity and associated energy of Coal Units No. 1 and No. 2 unavailable to the defaulting Co-owner as described in the preceding paragraph. The defaulting Co-owner is not relieved of any liability for his default or for payments under the Power Park Joint Ownership Agreement, with the exception of some variable Costs of Operation which will be borne by the non-defaulting Co-owner in proportion to its receipt of capacity and energy associated with utilization of a defaulting Co-owner's entitlement.

In the event a Co-owner remains in default for a period of 365 days, the non-defaulting Co-owner shall have the right, in addition to other rights available, to purchase in full or in part, the defaulting Co-owner's Ownership Interest in the Joint Facilities at a price determined in accordance with Section 13.4.3 of the Power Park Joint Ownership Agreement.

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Further, a non-defaulting Co-owner shall have the right at any time and from time to time to sue the Co-owner in default to recover or enforce payment of any and all amounts which the Co-owner in default is obligated by the Power Park Joint Ownership Agreement to pay or to require performance or any other obligation or duty of the defaulting Co-owner under the Power Park Joint Ownership Agreement or to recover for all loss or damage suffered by reason of the default, or to seek a declaratory judgment to the respect of rights and obligations of the Co-owners under the Power Park Joint Ownership Agreement.

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APPENDIX H

SUMMARY OF CERTAIN PROVISIONS OF AGREEMENTS RELATING TO SCHERER UNIT 4

The following is a brief summary of certain provisions of certain agreements relating to Scherer Unit 4. This summary does not purport to be a complete or comprehensive statement of the contents of such agreements. This summary is entirely qualified by and reference is hereby made to the provisions of the such agreements themselves, copies of which may be obtained from JEA; *provided* that a reasonable charge may be imposed for the cost of reproduction.

SCHERER UNIT 4 PURCHASE AGREEMENT

The Scherer Unit 4 Purchase Agreement and certain related agreements provide for the purchase by FPL and JEA of their ownership interests in Scherer Unit 4 and associated common facilities and an associated coal stockpile and generally govern the ownership and operation of Scherer Unit 4.

Agent

JEA and FPL have appointed GPC as their agent to act on behalf of JEA and FPL (the "Scherer 4 Participants") in performing all activities relating to the planning, construction, operation, maintenance and disposal of Scherer Unit 4 and the associated common facilities, subject to the terms of the ownership and operation agreements governing the other Plant Scherer units. GPC has sole authority and responsibility to perform such functions and is authorized to take all reasonable actions which in the discretion and judgment of GPC are deemed necessary or advisable to perform such functions with respect to Scherer Unit 4 and the associated common facilities. JEA and FPL retain the right to conduct operating and management audits and to have on-site representatives and inspections and participate in the Scherer Unit 4 Operating Committee. The terms and conditions upon which GPC will perform such functions are further delineated in a Scherer Unit 4 Operating Agreement, as amended (see "Scherer Unit 4 Operating Agreement" herein). GPC can be removed as agent under the Scherer Unit 4 Purchase Agreement in certain circumstances and a successor appointed. GPC's liability for failure to properly perform such agency functions is limited by the provisions of the Scherer Unit 4 Purchase Agreement.

Ownership, Rights and Obligations

The Scherer 4 Participants own Scherer Unit 4 and the associated common facilities, and possess the rights and obligations related thereto, in proportion to their undivided ownership interests therein from time to time. The Scherer 4 Participants are entitled to the capacity and the associated energy from Scherer Unit 4 in proportion to their undivided ownership interests from time to time.

Non-Payment

A Scherer 4 Participant which fails to make payments due under the Scherer Unit 4 Purchase Agreement will have no right to any output of capacity and energy, and other rights under the Scherer Unit 4 Purchase Agreement will be suspended, until all overdue amounts are paid.

Sale or Assignment

Each Scherer 4 Participant may sell or assign its ownership interest, subject to certain rights of first refusal granted to the other Scherer 4 Participants. Upon any sale of its ownership interest or a portion thereof, the selling Scherer 4 Participant's obligations (including payment obligations) under the Scherer Unit 4 Purchase Agreement are reduced to the extent of the interest sold.

Damage or Destruction

If Scherer Unit 4 or the associated common facilities, or any portion thereof, are damaged or destroyed, the damaged or destroyed portion (i) shall be repaired or reconstructed if insurance proceeds are sufficient to pay the cost thereof, or (ii) shall not be repaired or reconstructed if the insurance proceeds are insufficient to pay the cost thereof, in each case subject to the contrary decision of a specified proportion of the utilities having an ownership interest in the damaged or destroyed facilities and further subject to the right of any utility having an ownership interest in the damaged or destroyed facilities to repair or reconstruct such facilities at its own cost; *provided*, *however*, that if any such utility having an ownership interest in the damaged or destroyed facilities elects to repair or reconstruct and bear the full cost thereof, any other Scherer 4 Participant shall reimburse such utility its pro rata share of the net book value of the costs of such repair or reconstruction as a condition to again obtaining its entitlement of energy.

Insurance

GPC is required to carry in the name of the Scherer 4 Participants the following types of insurance: worker's compensation, commercial general liability, and "all risk" property, in such amounts and with such provisions as is consistent with GPC's customary practices.

Coal Stockpiles

JEA and FPL, for accounting, payment and settlement costs only, shall each have a separate coal stockpile and shall be entitled only to the use of coal in its separate stockpile account.

Clean Air Act Emissions Allowances

Each Scherer 4 Participant shall be entitled to a pro rata share (based upon its ownership interest in Scherer Unit 4) of any and all allowances allocated to Scherer Unit 4 under the 1990 Amendments to the Clean Air Act. See "*ELECTRIC UTILITY FUNCTIONS* — Factors Affecting the Electric Utility Industry — *Environmental*" in the Annual Disclosure Report to which this summary is attached.

Common Facilities Agreements

The provisions of the Scherer Unit 4 Purchase Agreement and the Scherer Unit 4 Operating Agreement relating to the associated common facilities are made subject, in the case of conflict, to the provisions of prior ownership and operating agreements governing the ownership and operation of the other Plant Scherer units.

No Adverse Distinction

The Scherer 4 Participants and GPC, as agent, each agree that in discharging their responsibilities under the Scherer Unit 4 Purchase Agreement they will not make any adverse distinction between Scherer Unit 4 and the associated common facilities, on the one hand, and any other generating units or common facilities in which such party has an ownership interest, on the other hand.

SCHERER UNIT 4 OPERATING AGREEMENT

JEA, FPL and GPC have entered into the Plant Robert W. Scherer Unit Number Four Operating Agreement, dated as of December 31, 1990, as amended (the "Scherer Unit 4 Operating Agreement"), which, together with certain related agreements, provides for the operation and maintenance, management, control, renewal, improvement, replacement, modification and disposal of Scherer Unit 4 and the associated common facilities, to the extent not covered by the Scherer Unit 4 Purchase Agreement. The

Scherer Unit 4 Operating Agreement became effective on July 10, 1991 and remains in effect until the final decommissioning of Scherer Unit 4 and the associated common facilities.

GPC Agency

GPC is appointed agent for the Scherer 4 Participants to operate, maintain and perform other functions with respect to Scherer Unit 4 and the associated common facilities.

Operating Committee

The Scherer Unit 4 Operating Agreement creates an Operating Committee consisting of a representative from each of the Scherer 4 Participants. The Operating Committee has general authority to serve as liaison between GPC in its capacity as agent and the Scherer 4 Participants, and to administer the Scherer Unit 4 Operating Agreement and the Scherer Unit 4 Purchase Agreement. The Operating Committee also approves the Scherer Unit 4 business plan prepared by GPC, as agent, and certain procurement activities.

Operation

GPC, as agent for the Scherer 4 Participants, has the sole authority and responsibility to operate, maintain and perform other functions with respect to Scherer Unit 4 and the associated common facilities and is authorized to take all actions which, in its discretion and judgment, are deemed necessary or advisable to effect such operation, maintenance and other functions.

Separate Coal Procurement

Subject to the terms of the Scherer Unit 4 Purchase Agreement and Operating Agreement, FPL and JEA may act separately to supply their own coal requirements, as a separate coal stockpile, upon complying with certain conditions.

Availability, Scheduling and Dispatch of Output

The Scherer 4 Participants are entitled to the net capacity of Scherer Unit 4 in proportion to their ownership interests and other net energy output.

GPC has agreed to use its best efforts to dispatch or allow JEA and FPL direct dispatch control of the net energy output from Scherer Unit 4 to match schedules provided by the Scherer 4 Participants, subject to safety, reliability and integrity requirements of Scherer Unit 4, the other Plant Scherer units and the Georgia transmission grid.

Cost Sharing

Except as otherwise provided, each Scherer 4 Participant is responsible for its respective share of all operating and improvement costs. The Scherer Unit 4 Operating Agreement provides for the establishment of accounting and billing procedures, which have been approved by the Scherer 4 Participants.

AGENCY AGREEMENT BETWEEN JEA AND FPL

JEA and FPL have entered into an Agency Agreement Relating to the Joint Ownership of Plant Scherer Unit Number Four, dated as of December 31, 1990 (the "Scherer Unit 4 Agency Agreement"), which became effective on July 10, 1991. JEA and FPL agree in the Scherer Unit 4 Agency Agreement to create joint Executive, Operating and Services Committees relating to their ownership interests in Scherer Unit 4 and the associated common facilities. Such committees are to be composed of a representative of FPL (the "Lead FPL Member") and a representative of JEA. JEA agrees to the appointment of FPL, through the FPL Lead Members or other FPL delegates, as its agent and proxy with respect to all matters concerning the parties' ownership interests in Scherer Unit 4 and the associated common facilities, including the operation, maintenance, contracting and project management thereof, to act in accordance with the instructions of the committees established in the Scherer Unit 4 Agency Agreement. FPL's duties and obligations in carrying out such agency include (i) voting JEA's ownership interest in conjunction with FPL's ownership interest at any managing board or operating or other committees, and (ii) directing the activities of the operating agent appointed for Scherer Unit 4 (initially, GPC).

FPL's authority to act on behalf of JEA under the Scherer Unit 4 Agency Agreement does not extend to actions regarding certain third party suits and claims, actions relating to reconstruction of damaged or destroyed facilities, retirement or life extension of Scherer Unit 4, dispatching of JEA's energy entitlement and the scheduling and transmission of such energy, and coal procurement activities.

Actions by the Executive Committee are taken by majority vote, with the votes of JEA and FPL representatives weighted in accordance with their respective ownership interests, *i.e.*, 76.36 percent for FPL and 23.64 percent for JEA. Thus, FPL will generally have the deciding vote. However, the unanimous consent of the committee representatives is required with respect to certain significant matters, including capital modifications or improvements, removal and replacement of the operating agent, and fuel utilization decisions requiring capital expenditures to maintain performance. The Scherer Unit 4 Agency Agreement provides for arbitration of deadlocks with respect to such significant matters. Decisions of the other committees established pursuant to the Scherer Unit 4 Agency Agreement will be by consensus, with disputes resolved by the Executive Committee.

The Scherer Unit 4 Agency Agreement may be terminated by agreement of JEA and FPL or by JEA in certain circumstances, including the insolvency or dissolution of FPL.

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APPENDIX I

JEA ELECTRIC SYSTEM BONDS SUBJECT TO CONTINUING DISCLOSURE UNDERTAKINGS*

JEA has entered into continue disclosure undertakings with respect to the following bonds to provide certain information to the Municipal Securities Rulemaking Board not later than the June 1 following the end of each Fiscal Year.

ST. JOHNS RIVER POWER PARK SYSTEM REVENUE BONDS, ISSUE TWO

On January 5, 2018 all outstanding St. Johns River Power Park System Revenue Bonds, Issue Two were legally defeased and are no longer outstanding.

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* Note: The CUSIP numbers listed in this APPENDIX I are provided for the convenience of bondholders. JEA is not responsible for the accuracy or completeness of such numbers.

ST. JOHNS RIVER POWER PARK SYSTEM REVENUE BONDS, ISSUE THREE

St. Johns River Power Park System Revenue Bonds, Issue Three, Series One

Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number
2037	$100,000	4.500%	46613Q EH3

St. Johns River Power Park System Revenue Bonds, Issue Three, Series Two

Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number
2037	$29,370,000	5.000%	46613Q EZ3

St. Johns River Power Park System Revenue Bonds, Issue Three, Series Four

Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number
2019	$1,775,000	4.700%	46613Q GE8
2020	1,830,000	4.850	46613Q GF5
2021	1,890,000	4.750	46613Q GG3
2022	1,950,000	4.850	46613Q GH1
2023	2,020,000	4.950	46613Q GJ7
2024	2,085,000	5.050	46613Q GK4
2025	2,160,000	5.150	46613Q GL2
2026	2,240,000	5.250	46613Q GM0
2027	2,325,000	5.350	46613Q GN8
2028	2,415,000	5.450	46613Q GP3

St. Johns River Power Park System Revenue Bonds, Issue Three, Series Six

Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number
2019	$ 5,680,000	5.000%	46613Q HP2
2020	7,710,000	5.000	46613Q JB1
2021	1,000,000	2.375	46613Q HR8
2021	7,675,000	5.000	46613Q JC9
2022	1,470,000	2.625	46613Q HS6
2022	7,505,000	5.000	46613Q JD7
2023	1,330,000	3.000	46613Q HT4
2023	6,090,000	5.000	46613Q JE5
2024	1,560,000	3.000	46613Q HU1
2024	8,295,000	5.000	46613Q JF2
2025	2,495,000	3.125	46613Q HV9
2026	3,100,000	3.250	46613Q HW7
2027	3,590,000	3.375	46613Q HX5
2028	8,325,000	4.000	46613Q HY3
2032	25,405,000	4.000	46613Q JA3
2037	100,000	4.000	46613Q HZ0

St. Johns River Power Park System Revenue Bonds, Issue Three, Series Seven

Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number
2019	$ 4,120,000	5.000%	46613Q JT2
2020	1,565,000	2.000	46613Q JU9
2021	2,040,000	2.500	46613Q JV7
2022	2,185,000	2.500	46613Q JW5
2023	4,195,000	3.000	46613Q JX3
2024	2,210,000	3.000	46613Q JY1
2025	10,090,000	3.000	46613Q JZ8
2026	9,795,000	3.125	46613Q KA1
2027	9,640,000	3.250	46613Q KB9
2028	5,260,000	3.375	46613Q KC7
2029	5,395,000	3.375	46613Q KD5
2030	5,530,000	3.500	46613Q KE3
2031	5,680,000	3.500	46613Q KF0
2032	5,820,000	3.625	46613Q KG8
2033	5,975,000	3.625	46613Q KH6

St. Johns River Power Park System Revenue Bonds, Issue Three, Series Eight

Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number
2019	$ 2,205,000	5.000%	46613Q KQ6
2020	2,235,000	2.000	46613Q KR4
2021	1,570,000	2.250	46613Q KS2
2022	2,175,000	2.500	46613Q KT0
2023	2,230,000	2.750	46613Q KU7
2024	2,295,000	3.000	46613Q KV5
2025	2,360,000	3.000	46613Q KW3
2026	2,430,000	3.000	46613Q KX1
2027	2,505,000	3.125	46613Q KY9
2028	2,580,000	3.250	46613Q KZ6
2029	2,670,000	3.375	46613Q LA0
2030	2,755,000	3.500	46613Q LB8
2031	2,855,000	3.500	46613Q LC6
2032	2,955,000	3.625	46613Q LD4
2033	3,060,000	3.750	46613Q LE2
2034	3,175,000	3.750	46613Q LG7
2039	17,840,000	4.000	46613Q LF9

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ELECTRIC SYSTEM REVENUE BONDS

Electric System Revenue Bonds, Series Three 2004A

Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number
2039	$5,000	5.000%	46613C EN1

Electric System Revenue Bonds, Series Three 2005B

Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number
2033	$100,000	4.750%	46613C FQ3

Electric System Revenue Bonds, Series Three 2008C-3

Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number
2038	$25,000,000	Variable	46613C MP7

Electric System Revenue Bonds, Series Three 2009D

Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number
2044	$45,955,000	6.056%	46613C VW2

Electric System Revenue Bonds, Series Three 2010A

Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number
2019	$5,070,000	4.000%	46613C XS9

Electric System Revenue Bonds, Series Three 2010C

Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number
2031	$1,290,000	4.500%	46613C GS3

Electric System Revenue Bonds, Series Three 2010D

Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number
2020	$1,145,000	5.000%	46613C G25
2038	60,000	4.250	46613S GU8

Electric System Revenue Bonds, Series Three 2010E

Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number
2030	$ 6,840,000	5.350%	46613C J30
2040	27,415,000	5.482	46613C J22

Electric System Revenue Bonds, Series Three 2012A

Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number
2027	$ 240,000	4.000%	46613S HL7
2028	250,000	4.000	46613S HM5
2029	255,000	4.000	46613S HP8
2030	535,000	4.000	46613S HK9
2031	3,485,000	4.000	46613C P66
2032	670,000	4.500	46613S HN3
2033	775,000	4.500	46613S HQ6
2033	10,000,000	4.000	46613C Q24

Electric System Revenue Bonds, Series Three 2012B

Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number
2019	$ 725,000	2.000%	46613C U37
2027	1,915,000	3.000	46613C U94
2028	1,395,000	3.000	46613C V28
2029	1,390,000	3.125	46613C V36
2030	365,000	3.250	46613C V44
2031	1,180,000	3.250	46613C V51
2032	1,180,000	3.375	46613C V69
2035	30,000,000	3.625	46613C W35
2035	5,415,000	3.750	46613C V77
2035	575,000	5.000	46613S HT0
2039	40,000,000	3.750	46613C V93
2039	1,475,000	5.000	46613S HU7

Electric System Revenue Bonds, Series Three 2013A

Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number
2019	$ 8,990,000	3.500%	46613C Z32
2020	12,395,000	5.000	46613C Z40
2021	12,240,000	5.000	46613C 2A2
2022	15,245,000	5.000	46613C 2F1
2026	180,000	3.000	46613S JC5

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Electric System Revenue Bonds, Series Three 2013B

Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number
2026	$ 25,000	3.000%	46613C 3A1
2027	25,000	3.000	46613C 3B9
2028	25,000	3.250	46613C 3C7
2029	30,000	3.375	46613C 3D5
2030	25,000	3.500	46613C 3E3
2033	190,000	3.500	46613C 3F0
2038	1,355,000	4.000	46613C 3G8
2038	5,825,000	5.000	46613C 3H6

Electric System Revenue Bonds, Series Three 2013C

Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number
2019	$1,700,000	5.000%	46613C 5K7
2020	1,745,000	5.000	46613C 5L5
2021	1,910,000	5.000	46613C 5M3
2022	1,950,000	5.000	46613C 5N1
2027	740,000	5.000	46613S JN1
2028	790,000	5.000	46613S JP6
2030	1,720,000	4.600	46613S JQ4

Electric System Revenue Bonds, Series Three 2014A

Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number
2019	$1,285,000	5.000%	46613S AF7
2026	1,475,000	3.500	46613S KC3
2027	1,525,000	3.600	46613S KD1
2028	1,585,000	3.750	46613S KE9
2029	1,225,000	4.000	46613S KF6
2030	450,000	4.000	46613S KG4
2031	470,000	4.000	46613S KH2
2032	490,000	4.100	46613S KJ8
2033	420,000	4.250	46613S KK5
2034	425,000	4.300	46613S KL3

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Electric System Revenue Bonds, Series Three 2015A

Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number
2019	$ 155,000	5.000%	46613S CE8
2020	3,270,000	5.000	46613S CF5
2021	1,555,000	5.000	46613S CG3
2026	825,000	3.000	46613S KR0
2027	1,240,000	3.125	46613S KS8
2028	1,060,000	3.250	46613S KT6
2029	930,000	3.375	46613S KU3
2030	4,430,000	3.375	46613S CR9
2031	1,895,000	3.375	46613S CS7
2032	1,955,000	3.500	46613S CT5
2033	2,025,000	3.500	46613S CU2
2034	1,660,000	3.500	46613S CV0
2041	38,005,000	3.750	46613S CW8

Electric System Revenue Bonds, Series Three 2015B

Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number
2019	$6,945,000	5.000%	46613S DA5
2028	10,000	3.375	46613S KY5
2029	10,000	3.500	46613S KZ2
2030	3,120,000	3.500	46613S DD9
2030	75,000	5.000	46613S LA6
2031	2,605,000	3.625	46613S DE7
2031	4,460,000	5.000	46613S DG2

Electric System Revenue Bonds, Series Three 2017A

Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number
2019	$18,670,000	5.000%	46613S DJ6

Electric System Revenue Bonds, Series Three 2017B

Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number
2026	$ 2,820,000	5.000%	46613S FT2
2027	33,105,000	5.000	46613S FU9
2028	26,400,000	5.000	46613S FV7
2029	26,705,000	5.000	46613S FW5
2030	26,800,000	5.000	46613S FX3
2035	20,945,000	4.000	46613S FY1
2036	24,575,000	4.000	46613S FZ8
2037	22,560,000	4.000	46613S GA2
2038	7,135,000	4.000	46613S GB0
2039	7,050,000	3.375	46613S GC8

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ELECTRIC SYSTEM SUBORDINATED REVENUE BONDS

Electric System Subordinated Revenue Bonds, 2009 Series F

Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number
2019	$ 1,550,000	4.900%	46613C WD3
2020	1,725,000	5.000	46613C WE1
2021	460,000	5.200	46613C WF8
2024	1,820,000	5.500	46613C WH4
2034	56,600,000	6.406	46613C WG6

Electric System Subordinated Revenue Bonds, 2009 Series G

Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number
2019	$ 2,740,000	4.000%	46613C WM3
2019	11,925,000	5.000	46613C WP6

Electric System Subordinated Revenue Bonds, 2010 Series B

Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number
2019	$ 960,000	4.000%	46613C ZR9
2020	2,155,000	5.000	46613S FS4

Electric System Subordinated Revenue Bonds, 2010 Series D

Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number	Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number
2019	$2,705,000	4.150%	46613C J63	2022	$ 4,345,000	4.749%	46613C K20
2020	1,010,000	4.250	46613C J71	2023	4,685,000	4.899	46613C K38
2021	3,850,000	4.549	46613C J97	2027	25,455,000	5.582	46613C J89

Electric System Subordinated Revenue Bonds, 2012 Series A

Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number	Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number
2019	$2,655,000	4.000%	46613C L86	2029	$ 3,695,000	3.500%	46613C N27
2020	4,285,000	5.000	46613C L94	2030	2,685,000	3.625	46613C N35
2026	380,000	3.250	46613S LL2	2031	14,995,000	4.000	46613C N43
2027	100,000	3.375	46613S LM0	2032	6,500,000	3.875	46613C N50
2028	260,000	4.000	46613S LN8	2033	19,960,000	4.000	46613C N68

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Electric System Subordinated Revenue Bonds, 2012 Series B

Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number	Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number
2019	$2,215,000	5.000%	46613C R56	2032	$ 4,655,000	3.500%	46613C T21
2028	5,020,000	3.250	46613C S63	2034	715,000	5.000	46613S LY4
2029	145,000	5.000	46613S LW8	2035	1,795,000	3.750	46613C T54
2030	200,000	5.000	46613S LX6	2037	30,780,000	4.000	46613C T39
2031	4,505,000	3.500	46613C S97				

Electric System Subordinated Revenue Bonds, 2013 Series A

Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number
2019	$2,780,000	5.000%	46613C W92
2020	2,890,000	5.000	46613C X26
2021	3,045,000	5.000	46613C X34
2022	3,150,000	5.000	46613C X42
2026	2,655,000	3.000	46613S MG2
2027	2,785,000	5.000	46613S MH0
2028	8,850,000	3.000	46613C Y25
2029	3,940,000	5.000	46613S MJ6
2030	7,235,000	3.100	46613C Y41

Electric System Subordinated Revenue Bonds, 2013 Series B

Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number
2019	$2,870,000	5.000%	46613C 2N4
2020	2,990,000	5.000	46613C 2P9
2021	5,010,000	5.000	46613C 2Q7
2022	5,225,000	5.000	46613C 2R5
2026	1,070,000	3.000	46613S MN7

Electric System Subordinated Revenue Bonds, 2013 Series C

Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number	Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number
2019	$ 190,000	1.375%	46613C 3N3	2029	$ 740,000	3.500%	46613C 3Y9
2019	695,000	5.000	46613C 4C6	2029	1,765,000	5.000	46613C 4J1
2021	1,740,000	5.000	46613C 4D4	2030	2,900,000	3.500	46613C 3Z6
2026	2,885,000	3.000	46613C 3V5	2032	6,790,000	5.000	46613C 4K8
2027	515,000	3.250	46613C 3W3	2033	3,695,000	3.625	46613C 4A0
2027	1,430,000	5.000	46613C 4G7	2037	30,135,000	5.000	46613C 4L6
2028	490,000	3.375	46613C 3X1	2038	18,875,000	4.000	46613C 4B8
2028	1,905,000	5.000	46613C 4H5				

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Electric System Subordinated Revenue Bonds, 2013 Series D

Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number	Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number
2019	$20,830,000	5.000%	46613C 6B6	2029	$ 90,000	4.625%	46613S NK2
2020	11,240,000	5.000	46613C 6U4	2030	225,000	4.750	46613S NL0
2021	5,485,000	5.000	46613C 6V2	2031	275,000	4.750	46613S NM8
2022	7,635,000	5.000	46613C 6W0	2032	610,000	4.750	46613S NN6
2027	395,000	4.375	46613S NH9	2033	525,000	4.750	46613S NP1
2027	90,000	5.000	46613S NV8	2034	450,000	4.800	46613S NQ9
2027	1,460,000	5.250	46613S NW6	2035	425,000	5.000	46613S NR7
2028	380,000	4.500	46613S NJ5				

Electric System Subordinated Revenue Bonds, 2014 Series A

Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number	Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number
2019	$14,635,000	5.000%	46613S BC3	2030	$1,540,000	4.000%	46613S PQ7
2020	8,325,000	5.000	46613S BW9	2031	1,605,000	4.125	46613S PR5
2021	12,280,000	5.000	46613S BV1	2032	1,670,000	4.250	46613S PS3
2022	6,280,000	5.000	46613S BD1	2033	4,880,000	5.000	46613S PT1
2026	2,825,000	5.000	46613S PL8	2034	4,170,000	5.000	46613S PU8
2027	4,675,000	5.000	46613S PM6	2036	6,645,000	4.500	46613S PV6
2028	4,565,000	5.000	46613S PN4	2039	18,690,000	5.000	46613S PW4
2029	1,480,000	4.000	46613S PP9				

Electric System Subordinated Revenue Bonds, 2017 Series A

Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number
2019	$1,290,000	3.000%	46613S DM9

Electric System Subordinated Revenue Bonds, 2017 Series B

Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number
2019	$ 1,055,000	5.000%	46613S GE4
2020	1,110,000	5.000	46613S GF1
2025	27,470,000	5.000	46613S GH7
2026	33,155,000	5.000	46613S GJ3
2031	15,715,000	5.000	46613S GK0
2032	26,710,000	5.000	46613S GL8
2033	32,460,000	5.000	46613S GM6
2034	34,025,000	3.375	46613S GN4

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BULK POWER SUPPLY SYSTEM REVENUE BONDS

Scherer 4 Project Issue, Series 2010A

Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number
2019	$ 2,140,000	4.800%	472149 BC6
2020	2,705,000	4.900	472149 BD4
2021	2,335,000	5.050	472149 BE2
2022	2,410,000	5.200	472149 BF9
2023	2,495,000	5.300	472149 BG7
2024	2,580,000	5.400	472149 BH5
2025	3,105,000	5.450	472149 BJ1
2030	16,585,000	5.920	472149 BK8

Scherer 4 Project Issue, Series 2014A

Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number
2019	$ 4,010,000	3.500%	472149 BR3
2020	4,270,000	2.000	472149 BS1
2021	4,745,000	2.250	472149 BT9
2022	4,860,000	3.000	472149 BU6
2023	4,990,000	2.750	472149 BV4
2024	2,180,000	3.000	472149 BW2
2025	1,175,000	3.125	472149 BX0
2026	1,130,000	3.250	472149 BY8
2027	995,000	3.375	472149 BZ5
2028	1,735,000	3.500	472149 CA9
2029	2,825,000	3.500	472149 CB7
2030	2,755,000	3.625	472149 CC5
2031	2,540,000	3.750	472149 CD3
2032	2,615,000	4.000	472149 CE1
2033	2,555,000	4.000	472149 CF8
2034	3,000,000	4.000	472149 CG6
2038	14,275,000	4.125	472149 CH4

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ADDITIONAL VOGTLE UNITS PPA BONDS

Municipal Electric Authority of Georgia
Plant Vogtle Units 3&4 Project J Bonds, Taxable Series 2010A
(Issuer Subsidy – Build America Bonds)

Maturity Date (April 1)	Principal Amount	Interest Rate	CUSIP Number
2057	$1,224,265,000	6.637%	626207 YF5

Municipal Electric Authority of Georgia
Plant Vogtle Units 3&4 Project J Bonds, Series 2010B (Tax-Exempt)

Maturity Date (April 1)	Principal Amount	Interest Rate	CUSIP Number
2019	$ 5,175,000	5.000%	626207 YJ7
2020	460,000	5.000	626207 YL2
2040	1,410,000	5.000	626207 YK4

Municipal Electric Authority of Georgia
Plant Vogtle Units 3&4 Project J Bonds, Series 2015A (Tax-Exempt)

Maturity Date (July 1)	Principal Amount	Interest Rate	CUSIP Number
2060	$117,180,000	5.000%	626207 H23
2060	68,000,000	5.500	626207 H31

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ANNUAL DISCLOSURE REPORT
FOR
WATER AND SEWER SYSTEM AND DISTRICT ENERGY SYSTEM
FOR
FISCAL YEAR
ENDED
SEPTEMBER 30, 2018

(Prepared pursuant to certain continuing disclosure undertakings relating to the Bonds listed in APPENDIX E hereto)

Filed with EMMA

Dated as of

May 28, 2019

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JEA
21 W. CHURCH STREET
JACKSONVILLE, FLORIDA 32202
(904) 665-7410
(http://www.jea.com)

JEA OFFICIALS

BOARD MEMBERSHIP[(1)]

Chair	April Green
Vice Chair	Frederick D. Newbill
Secretary	Camille J. Lee-Johnson
	John Campion
	Kelly Flanagan
	G. Alan Howard[(2)]

MANAGEMENT

Managing Director and Chief Executive Officer	Aaron F. Zahn
President and Chief Operating Officer	Melissa H. Dykes
Chief Administrative Officer	Herschel Vinyard
Chief Financial Officer	Ryan F. Wannemacher
Chief Innovation and Transformation Officer	Julio Romero Agüero
Chief Public and Stakeholder Affairs Officer	Michael R. Hightower
Vice President and General Manager, Energy	Caren B. Anders
Vice President and General Manager of Water and Wastewater Systems	Deryle I. Calhoun
Vice President of Energy and Water Planning	Steven G. McInall
Vice President and Chief Customer Officer	Kerri Stewart
Vice President and Chief Compliance Officer	Ted E. Hobson
Vice President, Chief Legal Officer	Lynne Rhode
Interim Chief Human Resources Officer	Jon Kendrick
Vice President and Chief Information Officer	Shawn Eads
Vice President and Chief Supply Chain Officer	John P. McCarthy
Vice President and Chief Environmental Services Officer	Paul K. Steinbrecher
Treasurer	Joseph E. Orfano

GENERAL COUNSEL

Jason R. Gabriel, Esq.
General Counsel of the City of Jacksonville
Jacksonville, Florida

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(1) There is currently one vacancy on the JEA Board.
(2) Mr. Howard's term has expired, but he continues to serve until his successor has been appointed and qualified.

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ANNUAL DISCLOSURE REPORT
FOR
WATER AND SEWER SYSTEM AND DISTRICT ENERGY SYSTEM
FOR
FISCAL YEAR
ENDED
SEPTEMBER 30, 2018

INTRODUCTION

General

This Annual Disclosure Report for Water and Sewer System and District Energy System for Fiscal Year Ended September 30, 2018 (together with the Schedule and the Appendices hereto, this "Annual Disclosure Report") is furnished by JEA to provide information concerning (a) JEA, (b) JEA's combined water and sewer utilities system, (c) JEA's local district energy facilities, (d) outstanding debt of JEA relating to the combined water and sewer utilities system, and (e) outstanding debt of JEA relating to the local district energy facilities. This Annual Disclosure Report is being filed with the Municipal Securities Rulemaking Board (the "MSRB"), through the MSRB's Electronic Municipal Market Access ("EMMA") website currently located at http://emma.msrb.org pursuant to certain continuing disclosure undertakings made by JEA in accordance with the provisions of Rule 15c2-12, as amended ("Rule 15c2-12"), promulgated by the United States Securities and Exchange Commission (the "SEC") pursuant to the Securities Exchange Act of 1934, as amended. The bonds to which such continuing disclosure undertakings relate (including the CUSIP numbers thereof) are listed in APPENDIX E hereto. As permitted by the provisions of Rule 15c2-12, this Annual Disclosure Report also is intended to be included by reference in official statements and other offering and remarketing documents prepared by JEA in connection with (a) the sale and issuance, after the date hereof, of certain securities of JEA and (b) the remarketing in the secondary market, after the date hereof, of certain securities of JEA.

JEA is a body politic and corporate organized and existing under the laws of the State of Florida and is an independent agency of the City of Jacksonville, Florida (the "City"). The City is a consolidated city-county local government for Duval County, located in Northeast Florida. The governing body of JEA (the "JEA Board") consists of seven members appointed by the Mayor of the City and confirmed by the City Council of the City (the "Council"). JEA (then known as Jacksonville Electric Authority) was established in 1968 to own and manage the electric utility which had been owned by the City since 1895 (the "Electric System"). In 1997, the Council amended the Charter of the City (the "Charter") in order to authorize JEA to own and operate additional utility functions and, effective on June 1, 1997, the City transferred to JEA the City's combined water and sewer utilities system (the "Water and Sewer System"). Effective as of October 1, 2004, JEA established a separate utility system (the "District Energy System") for its local district energy facilities, including its chilled water activities and any local district heating facilities JEA may develop in the future. JEA operates and maintains its records on the basis of a fiscal year ending on each September 30th (a "Fiscal Year").

Each of the Electric System, the Water and Sewer System and the District Energy System is owned and operated by JEA separately. For information relating to JEA's Electric System see "ANNUAL DISCLOSURE REPORT FOR ELECTRIC UTILITY SYSTEM FOR FISCAL YEAR ENDED SEPTEMBER 30, 2018" (the "Electric ADR") available from the Municipal Securities Rulemaking Board's Electronic

Municipal Market Access ("EMMA") website at http://emma.msrb.org. **The revenues of each system do not constitute revenues of the other two systems, and, except as described under "WATER AND SEWER SYSTEM - *FINANCIAL INFORMATION RELATING TO WATER AND SEWER SYSTEM* - Debt Relating to Water and Sewer System - *Water and Sewer System Support of the District Energy System Bonds*" herein, revenues of each system are not pledged to the payment of any debt issued or to be issued by JEA to finance and refinance the other two systems.** JEA may, however, satisfy its annual obligation to transfer funds to the City with funds derived from any of its utilities systems. See "OTHER FINANCIAL INFORMATION - Transfers to the City" herein.

This Annual Disclosure Report contains information regarding JEA's Water and Sewer System and the District Energy System. For financing purposes and except as described under "WATER AND SEWER SYSTEM - *FINANCIAL INFORMATION RELATING TO WATER AND SEWER SYSTEM* - Debt Relating to Water and Sewer System - *Water and Sewer System Support of the District Energy System Bonds*" herein, the debt of JEA relating to the Water and Sewer System is payable from and secured by the revenues derived by the Water and Sewer System from the sale of water and the provision of sewer treatment and related services. The debt of JEA relating to the District Energy System is payable from and secured by the revenues derived from JEA's chilled water activities and any local district heating facilities JEA may develop in the future. **Accordingly, (a) except as described under "WATER AND SEWER SYSTEM - *FINANCIAL INFORMATION RELATING TO WATER AND SEWER SYSTEM* - Debt Relating to Water and Sewer System - *Water and Sewer System Support of the District Energy System Bonds*" herein, the information contained herein relating to the Water and Sewer System is not relevant to the Electric System Bonds, the Subordinated Electric System Bonds or the District Energy System Bonds and should not be taken into account in evaluating such debt; and (b) the information contained herein relating to the District Energy System is not relevant to the Electric System Bonds, Subordinated Electric System Bonds, Water and Sewer System Bonds or Subordinated Water and Sewer System Bonds and should not be taken into account in evaluating such debt.**

The summaries of or references to the Water and Sewer System Resolution, the Subordinated Water and Sewer System Resolution and the District Energy System Resolution, and certain amendments thereto, where applicable, (as such terms are hereinafter defined) and certain statutes and other ordinances and documents included in this Annual Disclosure Report do not purport to be comprehensive or definitive; and such summaries and references are qualified in their entirety by references to each such resolution, statute, ordinance, and document. Copies of the Water and Sewer System Resolution, the Subordinated Water and Sewer Resolution and the District Energy System Resolution are available on the JEA website at https://www.jea.com/About/Investor_Relations/Bonds.aspx and the other documents referred to in this Annual Disclosure Report may be obtained from JEA; *provided* that a reasonable charge may be imposed for the cost of reproduction.

JEA Establishment and Organization

JEA was established in 1968 to own and manage the electric utility which had been owned by the City since 1895. The City's Charter was amended in 1997 to authorize JEA to own and operate other utility systems, including the Water and Sewer System. In 2004, the City authorized JEA to create the District Energy System. The JEA Board consists of seven members appointed by the Mayor of the City, subject to confirmation by the Council. The members serve without pay for staggered terms of four years each, with a maximum of two consecutive full terms each.

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Current members of the JEA Board, their occupations and the commencement and expiration of their terms are as follows:

MEMBER[(1)]	OCCUPATION	TERM
April Green Chair	Chief Financial Officer/ Chief Operating Officer Bethel Baptist Institutional Church	December 1, 2017–February 28, 2021
Frederick D. Newbill Vice Chair	Pastor First Timothy Baptist Church	January 12, 2017–February 28, 2023
Camille J. Lee-Johnson Secretary	Chief Operating Officer Lee Wesley & Associates, LLC	July 25, 2018–February 28, 2020
John Campion	Co-founder &Chairman APR Energy	July 25, 2018–February 28, 2022
Kelly Flanagan	Senior Vice President & CFO Jacksonville Jaguars, LLC	November 25, 2015–February 28, 2020
G. Alan Howard	Founder & President Milam Howard Nicandri Gillam & Renner P.A.	November 25, 2015–February 28, 2019[(2)]

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(1) There is currently one vacancy on the JEA Board.
(2) Mr. Howard's term has expired, but he continues to serve until his successor has been appointed and qualified.

In addition, in accordance with the provisions of the interlocal agreement entered into between JEA and Nassau County, Florida in connection with JEA's acquisition of certain assets and franchises of a private water and sewer utility in Nassau County, Nassau County is entitled to appoint a non-voting representative to the JEA Board. The Nassau County representative is entitled to attend all JEA Board meetings and to participate in discussions concerning matters that affect the provision of water and sewer services within Nassau County. Nassau County has appointed Mike Mullin, a Commissioner on Nassau County's Board of County Commissioners, as its representative to the JEA Board.

The Charter authorizes JEA to construct, acquire (including acquisition by condemnation), establish, improve, extend, enlarge, maintain, repair, finance, manage, operate and promote its utilities systems (which consist of (1) the Electric System, (2) the Water and Sewer System, (3) the District Energy System and (4) any additional utilities systems which JEA may undertake in the future upon satisfaction of the conditions set forth in the Charter), and to furnish electricity, water, sanitary sewer service, natural gas and other utility services as authorized therein within and outside of the City and for said purposes to construct and maintain electric lines, pipelines, water and sewer mains, natural gas lines and related facilities along all public highways and streets within and outside of the City. Should any additional utility system be undertaken by JEA in the future, such utility system may, at the option of JEA, constitute an additional utility function added to, and may become a part of, the Water and Sewer System or the District Energy System. See "SUMMARY OF CERTAIN PROVISIONS OF THE WATER AND SEWER SYSTEM RESOLUTION - Certain Other Covenants - *Additional Utility Functions*" in APPENDIX B attached hereto. The Charter also confers upon JEA the power to sue, to enter into contracts, agreements and leases, and to sell revenue bonds to finance capital improvements and to refund previously issued evidences of indebtedness of JEA.

Management and Employees

The Charter assigns responsibility for the management of JEA's utilities systems to the JEA Board. JEA employs a Managing Director and Chief Executive Officer as its chief executive officer. The Managing Director, executive officers, vice presidents, directors, managers, executive assistants and other appointed staff, numbering approximately 411 persons, form the management team (the "Management Team") and are not subject to the City's civil service system.

Management

On November 27, 2018, the JEA Board appointed Aaron F. Zahn as Managing Director and Chief Executive Officer of JEA. Mr. Zahn served as Interim Managing Director and Chief Executive Officer from April 17, 2018 until his appointment in November.

Information regarding the Managing Director and Chief Executive Officer of JEA and the thirteen executive officers of JEA follow:

Aaron F. Zahn, Managing Director and Chief Executive Officer. Aaron F. Zahn is Managing Director and Chief Executive Officer for JEA. In this role, Mr. Zahn oversees all operations for the eighth-largest public utility in the nation, providing electric, water and sewer services to customers across a 900-mile service territory in Northeast Florida.

Prior to being appointed Interim Managing Director and Chief Executive Officer in April 2018, Mr. Zahn served as Managing Partner and Chief Executive Officer of Pascal Partners, a distributed infrastructure investment and development company. From 2009 to 2017, he was Chairman and Chief Executive Officer of BCR Environmental Corporation, a water/wastewater technology firm and public-private-partnership development and operations company. Prior to BCR, Mr. Zahn worked as an investment professional for two multi-strategy hedge funds in New York City, managing over $6 billion in equity. He was also a Senior Manager of the Capital Markets team at General Growth Properties, playing a key role in $25+ billion of acquisitions and financing activities along with providing financial oversight for $200+ million of commercial real estate development.

A graduate of Yale University, Mr. Zahn is a supporter of YMCA of Jacksonville, Baptist Health System, Nemours Children's Health System and Yale University. He is a member of the Board of Directors for the Young Presidents Organization and the Bob Graham Center for Public Service at University of Florida.

Melissa H. Dykes, President and Chief Operating Officer. Melissa Dykes serves as JEA's President and Chief Operating Officer. She leads the operation of the utility, responsible for providing utility services to more than one million people across four counties. She manages nearly 1,800 employees in the areas of energy, water, wastewater, customer experience, human resources, environmental services, compliance and supply chain.

Ms. Dykes served as JEA's Chief Financial Officer for nearly six years prior to her current role. As CFO, she provided leadership to ensure the financial health of JEA, resulting in access to capital at low cost on behalf of JEA's customers. She was responsible for all aspects of JEA's finances, including treasury, financial reporting, budgeting, supply chain management, and shared services, and had lead responsibility for ensuring compliance with all reporting, regulatory and tax requirements for JEA.

Prior to joining JEA, Ms. Dykes was CFO at a portfolio company of a large energy private equity firm and a principal in a renewable energy development company, where she was responsible for origination, commercial structuring, development and capital raising for renewable energy projects. She also was Vice President of Investment Banking at JPMorgan, where she was responsible for providing capital solutions for clients, including more than $26 billion in financings for many municipal electric and water systems across the country, risk management product delivery and mergers and acquisitions. Prior to joining JPMorgan, Ms. Dykes worked for The World Bank Group, where she researched and published on private participation in infrastructure industries in developing countries. She is a graduate of the University of Florida and holds a certificate in Advanced Management from the Tuck School of Business at Dartmouth.

Ms. Dykes serves on the Boards of Directors of the United Way of Northeast Florida, the Association of Edison Illuminating Companies, the Florida Coordinating Group, and the Florida Reliability Coordinating Council (where she serves as Secretary/Treasurer and Chair of the Corporate Compliance and Finance and Audit Committee).

Herschel Vinyard, Chief Administrative Officer. Mr. Vinyard has 25 years of environmental law, business, and government experience and comes to JEA from the law firm of Foley & Lardner where he was a member of the Environmental Regulation and Government & Public Policy practices.

He also served a four-year term as Secretary of the Florida Department of Environmental Protection (DEP) during Governor Rick Scott's first term, where he was involved in environmental permitting, water rights, and real estate development. He has been a champion for the state's waterways and natural springs including restoration of the Everglades.

Under his leadership, the Florida Park Service received the National Gold Medal Award for Excellence in the management of state park systems from the National Recreation and Park Association.

Prior to serving the State of Florida, Mr. Vinyard was the director of business operations responsible for strategic planning, business development, and regulatory and government affairs for the Southeast Shipyards division of BAE Systems.

Mr. Vinyard obtained both his law and bachelor's degrees from Louisiana State University.

Ryan F. Wannemacher, Chief Financial Officer. Mr. Wannemacher serves as JEA's Chief Financial Officer. He provides leadership to ensure fiscal responsibility for the long-term financial health of JEA, resulting in access to capital at low cost for JEA's customers. He is responsible for all aspects of JEA's finances, including treasury, financial reporting, financial planning and analysis, and budgeting. He has lead responsibility for ensuring compliance with all reporting, regulatory and tax requirements for JEA. Mr. Wannemacher currently serves on the Finance and Audit Committee of The Energy Authority ("TEA").

Prior to his current role at JEA, Mr. Wannemacher served as JEA's Director of Financial Planning and Analysis from April 2015 to 2018. Prior to joining JEA, Mr. Wannemacher was Vice President of Investment Banking at JPMorgan. While at JPMorgan, Mr. Wannemacher was responsible for providing capital solutions for clients, including over $20 billion in financings for many municipal electric, water and natural gas systems across the country, risk management product delivery, and mergers and acquisitions. Mr. Wannemacher holds a B.B.A. in Financial Consulting from Southern Methodist University graduating Magna Cum Laude.

Julio Romero Agüero, Chief Innovation and Transformation Officer. Dr. Agüero provides leadership in the identification, development, evaluation, and adoption of emerging technologies, business models, services, processes, and industry leading practices to improve overall enterprise performance and sustainability, and achieve digital transformation. He has 23 years of industry experience in the areas of technology and business strategy, grid modernization, smart grid, utility of the future, distribution systems analysis, planning, and operations, and integration of distributed generation, energy storage, microgrids and electric vehicles. He has developed solutions in these areas for electric utilities and regulatory boards in the USA, Canada, Latin America, the Caribbean and Asia. He has published over 40 articles in topics pertaining to these areas and is a frequent speaker in industry events.

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Before joining JEA he served as Vice President of Strategy and Business Innovation at Quanta Technology, where he led high performing teams in the development of pioneering methodologies and concepts for planning and analysis of modern and future power distribution systems, grid modernization, and distributed energy resources. He has been Adjunct Professor at University of North Carolina at Charlotte and University of Houston. He is a former Commissioner of the National Energy Commission of Honduras. He is a Senior Member of the Institute of Electrical and Electronics Engineers ("IEEE"), and has served as Chair of the IEEE Distribution Subcommittee, Chair of the IEEE Working Group on Distributed Resources Integration, Editor of IEEE Transactions on Power Delivery, and Editor of IEEE Transactions on Smart Grid. He is a member of the Advisory Committee of DistribuTECH.

He holds PhD, MBA and BSEE degrees from National University of San Juan (Argentina), North Carolina State University and National Autonomous University of Honduras, respectively.

Michael R. Hightower, Chief Public and Stakeholder Affairs Officer. Mr. Hightower joined JEA in 2015, bringing over 35 years of governmental and legislative relations experience. He also previously served 16 years on JEA's Board of Directors including two two-year terms as JEA Chair.

Mr. Hightower joined Blue Cross and Blue Shield of Florida (now Florida Blue) in 1981 as the Director of Governmental and Legislative Relations and in 1985 was named its Vice President of Governmental and Legislative Relations. He worked closely with key political leaders in the federal, state and local government and, after three decades of a successful career at Florida Blue, retired in late 2014. He then joined the international law firm of Holland & Knight LLP as a Senior Policy Advisor before joining the JEA senior leadership team.

In addition to his professional accomplishments, Mr. Hightower has dedicated his time, talents and leadership to numerous boards and commissions over the last 38 years. He is immediate past chair of the Florida Governor's Mansion Foundation and the Florida Association of Professional Lobbyists. Mr. Hightower is in his second year as Vice President, Florida House and Florida's embassy in Washington, D.C. He also serves as an active board member of the Florida State College Foundation, Florida Association of Professional Lobbyists, Florida Ounce of Prevention, and Vice Chair, Five Star Veterans Center.

Prior to joining JEA, Mr. Hightower chaired the following organizations and civic and trade associations: United States Naval Academy; Jacksonville Chamber of Commerce; Florida House, Florida's Embassy in Washington, D.C.; Associated Industries of Florida; Florida Insurance Council; Florida News Service; Florida College System Foundation; Jacksonville Library Foundation; Jacksonville Political Leadership Institute; JaxBiz; Duval County Republican Party and the Cecil Field Base Closure Commission.

Throughout the state, he is well-known for his political leadership, having served as chair or finance chair for more than 580 successful local, state, and/or federal candidates since 1972. He has assisted in raising more than $136.3 million for charitable, candidate and political party campaigns since 1981.

In 2006, Leadership Florida's leaders appointed Mr. Hightower to the Florida Energy Commission. The nine-member panel was charged with making recommendations to the Florida Legislature on ways to secure Florida's energy future.

In 2010, Florida's legislative leadership appointed Mr. Hightower to the Public Service Commission Nominating Council, charged with interviewing and recommending qualified candidates for gubernatorial appointment to the Florida Public Service Commission.

Mr. Hightower, a 1972 graduate of Jacksonville University, resides in Jacksonville. He was a third term 2003, 2005, 2007 University of Florida Graduate School adjunct instructor, "Principles of Lobbying."

Caren B. Anders, Vice President and General Manager, Energy.[(1)] Ms. Anders has lead responsibility for producing and delivering electricity to JEA's 485,000 electric customers in a safe, reliable and cost-competitive manner, and in full compliance with regulatory objectives. In this role, she and her team are responsible for planning, constructing, operating and maintaining JEA's electric system, including generation plants and the transmission, substations and distribution systems.

Ms. Anders joined JEA in January 2019 from Duke Energy. She brings operational leadership, financial acumen, strategy and innovation, and compliance and risk management to her leadership role at JEA. At both Duke and Exelon Corp., she led high-performing teams across the energy spectrum, including Generation, Transmission, Distribution, Emerging Technologies, and Shared Services. Along with her vast electric experience, she also has expertise in new technologies, strategic business performance, compliance, financial management, employee engagement and customer satisfaction.

Ms. Anders has served on the boards of PT Holding Company LLC, Peak Tower LLC, SERC Reliability Corp. and the Florida Reliability Coordination Council. She has also served her community as a board member for Junior Achievement, Central Carolinas and United Way, Greater Triangle N.C. She earned a bachelor's degree in engineering from the University of Pennsylvania and a master's degree in finance from Drexel University and is a licensed Professional Engineer in the state of Pennsylvania.

Deryle Calhoun, Vice President and General Manager of Water and Wastewater Systems.[(2)] Deryle Calhoun is responsible for leading JEA's water and wastewater operations, construction and strategy execution, and delivering exceptional service to JEA customers across a four-county area. Mr. Calhoun is currently leading a resiliency program that will improve water, wastewater and district energy system reliability during extreme weather events like hurricanes.

Mr. Calhoun began his career in water/wastewater in 1993 with the City of Jacksonville Public Utilities as a project engineer and joined JEA in 1997 when the City's water and wastewater services were transferred to JEA. Mr. Calhoun served at the director level for 20 years, first with the Distribution and Collection team and most recently with Water, Wastewater and Reuse Treatment and District Energy Services.

Mr. Calhoun holds a Bachelor of Science degree in Environmental Engineering from the University of Florida and is a registered Professional Engineer in the State of Florida.

Steven G. McInall, Vice President of Energy and Water Planning. Mr. McInall is responsible for long-term planning for JEA's energy and water sectors, overseeing the development of a more than $1 billion capital program. Mr. McInall's groups are responsible for the Integrated Resource Plans for both the electric and water systems. He is responsible for JEA's renewable energy portfolio, including landfill gas and solar photovoltaic (PV). During his tenure, JEA's solar PV portfolio has grown from 12 MW to 34 MW, with another 5 MW plant under construction and 5-50 MW facilities (250 MW) in the contract stage. He is also responsible for real estate acquisitions and sales.

Mr. McInall has been with JEA since 2011, serving as the Director of the Electric Production Resource Planning Department, with oversight of the Electric Generation Planning, Fuels Management Services, Natural Gas Commercial Services and Byproducts Production Services areas, and as the Manager of Nuclear Generation Business.

Prior to joining JEA, Mr. McInall had a 27-year career at several regional and national engineering consulting firms, including Stone & Webster Engineering Corporation, Boston, and MACTEC Engineering and Consulting, in Tallahassee and Jacksonville. Clients included major U.S. utilities, such

(1) Michael J. Brost retired from his position of Vice President and General Manager of Electric Systems in January 2019.
(2) Brian J. Roche retired from his position of Vice President and General Manager of Water and Wastewater Systems in June 2018.

as Dominion Energy, Inc. and the Tennessee Valley Authority, as well as the U.S. Department of Energy and the U.S. Army Corps of Engineers.

Mr. McInall holds Bachelor and Master degrees in Nuclear Engineering from the Massachusetts Institute of Technology, and will receive a Master of Public Policy degree from Jacksonville University in April, 2019. He is a licensed Professional Engineer in Florida, Georgia, South Carolina, North Carolina, Massachusetts, New Hampshire and Vermont. He is also a Leadership in Energy and Environmental Design (LEED) Accredited Professional, in Building Design and Construction. Mr. McInall is on the Board of the North Florida Chapter of the US Green Building Council, and serves on the St Johns County Citizens Flood Mitigation Advisory Committee

Kerri Stewart, Vice President and Chief Customer Officer. Ms. Stewart joined JEA as Chief Customer Officer in 2017, bringing more than 14 years of experience to the organization. Previously, Ms. Stewart served as Chief of Staff for Jacksonville, Florida Mayor Lenny Curry, providing policy and public affairs guidance to the mayor.

Prior to returning to the City, Ms. Stewart was a Partner and Senior Vice President at Infinity Global Solutions. Drawing on her extensive experience in both the public and private sectors, she focused on assisting clients in the areas of government privatization, public infrastructure development, general management consulting and government relations. She also served as interim president of Visit Jacksonville, Local Initiative Support Corporation (LISC) and Cultural Council of Greater Jacksonville as part of her management consulting practice.

Prior to joining IGS, Ms. Stewart served as the Chief Administrative Officer for the City of Jacksonville/Duval County, Florida under Mayor John Peyton and Mayor Alvin Brown. In this role, she oversaw day-to-day government operations for the City, including directing a nearly 5,000-member workforce and managing the $1 billion municipal budget and $164 million annual capital improvement plan. During her first tenure with the City, Stewart led several successful privatization studies and implementations; and she has shared her experiences in this area at a variety of conferences and other professional venues.

During her years of public service, Ms. Stewart also served as director of the City's Housing and Neighborhoods Department, created the Office of Operational Efficiency (now known as the Inspector General's Office), and served as a policy advisor to Mayor Peyton.

Prior to joining the City, Ms. Stewart worked as a Program Manager for Alltel Information Systems in Leeds, UK and Jacksonville, Florida. She is a graduate of the University of North Florida's Coggin School of Business with a bachelor's degree in Business Administration, double-majoring in Marketing and Management.

Ted E. Hobson, Vice President and Chief Compliance Officer. Mr. Hobson joined JEA in 1973 and has overall responsibility for development, implementation and maintenance of JEA's Compliance Programs including NERC Electrical Standards, NERC Critical Infrastructure Protection ("CIP") standards, FACTA regulations and other related federal and state regulations. He is also responsible for JEA's Physical Security department as well as Audit Services and Enterprise Risk Management. Mr. Hobson is currently on the Board of Directors of TEA and is JEA's representative on the TEA Settlement and Operating Committee. Mr. Hobson is JEA's alternate board member for the Florida Electric Reliability Coordinating Council ("FRCC") and the alternate board member for the Florida Electric Coordinating Group ("FCG"). Additionally, Mr. Hobson currently serves on the Board of Directors of the Jacksonville Museum of Science and History.

Mr. Hobson's previous position was Director of Energy Delivery, where he was responsible for all electric field activities including overhead and underground line work, system protection and controls, substation maintenance and the 24-hour operation of the JEA power system including generation commitment and dispatch, transmission operation and security and interchange services with other utilities. During his over 40 years with JEA, he has worked in the areas of distribution, engineering, trouble dispatching, system operations and system planning. Mr. Hobson has served as JEA's representative to the FRCC for over 15 years and was chair of the Operating Committee for the past six years. He also served on various North American Electric Reliability Corporation ("NERC") committees and subcommittees and is a member and past chair of the NERC Compliance and Certification Committee.

Mr. Hobson holds a BSEE from the University of Florida, and is a registered Professional Engineer in the State of Florida.

Lynne Rhode, Vice President, Chief Legal Officer. Ms. Rhode has 14 years of legal experience in the public and private sectors, primarily in environmental and natural resources law and also in administrative, civil litigation, general corporate, lobbying and government affairs, and zoning law. She has most recently practiced transactional, regulatory and corporate law with a prominent Jacksonville law firm.

Ms. Rhode is employed with the City's Office of General Counsel and is the lead attorney assigned exclusively to JEA. Pursuant to the Charter, the Office of General Counsel is responsible for providing and overseeing all legal services to JEA. The Office of General Counsel represents the City's consolidated city-county government, which includes the independent agencies, constitutional officers, City Council members, Mayor, executive branch departments and over 30 boards, commissions, and agencies. Ms. Rhode provides counsel to JEA on various legal matters and oversees JEA's outside counsel engagements.

Prior to relocating to Jacksonville, Ms. Rhode served as Senior Assistant Attorney General and Section Chief of the Environmental and Natural Resources Division of the Virginia Attorney General's Office. She led a team of eight attorneys and staff providing counsel to the environmental health, environmental and natural resources agencies of the Commonwealth of Virginia; advising on administrative, compliance, contract, enforcement, labor and employment, permitting, procurement, rulemaking, and other legislative issues.

Ms. Rhode has served as a guest professor at the William and Mary School of Law Coastal Policy Clinic and on the Virginia Department of Environmental Quality's Combustion Regulatory Advisory Panel and Small Solar Working Group.

Ms. Rhode is a member of the Florida and Virginia bars. She is a graduate of the North Carolina Fellows Leadership Program and the Sorenson Institute Political Leaders Program. She holds a Bachelor of Arts in Economics from the University of North Carolina at Chapel Hill, where she was a John Motley Morehead Scholar; a Juris Doctor degree from the University of Virginia; and a Master of Science in Regulation from the London School of Economics and Political Science.

Jon Kendrick, Interim Chief Human Resources Officer.([1]) Mr. Kendrick joined JEA in April 2019 after previously working as a Human Resources Business Partner from 2015 – 2017 where he was instrumental in providing strategic direction for the JEA Customer Experience, Technology Services and Compliance business units.

[1] Angelia R. Hiers retired from her position as Chief Human Resources Officer in April 2019.

Mr. Kendrick has more than 25 years of human resources experience that spans healthcare, financial services, transportation, utility and technology industries. He most recently served as the Human Resources Director for Yusen Logistics (Americas), Inc., in Jacksonville.

Mr. Kendrick holds certifications as a Senior Professional in Human Resources (SPHR) and as a Senior Certified Professional from the Society for Human Resource Management (SCP-SHRM). He has a bachelor's degree in Economics from the University of Florida and a Master of Divinity from New Orleans Baptist Theological Seminary

Mr. Kendrick was also a commissioned officer in the U.S. Coast Guard Reserve where he led an expeditionary unit and served in both Operation Enduring Freedom & Iraqi Freedom.

Shawn Eads, Vice President and Chief Information Officer.[(1)] Mr. Eads is Vice President and Chief Information Officer. In this role, he is responsible for JEA's information technology (IT) strategy and the computer systems required to support the organization's unique objectives and goals.

Mr. Eads has over 22 years of experience in the IT industry. Most recently, he served as Senior Director for IT at GE Appliances, where he led various responsibilities including Oracle ERP, Risk & Compliance, Predictive Analytics, Engineering Systems, Vendor Management, Enterprise Architecture, Innovation and New Product Introduction. While working in the Home Appliances industry, Mr. Eads spent time developing solutions for home energy management. One example includes integrating smart meters via the cloud with home appliances to respond to time of use pricing and demand management events. Prior to his 13-year career at GE Appliances, Mr. Eads held IT roles with Accenture and GE Aircraft Engines.

Mr. Eads holds a Bachelor of Science degree in Chemical Engineering from Rose-Hulman Institute of Technology, and earned his MBA at Xavier University.

John P. McCarthy, Vice President and Chief Supply Chain Officer. Mr. McCarthy is responsible for leading JEA's supply chain strategy and operations. His responsibilities include JEA's facilities, fleet, real estate, procurement, inventory management, investment recovery, emergency management planning and recovery and utility locates groups. The team ensures JEA's material readiness is at the highest levels and lowest cost, while ensuring corporate funds are committed under ethical standards to deliver the greatest value to JEA in compliance with state and local laws.

Mr. McCarthy joined JEA in 2002 after a successful 20-year career as a U.S. Navy Supply Officer. During his 16 years at JEA, he has served in various leadership roles within the procurement and logistics groups including an initial assignment as a Procurement Project Coordinator where he developed an aggregated sourcing model adopted by seven different utility companies. This resulted in the strategic sourcing of over $400 million over a ten-year period. Other notable roles include JEA's Chief Procurement Officer and Incident Command Logistics Section Chief where he implemented advanced contract negotiation processes and a hurricane preparedness strategy for critical storm materials, providing 100 percent on-site material availability for the restoration periods following Hurricanes Matthew and Irma. He also served as JEA's United Way Campaign Chairman.

Mr. McCarthy received his B.S. degree from the U.S. Naval Academy, and an M.B.A. degree from The Ohio State University. He is a member of Leadership Jacksonville, class of 2013, and holds advance certificates in executive contract negotiations and supply chain strategy and management from the Massachusetts Institute of Technology Sloan School of Management.

(1) Paul J. Cosgrave retired from his position of Vice President and Chief Information Officer in January 2019.

Paul K. Steinbrecher, Vice President and Chief Environmental Services Officer. Mr. Steinbrecher is responsible for leading JEA's Environmental Services group. Core group functions include environmental permitting and compliance assistance for JEA's numerous electric and water business facilities, environmental incident response and reporting, due diligence, waste management and remediation, wetlands and wildlife issues, industrial pretreatment and other programs in which JEA serves as an environmental regulatory agency, and full service environmental laboratory functions to support the enterprise's extensive monitoring and environmental reporting activities. In this role he leads the organization in ensuring the highest levels of environmental compliance and incorporation of sustainability into all JEA's planning activities.

Mr. Steinbrecher's career has focused on finding and advancing cost effective environmental and engineering solutions for utilities, business and industry and governments. Mr. Steinbrecher joined JEA in 2001. He is highly active on Florida environmental policy and regulatory issues, currently serving as President of the Florida Water Environment Association Utility Council and as a national board member of the WateReuse Association. He is also a long term member of the Florida Electric Power Coordinating Group Environmental Committee. Based on his prior experience, he also helps lead the utility in forward thinking water resource solutions.

Prior to joining JEA Mr. Steinbrecher was a process engineer and program manager for CH2M Hill, designing water and wastewater systems and assisting industries and municipalities with environmental projects worldwide. Mr. Steinbrecher holds BS and MS degrees in Civil Engineering from Valparaiso University and the University of Arkansas, respectively. He is a registered professional engineer in Florida and a member of the Leadership Jacksonville, class of 2015.

Employees

The employees of JEA are considered to be governmental (public) employees and, as such, have the right to organize, be represented and bargain collectively for wages, hours and terms and conditions of employment, as provided in Chapter 447, Part II, Florida Statutes. Florida state law prohibits strikes and concerted work slowdowns by governmental (public) employees. Pursuant to the Charter, JEA has full and independent authority to hire, transfer, promote, discipline, terminate and evaluate employees and, consistent with the provisions of the Charter relating to civil service, to establish employment policies relating to hiring, promotion, discipline, termination and other terms and conditions of employment, to enter into negotiations with employee organizations with respect to wages, hours and terms and conditions of employment and to take such other employment related action as needed to assure effective and efficient administration and operation of its utilities systems. The Council is the legislative body with authority to approve or not approve collective bargaining agreements and to resolve any statutory impasses that may arise from collective bargaining.

As of October 1, 2018, JEA had 2,158 budgeted employee positions (exclusive of the Power Park (as defined in the Electric ADR) employees referred to below), of which 599 were budgeted to the Water and Sewer System, six were budgeted to the District Energy System, and 1,553 were budgeted to the Electric System. Except for the Management Team and a minor number of contract employees, such employees have civil service status.

Approximately 1,561 employees are covered by five collective bargaining agreements. These employees are represented by the American Federation of State, County, and Municipal Employees ("AFSCME"), the International Brotherhood of Electrical Workers ("IBEW"), Local 2358 and the Northeast Florida Public Employees, Local 630, Laborers' International Union of North America ("LIUNA"), all of which are affiliated with the AFL-CIO, and by a professional employees' association (the "PEA," Professional Employees Association) and a supervisors' association (the "JSA," Jacksonville Supervisors Association) that have no AFL-CIO affiliation. JEA has collective bargaining agreements with all the collective bargaining agents, and all of the collective bargaining agreements have been ratified and approved by the legislative body, the Council, and are effective through September 30, 2019.

Pension

Substantially all of JEA's employees participate in the City's general employees pension plan ("GEPP"). See Note 12 to JEA's Financial Statements set forth in APPENDIX A to this Annual Disclosure Report for a discussion of certain information on the City's plan. The Actuarial Valuation as of October 1, 2017 for the City's GEPP (the "2017 Actuarial Valuation Report") and the Actuarial Valuation as of October 1, 2018 for the City's GEPP (the "2018 Actuarial Valuation Report") are available for viewing and downloading from the City's website link:(http://www.coj.net/departments/finance/retirement-system/gasb-and-plan-valuation-statements) and selecting the October 1, 2017 Valuation or the October 1, 2018 Valuation, respectively, under "General Employees Retirement Plan."

For the five Fiscal Years ended September 30, 2014, 2015, 2016, 2017 and 2018, JEA contributed $34,544,000, $40,179,000, $43,156,000, $48,942,000, and $35,459, 523, to the GEPP.

JEA expects that its annual contributions to GEPP will be at lower levels in the near term than it had been for Fiscal Year Ended September 30, 2017 primarily due to the recognition of a pension liability surtax beginning with Fiscal Year Ended September 30, 2018 and then it expects its annual contributions to GEPP to increase over the longer-term as a result of the expected increase in the GEPP's unfunded actuarial accrued liability. JEA expects that the GEPP's unfunded actuarial accrued liability and JEA's portion of that unfunded liability will continue to increase over the near term primarily due to a delay in receipt of the revenues from the pension liability surtax.

For the Fiscal Year ended September 30, 2018, the aggregate unfunded actuarial accrued liability for the GEPP was $1,175,135,210, which represented an increase of $93,821,769 from an aggregate unfunded actuarial accrued liability for the GEPP for the Fiscal Year ended September 30, 2017 of $1,081,313,441. For the Fiscal Year ended September 30, 2017, the aggregate unfunded actuarial accrued liability for the GEPP was $1,081,313,441, which represented an increase of $56,816,369 from an aggregate unfunded actuarial accrued liability for the GEPP for the Fiscal Year ended September 30, 2016 of $1,024,497,072. JEA has been informed by the City that the actuary for the GEPP has calculated (i) JEA's allocated share of the unfunded actuarial accrued liability for the GEPP reported for Fiscal Year 2018 of $565,792,869 (an increase of $42,416,322 from JEA's allocated share for Fiscal Year 2017) of the aggregate amount of $1,175,135,210 and (ii) JEA's allocated share of the unfunded actuarial accrued liability for the GEPP reported for Fiscal Year 2017 of $523,376,547 (an increase of $28,552,073 from JEA's allocated share for Fiscal Year 2016) of the aggregate amount of $1,081,313,441. The actuarial accrued liability is an estimate by the actuary for GEPP of the present value of the amount of earned benefit payments that GEPP will pay to retirees during retirement. The unfunded actuarial accrued liability represents the amount that the actuarial accrued liability exceeds assets in GEPP available to pay those benefit payments. These figures are based on numerous assumptions, such as retirement age, mortality rates, and inflation rates, and use numerous methodologies all of which can cause the actual performance of the GEPP to differ materially from the estimates of the actuary in any actuarial valuation. However, based on the current unfunded actuarial accrued liability of the GEPP, JEA expects that its annual contributions to GEPP will be increasing over the near future to fund its portion of the unfunded amount.

JEA also provides a medical benefits plan that it makes available to its retirees.

See Note 12, Note 13 and pages 111-118 of JEA's Financial Statements set forth in APPENDIX A to this Annual Disclosure Report for a discussion of the pension plans, "other post-employment benefit" plan and actuarial accrued liability.

Certain Demographic Information

Under Florida law, the City and Duval County are organized as a single, consolidated government. Based upon the 2010 United States Census, the consolidated City is the most populous city in the State of Florida. The City covers 840 square miles and is one of the largest cities in area in the United States.

The Jacksonville Metropolitan Statistical Area ("MSA") is composed of Duval, Clay, Nassau, St. Johns and Baker Counties, an area covering 3,202 square miles. The U.S. Census Bureau estimates that the Jacksonville MSA had a population of 1,534,701 as of July 1, 2018. The Jacksonville MSA is currently the fourth most populous MSA in the State of Florida. The table below shows population for the Jacksonville MSA.

Population

Year	**Jacksonville MSA**
1980	722,252
1990	906,727
2000[1]	1,122,750
2010	1,345,596
2018	1,534,701

Source: United States Census Bureau

(1) Baker County was included in the Jacksonville MSA starting with the 2000 United States census.

The economy of the Jacksonville MSA contains significant elements of trade and services, transportation services, manufacturing, insurance and banking and tourism. The Port of Jacksonville is one of the largest ports on the South Atlantic seaboard and in terms of tonnage ranks third in the State of Florida. A number of insurance and banking companies maintain regional offices in the City. The tourism and recreational facilities in the City include an arena, a performing arts center, a convention center, TIAA Bank Field (the home field of the National Football League's Jacksonville Jaguars), a baseball park, numerous golf courses and resorts and various recreational facilities at the beaches. Two large United States Navy bases are located in the City.

The table below sets forth the annual, not seasonally adjusted, labor force, employment and unemployment figures for the Jacksonville MSA and comparative unemployment figures for the State of Florida and the United States for the most recent 10 years ended December 2018.

	Jacksonville MSA Labor Force			**Unemployment Rate (%)**	
Year	**Civilian**	**Employment**	**Unemployment Rate (%)**	**Florida**	**U.S.**
2009	681,026	612,993	10.0	10.4	9.3
2010	697,120	622,208	10.7	11.1	9.6
2011	701,533	633,405	9.7	10.0	8.9
2012	704,090	646,370	8.2	8.5	8.1
2013	709,351	659,773	7.0	7.2	7.4
2014	715,253	670,631	6.2	6.3	6.2
2015	719,098	680,375	5.4	5.5	5.3
2016	735,832	701,636	4.6	4.8	4.9
2017	760,298	729,627	4.0	4.2	4.4
2018	773,492	747,223	3.4	3.6	3.9

Source: Florida Research and Economic Information Database Application, http://freida.labormarketinfo.com/default.asp.

The table below shows the estimated average non-agricultural wage and salary employment by sector for the Jacksonville MSA for the calendar year 2018.

	Number of Employees	Percent of Distribution
Trade, Transportation and Utilities	150,400	21.2
Professional and Business Services	108,000	15.2
Education and Health Services	107,500	15.2
Leisure and Hospitality	85,500	12.1
Government	77,000	10.9
Finance	67,000	9.5
Construction	45,400	6.4
Other Services(1)	36,300	5.1
Manufacturing	31,400	4.4
Total Non-Agricultural Employment (Except Domestics, Self-Employed And Unpaid Family Workers)	708,500	100.0

Source: United States Department of Labor.

(1) Consists of other services, information and natural resources and mining.

The following table lists the 10 largest non-governmental employers in the Jacksonville MSA and the approximate size of their respective work forces.

Name of Employer	Product or Service	Approximate No. of Employees
Baptist Health System	Healthcare	10,500
Bank of America / Merrill Lynch	Banking	8,000
Florida Blue	Health Insurance	7,000
Mayo Clinic	Healthcare	6,000
Southeastern Grocers	Supermarkets	5,700
St. Vincent's Healthcare	Healthcare	5,300
Citibank	Banking	4,200
JP Morgan Chase	Banking	3,900
UF Health Jacksonville	Healthcare	3,600
Wells Fargo	Banking	3,500

Source: Jacksonville Regional Chamber of Commerce Research Department employer survey, fall 2012, as partially amended through December 2018.

The following table lists the eight largest governmental employers in the Jacksonville MSA and the approximate size of their respective work forces.

Name of Employer	Type of Entity/Activity	Approximate No. of Employees
Naval Air Station, Jacksonville	United States Navy	19,800
Duval County Public Schools	Public Education	11,876(1)
Naval Air Station, Mayport	United States Navy	9,000
City of Jacksonville	Municipal Government	7,471(2)
St. Johns County School District	Public Education	5,039(3)
Clay County School Board	Public Education	5,000
Fleet Readiness Center	Maintenance / Repair Overhaul	3,850
United States Postal Service	United States Government	3,800

Source: Jacksonville Regional Chamber of Commerce Research Department employer survey, fall 2012, as partially amended through December 2018.

(1) Duval County Public Schools website, full-time staff (http://www.duvalschools.org/domain/5268)

(2) City of Jacksonville Annual Budget 2018-19 (http://www.coj.net/departments/finance/docs/budget/fy18-19-proposed-budget-website.aspx)

(3) St. Johns County School District website (http://www.stjohns.k12.fl.us/about/)

Indebtedness of JEA

The indebtedness of JEA relating to its Water and Sewer System as of the date of this Annual Disclosure Report consists of Water and Sewer System Bonds and Subordinated Water and Sewer System Bonds (as such terms are hereinafter defined) and borrowings under the Revolving Credit Facility for the account of the Water and Sewer System. See, "WATER AND SEWER SYSTEM - *FINANCIAL INFORMATION RELATING TO WATER AND SEWER SYSTEM* - Debt Relating to Water and Sewer System" herein. The indebtedness of JEA relating to the District Energy System currently consists of District Energy System Bonds (as such term is hereinafter defined) and borrowings outstanding under the Revolving Credit Facility for the account of the District Energy System. See "DISTRICT ENERGY SYSTEM - *FINANCIAL INFORMATION RELATING TO DISTRICT ENERGY SYSTEM* - Debt Relating to the District Energy System" herein. For information regarding the Revolving Credit Facility, see "OTHER FINANCIAL INFORMATION - Revolving Credit Facilities" herein. As described under "INTRODUCTION - General" herein, and except as described under "WATER AND SEWER SYSTEM - *FINANCIAL INFORMATION RELATING TO WATER AND SEWER SYSTEM* - Debt Relating to Water and Sewer System - *Water and Sewer System Support of the District Energy System Bonds*" herein, the debt of JEA relating to its Electric System, the debt of JEA relating to the Water and Sewer System and the debt of JEA relating to the District Energy System are payable from and secured by separate revenue sources. Accordingly, (a) except as described under "WATER AND SEWER SYSTEM - *FINANCIAL INFORMATION RELATING TO WATER AND SEWER SYSTEM* - Debt Relating to Water and Sewer System - *Water and Sewer System Support of the District Energy System Bonds*" herein, the information contained in this Annual Disclosure Report relating to JEA's Water and Sewer System is not relevant to the Electric System Bonds (as described in the Electric ADR), the Subordinated Electric System Bonds (as described in the Electric ADR), Power Park Issue Three Bonds (as described in the Electric ADR), Additional Bulk Power Supply System Bonds (as described in the Electric ADR) or the District Energy System Bonds and should not be taken into account in evaluating such debt; and (b) the information contained in this Annual Disclosure Report relating to the District Energy System is not relevant to the Electric System Bonds, the Subordinated Electric System Bonds, the Power Park Issue Three Bonds, the Additional Bulk Power Supply System Bonds, the Water and Sewer System Bonds or the Subordinated Water and Sewer System Bonds.

The description of the debt of JEA contained herein and of the documents authorizing, securing and relating to such debt do not purport to be comprehensive or definitive. All references herein to such documents are qualified in their entirety by reference to such documents.

For a detailed description of the outstanding debt of JEA as of September 30, 2018, see Note 8 to the financial statements of JEA set forth in APPENDIX A attached hereto.

Forward-Looking Statements and Associated Risks

This Annual Disclosure Report contains forward-looking statements, including statements regarding, among other items, (a) anticipated trends in JEA's business and (b) JEA's future capital requirements and capital resources. These forward-looking statements are based on, among other things, JEA's expectations and are subject to a number of risks and uncertainties, certain of which are beyond JEA's control. Actual results could differ materially from those anticipated by these forward-looking statements. In light of these risks and uncertainties, there can be no assurance that events anticipated by the forward-looking statements contained in this Annual Disclosure Report will in fact transpire.

JEA's independent certified public accountants have not examined, compiled or otherwise applied procedures to the forward-looking statements or financial forecasts presented herein and, accordingly, do not express an opinion or any other form of assurance on such forward-looking statements or financial forecasts.

Privatization of JEA

At the JEA Board meeting on November 28, 2017, JEA Board member Tom Petway requested that the JEA Board and the City consider the financial benefits that would result from a privatization of JEA's Electric System, Water and Sewer System and District Energy System and whether the customers of JEA and the people of the City would be better served by the private marketplace.

In response to Mr. Petway's request, Alan Howard, Chair of the JEA Board, authorized JEA staff to cause the necessary work to be done for the JEA Board to be able to consider the answer to these questions.

JEA commissioned Public Financial Management ("PFM") to prepare a report to inform the JEA Board, the City and the public as to several important considerations that must be evaluated in order to make any decisions regarding JEA's future. A copy of that report, entitled "The Future of JEA: Opportunities and Considerations," dated February 14, 2018 (the "Report"), has been filed with the MSRB, through the MSRB's EMMA website currently located at http://emma.msrb.org .

JEA provided the Report to the holders of its bonds for general information purposes only. The Report does not include every item which may be of interest, nor does it purport to present full and fair disclosure with respect to any of JEA's bond programs within the meaning of the federal securities laws. PFM prepared the Report with a view to informing JEA's Board, the City and the public concerning the matters it covers, and PFM did not prepare the Report with a view to informing the holders of JEA's bonds or with a view to informing any person concerning an investment decision in JEA's bonds. Accordingly, the Report is not suitable for informing any person in the making of an investment decision in any of JEA's bonds. The Report does not purport to, and does not, inform any person concerning how any sale of JEA or any other action taken in response to the Report may impact the holders of JEA's bonds. In addition, the valuation-related statements in the Report regarding JEA are not prepared with a view to assess the value of JEA's bonds.

Any potential sale of JEA's Electric System, Water and Sewer System and District Energy System would require the approval of the Council. In early 2018, the Council appointed a special committee ("Special Committee") consisting of the 19 members of the Council to examine and understand all aspects and implications of a potential sale of JEA and to gather the relevant facts the Council should consider in any decisions related to a potential sale of JEA. The Special Committee met regularly through July 25, 2018 to ensure a transparent and open process for the citizens of the City as to the consideration of a potential sale of JEA.

On April 26, 2018, Mayor Curry stated that he will not submit any JEA privatization plan to the Council. In April 2018, the Council enacted an ordinance setting up a public straw poll ballot vote referendum as to whether the Council should call for a binding referendum approving the terms and conditions of any action to sell more than ten percent of JEA. On November 6, 2018 voters overwhelmingly approved the referendum item.

Effective December 10, 2018, the Council amended the Charter to require referendum approval of the terms and conditions of the sale of any function or operation which comprises more than ten percent of the total of the JEA utilities system to any other utility, public or private and has been approved by the Council.

At this time, JEA is unable to predict the likelihood of whether a sale will occur, whether there is any potential timetable for a sale, or how, if at all, the holders of JEA's bonds may be impacted by any actions that the Council, the City or the JEA Board may take in connection with a possible sale of JEA.

JEA also cannot determine what additional action, if any, may be taken by the JEA Board, the Council or the City relating to the privatization of JEA.

Strategic Planning

JEA is actively engaged in strategic planning. As part of its planning process, JEA is considering various options with respect to its business which include potential rate increases and/or the redemption or defeasance of various debt obligations of JEA. Consistent with this focus, JEA has launched its Strategic Asset Realignment Plan ("STAR Plan"), a plan designed to accelerate debt repayment through 2023. In connection with the plan, JEA has proposed to utilize a combination of current and future year net revenues and available cash and investments in order to accelerate debt repayment. Due to the expected reduction in cash and investment balances, JEA has also increased the size of its Revolving Credit Facility by $200,000,000 for a total commitment equal to $500,000,000. See "OTHER FINANCIAL INFORMATION – *Revolving Credit Facilities*" for additional information. In February 2019, JEA retired $94,955,000 of Water and Sewer System debt as part of this effort. Future redemptions or defeasance of Water and Sewer System debt is subject to availability of funds and Board approval. Furthermore, the ultimate outcome and recommendations of the planning process is unknown at this time and may have an impact on the approval and/or timing of future redemption or defeasance activity. JEA may modify this plan at any time.

WATER AND SEWER SYSTEM

WATER AND SEWER SYSTEM FUNCTIONS

General

The Water and Sewer System consists of (a) facilities for the provision of potable water (hereinafter referred to as the "Water System"), (b) facilities for the collection and treatment of wastewater (hereinafter referred to as the "Sewer System") and (c) facilities for the treatment and distribution of reclaimed water (herein referred to as the "Reclaimed Water System"). The Water and Sewer System provides water and sewer service within the urban and suburban areas of the City, other than certain excluded areas described below. The Water and Sewer System's service territory extends into St. Johns County, which is southeast of the City, and Nassau County, which is north of the City, and also serves a number of customers in Clay County, which is southwest of the City. It is JEA's policy to serve any customer requesting service within its urban and suburban service area. Investor-owned utilities must file a petition with the Public Service Commission in order to provide water or wastewater service within the City, and JEA would object to any petition for expansion of investor-owned utility service areas unless it otherwise determines that it would be in JEA's interest not to do so.

The Water System, which served an average of 348,159 customer accounts and 11,498 reuse water customers, respectively, in the Fiscal Year ended September 30, 2018, currently is composed of 38 water treatment plants and two repump facilities, 136 active water supply wells, approximately 4,755 miles of water distribution mains and water storage capacity of 81 million gallons (including the repump facilities). The overall peak capacity of the Water System is approximately 310 million gallons per day ("mgd"), and the Water System experienced an average daily flow of approximately 112 mgd and a maximum daily flow of approximately 152 mgd during the Fiscal Year ended September 30, 2018. Water supply is from the Floridan Aquifer, one of the most productive aquifers in the world, which provides high quality water. Total Water System sales revenues (including water capacity fees) during the Fiscal Year ended September 30, 2018 were approximately $180,946,000 (see "WATER AND SEWER SYSTEM - *FINANCIAL INFORMATION RELATING TO WATER AND SEWER SYSTEM* - Schedules of Debt Service Coverage" herein).

The Sewer System, which served an average of 270,871 customer accounts in the Fiscal Year ended September 30, 2018, currently is composed of 11 wastewater treatment plants that have a rated average daily treatment capacity of approximately 120 mgd and a maximum daily flow capacity of approximately 241 mgd, approximately 1,422 pumping stations, approximately 697 low pressure sewer units and approximately 4,027 miles of gravity sewers and force mains. The Sewer System experienced an average daily flow of approximately 80 mgd and a non-coincident maximum daily flow of approximately 143 mgd during the Fiscal Year ended September 30, 2018. Total Sewer System sales revenues (including sewer capacity fees) during the Fiscal Year ended September 30, 2018 were approximately $278,874,000 (see “WATER AND SEWER SYSTEM - *FINANCIAL INFORMATION RELATING TO WATER AND SEWER SYSTEM* - Schedules of Debt Service Coverage” herein).

Since the transfer of the Water and Sewer System from the City to JEA in 1997, JEA has acquired the assets and customers of seven privately-owned water and sewer companies and one governmentally-owned water and sewer utility. From time to time, JEA may explore other potential acquisition opportunities but presently has no plans to do so.

Pursuant to a 30-year interlocal agreement with St. Johns County, JEA made an up-front payment in December 2001 to St. Johns County in the amount of the net present value of five percent of JEA’s projected gross revenues from the retail sale of water and wastewater (excluding reclaimed water) which JEA expected to realize in providing such services for the next 10 years in St. Johns County, calculated to be $3,616,576. Under the terms of the interlocal agreement, subsequent utilities were purchased under the interlocal agreement and St. Johns County granted JEA the right to: 1) provide water and wastewater service to those customers in an acquired franchise area within St. Johns County, 2) provide water and wastewater service to additional areas in St. Johns County not currently served by either the St. Johns County Water and Sewer Department or other water and wastewater utilities and 3) acquire, in JEA’s sole discretion, other private utilities in northern St. Johns County. Under the original terms of the interlocal agreement, at the end of each 10-year anniversary of this 30-year interlocal agreement with St. Johns County, JEA will calculate a “true-up” to adjust for the net present value of the actual retail revenues realized if the revenues exceed the projected revenues during the 10-year period. Additionally, after the 10-year and 20-year anniversaries of the agreement, JEA agrees to pay St. Johns County the net present value of five percent of the projected water and wastewater retail revenues that JEA expects to receive for the ensuing 10-year period. Based on this methodology, JEA paid St. Johns County $12,176,152 on January 11, 2012 for both components related to the first 10-year anniversary. St. Johns County disputed JEA’s methodology for computing the true-up payment related to the first 10-year anniversary, and the parties entered mediation and resolved the issue, with the result that future payments will be made on an annual basis.

Pursuant to a 30-year interlocal agreement with Nassau County, JEA made an up-front payment in December 2001 to Nassau County in the amount of the net present value of five percent of JEA’s projected gross revenues from the sale of water and wastewater (excluding reclaimed water) which JEA expected to realize in providing such services for the next 10 years in Nassau County, calculated to be $720,000. Under the terms of the interlocal agreement, Nassau County granted JEA the right to: 1) provide water and wastewater service to those customers in an acquired franchise area within Nassau County and 2) provide water and wastewater service to additional areas in Nassau County not currently served by either Nassau County or other water and wastewater utilities. At the end of each 10-year anniversary of this 30-year interlocal agreement with Nassau County, JEA will calculate a “true-up” based on the actual revenues realized during the 10-year period. If the revenues exceed the projected amount, JEA will pay Nassau County the amount that would have been due based on actual revenues. Additionally, after the 10-year and 20-year anniversaries of the agreement, JEA agrees to pay the county the net present value of five percent of the projected water and wastewater retail revenues that JEA expects to receive for the ensuing 10-year period. Based on this methodology, JEA paid Nassau County $3,480,556 on January 11, 2012 for both components related to the first 10-year anniversary.

Area Served

Water System

The service territory of the Water System includes (a) virtually the entire City, other than the beach communities (Jacksonville Beach, Atlantic Beach and Neptune Beach), the Town of Baldwin, the active United States Navy facilities located within the City and those areas served by a community-owned water and wastewater utility that is not subject to jurisdiction of the Florida Public Service Commission (PSC) and one investor-owned water utility and one investor-owned sewer utility that provide service within certificated territories under jurisdiction of the PSC, (b) approximately 143 square miles in St. Johns County and (c) approximately 620 square miles in Nassau County. In addition, the Water System serves a small number of customers in Clay County.

The Water System provides service in an area currently comprising approximately 769 square miles in Duval County, approximately 63 square miles in St. Johns County, approximately 77 square miles in Nassau County and approximately four square miles in Clay County. In the remaining areas of the Water System's service territory not currently served by the Water System, other cities, the Navy, the community-owned utility or investor-owned utility, water service is provided through privately owned and operated wells.

Customers of the Water System are charged for water service based upon customer classification (residential, non-residential or multi-family). Charges within each classification vary based upon meter size and monthly consumption.

Sewer System

The service territory for the Sewer System is essentially the same as that for the Water System; the area currently served by the Sewer System is approximately 76 percent of the service territory. In the remaining areas of the Sewer System's service territory not currently served by the Sewer System, other cities, the Navy, the community-owned utility or the investor-owned utility, wastewater service is provided through privately owned and operated septic tanks. Customers of the Sewer System are charged for sewer service based upon customer classification (residential, non-residential or multi-family). Charges within each classification vary and are based upon meter size and monthly flow. The Sewer System provides wholesale bulk sewer service to the investor-owned utility mentioned above and to two commercial customers.

Existing Facilities

Water System

The Water System consists of 20 major and 18 small water treatment plants and two repump facilities, and is divided into two major distribution grids: the north grid and the south grid (one on each side of the St. Johns River), and includes four minor distribution grids: Ponte Vedra, Ponce de Leon, Mayport and Nassau County. The major distribution grids are fully interconnected, which provides the Water System with a high degree of redundancy. The purpose of such interconnectivity is to provide sufficient water capacity at the least cost which meets JEA's desired level of customer service requirements and complies with water quality criteria while avoiding adverse impacts on the Floridan Aquifer. The Water System has 136 wells supplying the various water plants. Each plant consists of wells, aerators, ground storage tanks, water quality treatment and pH control and chlorination facilities. Control is by computer with regular operator oversight. The rated maximum daily treatment capacity of the Water System is approximately 298 mgd for the north and south grids together and 310 mgd for the total Water System, taking into consideration maintenance factors. Treatment at the water plants currently consists of aeration and detention to oxidize hydrogen sulfide and addition of sodium hypochlorite to adjust pH, provide disinfection and prevent biological growth in the water distribution system. JEA also uses packed tower forced draft aeration and ozone to treat hydrogen sulfide at several facilities.

The following table shows the daily average and maximum flow capacities for the Fiscal Years ended September 30, 2014 through 2018:

Fiscal Year Ended September 30,	Average Daily Flow (mgd)	Maximum Daily Flow (Non-Coincident) (mgd)
2014	101	140
2015	104	165
2016	111	154
2017	114	187
2018	112	152

The following table shows the rated maximum daily treatment capacity during the Fiscal Year ended September 30, 2018 for each distribution grid:

Grid	Maximum Daily Treatment Capacity (mgd)
North grid	136
South grid	162
Other	12
Total	310

The water distribution system consists of approximately 4,755 miles of water distribution mains ranging from two to 36 inches in diameter. The water distribution mains are made of various materials, including polyvinyl chloride ("PVC"), galvanized steel, ductile iron, cast iron and asbestos cement. The majority of the water distribution mains are made of PVC, with less than one percent of the water distribution system being composed of asbestos cement pipe. Water quality monitoring in the areas containing asbestos cement pipe has shown all areas to be within the United States Environmental Protection Agency ("EPA") and the Florida Department of Environmental Protection ("FDEP") regulatory limits. The asbestos cement pipe has been in service for several decades, and JEA anticipates removal of this pipe from the Water System through routine replacement of aging water mains. Virtually all new water system distribution mains are constructed of PVC.

Total finished water storage capacity of the Water System is 81 million gallons. All water storage facilities are located at the various water treatment plants, including two repump facilities. The Water System does not utilize elevated storage tanks.

Water supply is from the Floridan Aquifer, one of the most productive aquifers in the world, with high quality water. The Floridan Aquifer covers most of Florida and parts of Georgia and South Carolina. The Floridan Aquifer should be capable of meeting JEA's needs well into the future; *provided* that JEA continues its three-part program and well water quality program described under "Regulation - *Public Water Supply System*" below. Some capital expenditures are required to maintain this capacity, but these expenditures are expected to be equal to or less than those experienced by other Florida water systems of similar size and with similar water supply. As of the date of this Annual Disclosure Report, water quality monitoring of JEA well fields has not detected the presence of any man-made compounds at actionable levels, and water quality impacts are limited to selected wells on the south grid from localized upwelling of trapped water from deep fissures - not the result of lateral salt water intrusion. JEA is the largest single user of water from the Floridan Aquifer in Duval County. Other major users include the paper industry and investor-owned utilities. JEA currently operates under one Consumptive Use of Water Permit ("CUP"). JEA expects that the current permitted withdrawal allocations should be sufficient to satisfy customer demands for the 20-year planning period, subject to compliance with the various conditions set forth in the CUP for 20 years from May 2011.

Sewer System

The Sewer System consists of approximately 4,027 miles of gravity sewers and force mains. The gravity sewers range from six to 84 inches in diameter and the force mains range from three to 54 inches in diameter. Approximately 69 percent of the gravity sewers and force mains are made of PVC, with the remaining sewers and mains consisting of various materials including, among others, concrete, vitrified clay, ductile iron, cast iron and polyethylene. Virtually all new sewer system gravity sewers and force mains are constructed of PVC, and the majority of sewer system rehabilitation (using pipe bursting technology) is constructed of high density polyethylene.

The Sewer System has approximately 1,422 pumping stations, approximately 697 low pressure sewer units and 11 treatment plants ranging in rated average daily treatment capacity from 0.2 to 52.5 mgd. Each of the treatment plants provides a minimum of secondary treatment with biological nutrient removal utilized at the major treatment plants. All sludge from the treatment plants is pumped or trucked to either permitted land application sites or a JEA-owned biosolids processing facility for anaerobic digestion, centrifuge dewatering and pelletization in preparation for beneficial use. Current sludge production averages approximately 26.2 dry tons per day ("dt/day"). The Residuals Management Facility ("RMF") is permitted at an annual capacity of 20,290 dry tons per year (64.1 dry tons per day). The RMF produces a usable product (fertilizer) from the sludge. Design of a new biosolids processing facility is underway, which will include solids thickening, dewatering, and cake loadout facilities in a new building. The existing solids processing building has reached the end of its useful life and will be demolished as part of this project. The new biosolids processing facility will produce dewatered cake only for hauling as opposed to the dried pellets produced under the previous process. JEA has solicited proposals from vendors to utilize its biosolids to produce a beneficial product such as soil amendment. JEA is in the early phases of evaluation proposals for a 20-year contract.

The following table shows the average and maximum daily wastewater treatment flows and the rated average and maximum daily wastewater treatment capacities during the Fiscal Year ended September 30, 2018 for each of JEA's seven regional wastewater treatment plants and corresponding information for JEA's smaller wastewater treatment plants:

Wastewater Treatment Plant	Average Daily Flow (mgd) (Fiscal Year ended September 30, 2018)	Maximum Daily Flow (Non-Coincident) (mgd) (Fiscal Year ended September 30, 2018)	Rated Average Daily Treatment Capacity (mgd)(1)	Rated Maximum Daily Treatment Capacity (mgd)(1)
Buckman	26.19	62.72	52.50	105.00
District 2	5.52	6.85	10.00	20.00
Southwest	12.04	20.18	14.00	28.00
Arlington East	21.76	32.29	25.00	50.00
Mandarin	8.13	11.49	8.75	17.50
Julington Creek Plantation	0.78	0.98	1.00	2.00
Blacks Ford	2.37	3.02	6.00	12.00
Nassau	1.20	1.69	1.55	3.10
Monterey	1.64	3.16	3.60	7.20
Ponte Vedra	0.39	0.65	0.80	1.60
Ponce De Leon	0.04	0.12	0.24	0.48
Total	80.06	143.15	123.44	246.88

(1) Since the rated maximum daily treatment capacity of each wastewater treatment plant is approximately twice the rated average daily treatment capacity, the Sewer System is able to accept and handle surges that come with peak usage periods (morning and evening) and heavy rains. On-going system maintenance and improvements are aimed at continuing to decrease peak surges from heavy rains and infiltration into the collection system (*i.e.,* storm water and/or ground water that enters the sewer system through cracks or openings in the collection system) and inflow (*i.e.,* water that enters the sewer system through illegal or unpermitted piped connections to the collection system).

Five of the regional wastewater treatment plants (Buckman, District 2, Southwest, Arlington East and Mandarin) provide advanced secondary treatment and two of the regional wastewater treatment plants (Blacks Ford and Nassau) provide advanced waste treatment. The Buckman, District 2, Southwest, Arlington East, Mandarin and Blacks Ford wastewater treatment plants utilize ultraviolet light disinfection (irradiation of the water), and the Julington Creek Plantation plant utilizes chlorination for disinfection and SO_2 for dechlorination prior to discharge to the St. Johns River.

Although effluent disposal currently is predominately surface water discharge, JEA initiated implementation of a reclaimed water reuse program in 1999 with its acquisition of the assets and customers of an investor-owned water and wastewater utility which had an existing program for reuse of reclaimed water by customers. JEA has established an expanding program to substantially increase water reclamation systems in Nassau, Duval and St. Johns Counties. JEA is actively developing additional reclaimed water capacity, and as of September 2018, the reclaimed water capacity (in mgd) was approximately:

Facility	Capacity (mgd)
Arlington East (Public Access)	8.00
Mandarin (Public Access)	4.00
Blacks Ford (Public Access)	6.00
Julington Creek Plantation (Public Access)	1.00
Ponte Vedra (Public Access)	0.80
Nassau (Public Access)	1.55
Buckman (Non-Public Access)	7.70
District 2 (Non-Public Access)	6.00
Southwest (Non-Public Access)	0.80
Ponce De Leon (Non-Public Access)	0.24
Total	36.09

Customers and Sales

Water System

During the Fiscal Year ended September 30, 2018, the Water System served an average of 348,159 customer accounts and 11,498 reuse water customers, respectively. Water System revenues, including revenues from environmental charges, sales of water, expressed in 1,000 gallons ("kgal") and the average number of Water System customer accounts, all by customer classification, for the Fiscal Year ended September 30, 2014 through 2018 are shown in the following table:

	Fiscal Year Ended September 30				
	2018	2017	2016	2015	2014
Water Revenues (000's omitted):					
Residential	$ 91,954	$ 96,615	$ 89,946	$ 86,215	$ 83,014
Commercial and Industrial	47,494	47,969	46,212	45,078	43,647
Irrigation	32,004	36,836	34,846	32,681	30,088
Subtotal	$171,452	$181,420	$171,004	$163,974	$156,749
Reuse Water	13,659	13,216	10,267	7,378	5,533
TOTAL	$185,111	$194,636	$181,271	$171,352	$162,282
Water Sales (kgals):					
Residential	16,932,812	17,624,952	17,086,586	16,271,698	15,507,752
Commercial and Industrial	14,023,130	13,402,094	13,343,376	12,870,984	12,131,400
Irrigation	5,230,617	6,218,142	5,927,957	5,415,602	4,829,184
Subtotal	36,186,559	37,245,188	36,357,919	34,558,284	32,468,336
Reuse Water	3,119,739	3,290,311	2,644,046	1,783,730	1,300,838
TOTAL	39,306,298	40,535,499	39,001,965	36,342,014	33,769,174

	Fiscal Year Ended September 30				
	2018	2017	2016	2015	2014
Average Number of Accounts:					
Residential	285,404	278,838	272,157	265,373	259,159
Commercial and Industrial	25,702	25,423	24,698	23,951	23,722
Irrigation	37,053	36,755	36,284	36,028	35,827
Subtotal	348,159	341,016	333,139	325,352	318,708
Reuse Water	11,498	9,391	7,498	5,891	4,501
TOTAL	359,657	350,407	340,637	331,243	323,209

Sewer System

During the Fiscal Year ended September 30, 2018, the Sewer System served an average of 270,871 customer accounts. Sewer System revenues, including revenues from environmental charges, volume of wastfewater treatment billed and the average number of Sewer System customer accounts, all by customer classification, for the Fiscal Years ended September 30, 2014 through 2018 are shown in the following table:

	Fiscal Year Ended September 30				
	2018	2017	2016	2015	2014
Sewer Revenues (000's omitted):					
Residential	$139,174	$143,967	$135,288	$129,976	$125,526
Commercial and Industrial	108,126	107,446	103,731	101,910	97,339
TOTAL	$247,300	$251,413	$239,019	$231,886	$222,865
Volume (kgals):					
Residential	14,623,682	15,225,124	14,614,026	13,935,981	13,269,638
Commercial and Industrial	11,716,940	11,487,646	11,203,632	10,987,160	10,257,338
TOTAL	26,340,622	26,712,770	25,817,658	24,922,141	23,526,976
Average Number of Accounts:					
Residential	252,531	246,187	239,738	233,203	227,216
Commercial and Industrial	18,340	18,149	17,981	17,771	17,620
TOTAL	270,871	264,336	257,719	250,974	244,836

Largest Customers

Water System

The 10 highest consumption customers served by the Water System composed 6.2 percent of total Water System consumption during the Fiscal Year ended September 30, 2018. The following table sets forth the 10 highest consumption customers, by kgal, during the Fiscal Year ended September 30, 2018.

Customer Account	Annual Billed (kgal)	Percentage of Total
City of Jacksonville	570,571	1.5
St. Johns County Utility	456,884	1.2
Duval County Public Schools	261,446	0.7
Southern Baptist Hospital	220,688	0.6
The American Bottling Company	207,853	0.5
Mayo Clinic Jacksonville	163,766	0.4
St. Vincent's Health Systems	149,339	0.4
WWF Operating Company	115,470	0.3
Twin Creeks Development Associates LLC	110,750	0.3
Johnson & Johnson Vision Care	109,568	0.3
Total	2,366,335	6.2

Sewer System

The 10 customers with the highest usage level served by the Sewer System composed 5.9 percent of the total volume of wastewater treatment billed during the Fiscal Year ended September 30, 2018. The following table sets forth the 10 customers with the highest usage level, by volume of wastewater treatment billed, during the Fiscal Year ended September 30, 2018.

Customer Accounts	Annual Billed (kgal)	Percentage of Total
City of Jacksonville	285,577	1.1
St. Johns County Utility	230,897	0.9
Duval County Public Schools	203,106	0.8
The American Bottling Company	132,262	0.5
St. Vincent's Health Systems	123,624	0.5
Southern Baptist Hospital	118,782	0.5
Mayo Clinic Jacksonville	116,633	0.4
Symrise Inc	108,918	0.4
American Home Portfolio LLC	105,612	0.4
WWF Operating Company	95,864	0.4
Total	1,521,275	5.9

Customer Billing Procedures

Customers are billed on a cycle basis approximately once per month. If the customer has not paid a bill within 42 days after the initial bill date, JEA may discontinue service to that customer. New commercial accounts are generally assessed a deposit. Residential customers who meet JEA's credit criteria are not assessed a deposit. Customers who do not meet JEA's credit criteria or do not maintain a good payment record may be assessed a deposit, which may vary with consumption. A late payment fee of 1.5 percent is assessed to customers for past due balances in excess of 27 days. The amount of uncollectible accounts is budgeted to be approximately 0.15 percent of estimated gross Water and Sewer System revenues for the Fiscal Year ending September 30, 2019. Actual uncollectible accounts were 0.12 percent of gross Water and Sewer System revenues for the Fiscal Year ended September 30, 2018.

Rates

General

Water and Sewer System revenues are derived from two basic types of charges: (a) monthly service charges and (b) connection charges (which include capacity charges). Additionally, environmental charges collected are reflected in Water and Sewer System Revenues. The JEA Board has sole discretion to set rate levels and revenue requirements for the Water and Sewer System. JEA sets its retail rates after a public hearing.

Generally, Water System customers are charged for monthly water service based upon metered consumption, and Sewer System customers are charged for monthly sewer service based upon water consumption during that same month, utilizing readings of the water meters. Approximately 12 percent of the customers of the Water System have separate meters for water used for irrigation purposes. In those cases, billings for monthly sewer service exclude the water used for irrigation purposes. In the case of Sewer System customers that obtain water service from a community- or investor-owned utility, monthly sewer charges are based upon readings of that utility's water meter. In the case of Sewer System customers that obtain water from privately owned wells, water meters meeting JEA's requirements are required to be installed, and monthly sewer charges are based upon readings of those meters. In addition, in some instances, non-residential customers have separate meters to measure wastewater flows, and JEA charges those customers for sewer service based upon readings of such separate meters. Further, certain non-residential Sewer System customers are subject to surcharges for wastewater discharges that exceed certain designated levels of chemical oxbygen demand and suspended solids.

The rates for monthly water and sewer service shown in the following tables have been in effect since October 1, 2012 and remain in effect as of September 30, 2018 and as of the date of this Annual Disclosure Report.

Rates for Monthly Service

The schedules shown in the following tables reflect rates for monthly water, sewer service and reclaimed service effective as of October 1, 2012:

Water Rates

Water users are charged a monthly service availability charge according to water meter size, plus a unit rate and an environmental charge according to the following schedules:

Water System
Monthly Service Availability Charge

Meter Size	Residential	Residential Irrigation	Commercial	Multi-Family	Multi-Family Irrigation; Commercial Irrigation
5/8″	$ 12.60	$ 12.60	$ 12.60	$ 18.41	$ 12.60
3/4″	18.90	18.90	18.90	27.62	18.90
1″	31.50	31.50	31.50	46.03	31.50
1 1/2″	63.00	63.00	63.00	92.05	63.00
2″	100.80	100.80	100.80	147.28	100.80
3″	201.60	201.60	201.60	294.56	201.60
4″	-	-	315.00	460.25	315.00
6″	-	-	630.00	920.50	630.00
8″	-	-	1,008.00	1,472.80	1,008.00
10″	-	-	1,974.55	2,117.15	-
12″	-	-	3,691.55	3,958.15	-
20″	-	-	7,726.50	8,284.50	-

Water System
Unit Charge (per kgal)

Non-Irrigation							Irrigation			
Residential			Commercial		Multi-Family		Residential		Multi-Family; Commercial	
Tiers (kgal)			Meter Size		Meter Size		Tiers (kgal)		Tiers (kgal)	
1-6	7-20	>20	≤ 8″	> 8″	≤ 8″	> 8″	1-14	>14	1-14	>14
$0.93	$2.60	$5.60	$1.49	$1.24	$1.00	$1.00	$2.60	$5.60	$3.44	$3.96

Water System
Environmental Charge (per kgal)

Water	$0.37
Irrigation	0.37

Sewer Rates

Users of the Sewer System are charged a monthly service availability charge according to water meter size, plus a unit rate based on water consumption from JEA, community- or investor-owned utilities or private wells, as applicable and an environmental charge according to the following schedules:

Sewer System
Monthly Service Availability Charge

Meter Size	Residential	Multi-Family	Commercial
5/8″	$ 14.10	$ 24.68	$ 21.15
3/4″	21.15	37.01	31.73
1″	35.25	61.69	52.88
1 1/2″	70.50	123.38	105.75
2″	112.80	197.40	169.20
3″	225.60	394.80	338.40
4″	-	616.88	528.75
6″	-	1,233.75	1,057.50
8″	-	1,974.00	1,692.00
10″	-	2,837.63	2,432.25
12″	-	5,305.13	4,547.25
20″	-	11,103.75	9,517.50

Sewer System
Unit Charge (per kgal)

Tiers (kgal)	Residential	Multi-Family; Commercial
1-6	$4.94	-
7-20	6.02	-
All	-	$6.02

Sewer System
Environmental Charge (per kgal)

Residential: 1-20 kgal	$0.37
Commercial; Multi-Family; Limited Service: All kgal	0.37

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Reclaimed Water Rates

Reclaimed (reuse) water users are charged a monthly service availability charge according to water meter size, plus a unit rate and an environmental charge according to the following schedules:

Reclaimed System
Monthly Service Availability Charge

Meter Size	Residential[(1)]	Multi-Family [(1)]; Commercial [(1)]
5/8″	$ 12.60	$ 12.60
3/4″	18.90	18.90
1″	31.50	31.50
1 1/2″	63.00	63.00
2″	100.80	100.80
3″	201.60	201.60
4″	-	315.00
6″	-	630.00
8″	-	1,008.00

(1) Non-bulk reclaimed customers will be charged an additional $6.00 regardless of meter size to cover costs due to regulatory requirements.

Reclaimed System
Unit Charge (per kgal)

Tiers (kgal)	Residential	Multi-Family; Commercial
1-14	$2.60	$3.44
> 14	5.60	3.96

Reclaimed System
Environmental Charge (per kgal)

$0.37

Note: Environmental charge not applicable to bulk reclaimed usage.

Connection and Capacity Charges

In addition to the monthly charges for water and wastewater service described above, JEA assesses connection and capacity charges for new Water and Sewer System customers, which charges are designed to cover some of the capital costs of providing service to new customers. The schedules shown in the following tables show the connection charges for new Water and Sewer System customers:

Water System Connection Charges

Meter Size	Tap Fee	Set Fee
¾”	$610.00	$202.33
1”	610.00	223.71
1 ½”	700.00	527.26[(1)]
2” and greater	700.00	588.96[(1)]

(1) Or actual installation cost, whichever is greater.

Sewer System Connection Charges

Connection Size	Charge
Up to 6”	$1,853.00
Greater than 6”	(1)

(1) Charge based on actual installation cost.

New Water System customers also are assessed a one-time plant capacity charge for new connections. Effective October 1, 2005, that charge is equal to the greater of (x) (i) in the case of residential customers, a minimum of $339.50 and (ii) in the case of commercial customers, a minimum of $414.12 or (y) $0.97 per connected gallon (average daily flow).

New Sewer System customers also are assessed a one-time capacity charge for new connections. That charge is equal to the greater of (x) (i) in the case of residential customers, a minimum of $1,274.00 and (ii) in the case of commercial customers, a minimum of $1,554.02 or (y) $3.64 per connected gallon (average daily flow).

In each of the foregoing cases, average daily flow is determined by reference to industry standards, subject to review and approval by the JEA Board.

In addition, all new Water and Sewer System connections are assessed a one-time “line extension growth” capacity charge that is a minimum of $1,695.00.

Capacity charges are included within the revenues pledged for payment of the Water and Sewer System Bonds. However, under applicable Florida law and in accordance with the provisions of the Water and Sewer System Resolution, such capacity charges may be used and applied only for the purpose of paying costs of expansion of the Water and Sewer System, or paying or providing for the payment of debt service on Water and Sewer System Bonds, Subordinated Indebtedness or other indebtedness of JEA relating to the Water and Sewer System issued for such purpose.

On June 19, 2007, the JEA Board modified the retail reclaimed (reuse) water rate, which resulted in a separate rate for commercial customers in DRIs equal to potable, non-DRI, commercial irrigation rates and added a new rate class for commercial bulk reclaimed (reuse) water service. These changes became effective on October 1, 2007.

Regulation

Water and Sewer System

The future financial condition of the Water and Sewer System could be adversely affected by, among other things, legislation, environmental and other regulatory actions promulgated by applicable federal, state and local governmental agencies. Future changes to new and existing regulations may substantially increase the cost of water and sewer service by requiring changes in the design or operation of existing or new facilities. JEA cannot predict future policies such agencies may adopt.

Public Water Supply System

The St. Johns River Water Management District (“SJRWMD”) regulates groundwater withdrawals and issues permits for the same. JEA was issued a 20-year CUP in May 2011 from the SJRWMD. As of the date of this Annual Disclosure Report, modeling efforts have indicated that a sustainable groundwater supply can continue to be met for the 20-year planning period out to 2031 and beyond with a three-part program that is the basis of JEA’s water capital improvement plan: (i) continued expansion of the reuse system, (ii) measured conservation program and (iii) water transfers from areas with a higher supply on JEA’s north grid to areas with a lower supply on JEA's south grid via river-crossing pipelines. JEA has also implemented a groundwater quality management program to mitigate the effects of (non-lateral) saltwater intrusion into specific wells on the systems south grid that includes routine well monitoring, backplugging of specific wells, and reducing or replacing wells that show continued increases in chlorides. The 2018 permitted CUP allocation was 135.7 million gallons per day. Actual well withdrawals were 111.6 million gallons per day.

The Suwanee River Water Management District ("SRWMD"), FDEP and SJRWMD are each in the process of setting or revising Minimum Flow and Level ("MFL") standards for surface water in the vicinity of the Lower Santa Fe River (SRWMD and FDEP) and Keystone Lakes (SJRWMD) areas. In 2015 two MFLs were adopted in the SRWMD and a determination made that a recovery strategy is necessary. JEA will participate cooperatively in these strategies to the extent of its proportionate share of impact. Because technical tools, such as a new groundwater flow model, are still under development, JEA's effect on the 2015 MFL's is unknown. JEA remains actively engaged in cooperation with seven other northeast Florida utilities known as the Northeast Florida Utility Coordinating Group ("NFUCG") in rule development on these issues.

In addition, the SJRWMD and SRWMD have developed a joint North Florida Regional Water Supply Plan, which was released in October 2016 and approved in January 2017. The plan concludes that future water demands through 2035 can be met with water conservation measures and water supply options included in the plan.

Wastewater Treatment System

The Sewer System is regulated by EPA under provisions of the Federal Clean Water Act and the Federal Water Pollution Control Act. EPA has delegated the wastewater regulatory program to the FDEP. Except as described below, the Sewer System is in substantial compliance with all federal and state wastewater regulations.

In 2013 EPA and FDEP reached an agreement on the adoption of numeric nutrient criteria ("NNC") for the State of Florida. As part of the NNC adoption process, EPA re-approved the Lower St. Johns River nutrient Total Maximum Daily Load ("TMDL"). The EPA re-approval means the TMDL will remain the legally enforceable nutrient standard for the Lower St. Johns River. JEA has completed all the treatment plant improvements required of the utility by the TMDL and its facilities are in compliance with its nutrient allocation.

Because JEA has reduced nitrogen well below its own permitted nitrogen reduction goals, it has the ability to generate Water Quality Credits. JEA has previously recorded a reduction in its NPDES permit to generate and transfer 30.34 metric tons per year of Total Nitrogen Water Quality Credits ("Initial Credits") to the City through 2023 and is positioned to remain in compliance with its Aggregate Nitrogen permit. JEA has agreed to provide these annual Initial Credits to the City for no compensation through December 31, 2033 and intends to extend the transfer of the Initial Credits to the City every ten years as long as the Initial Credits are authorized and approved by the appropriate regulatory agency. JEA's current aggregate nitrogen limit for all wastewater plants discharging to the St. Johns River is 683 short tons per year. During the Fiscal Year ended September 30, 2018, JEA facilities discharged 552 short tons to the river.

As the regulatory reduction of Total Nitrogen in the Lower St. Johns River is an ongoing annualized requirement that both the City and JEA will be required to meet beyond December 31, 2023, the City and JEA have agreed to engage in discussions to work on a plan for meeting the future needs of both parties beyond December 31, 2023.

On December 11, 2006, JEA and the FDEP executed a long-term sanitary sewer overflows ("SSO") consent order. The long-term SSO consent order is the mechanism under which periodic, unforeseeable JEA SSOs are reviewed and adjudicated. The SSOs for each fiscal year are typically adjudicated on an annual to bi-annual basis. In October 2016, Northeast Florida experienced the effects of Hurricane Matthew. In September of 2017, Northeast Florida experienced the effects of a second hurricane, Hurricane Irma. The sustained winds and flooding from those storms caused a number of extended power outages, resulting in SSOs during these extreme weather events. As a result of SSOs that occurred in Fiscal Year 2017 and during Hurricanes Matthew and Irma, JEA was assessed a penalty of $413,996 by FDEP. In lieu of paying the penalty, JEA has opted to spend at least $620,994 on an environmental improvement project as approved by FDEP. JEA expects to be assessed a penalty of $127,000 by FDEP for Fiscal Year 2018 SSOs. To further reduce the frequency of SSOs in the future, JEA is undertaking an extreme weather resiliency plan to evaluate and implement processes or physical projects to reduce the likelihood of SSOs even during extreme weather events.

Capital Program

The Water and Sewer System's projected capital program for the five-year period ending September 30, 2023 is summarized below. The capital program is centered on renewal and replacement and to enable the Water and Sewer System to remain in compliance with all applicable regulatory requirements, as well as to lower operating and maintenance expenses. Major projects include expansion of the Southwest Water Reclamation Facility from 14.0 mgd to 18.0 mgd, expansion of the Nassau Regional Water Reclamation Facility from 2.0 mgd to 4.0 mgd, construction of the new Greenland Water Reclamation Facility with a capacity of 6.0 mgd, the rebuild of the biosolids operation at the Buckman Water Reclamation Facility and construction of a 6.0 mgd Water Treatment Plant to serve customers in the southwestern part of JEA's service territory and expansion of the Greenland Water Treatment Plant from 6.0 to 9.0 mgd. This program contains funding targeted to improve water and sewer treatment plants, in addition to meeting the three-part program described in "Regulation - *Public Water Supply System"* above to maintain sustainable water supply for JEA's customers.

Water and Sewer System Capital Program
(000's omitted)

Fiscal Year Ending September 30,	Amount
2019	$ 200,000
2020	210,000
2021	210,000
2022	210,000
2023	210,000
Total	$1,040,000

The total amount of the capital program for the five-year period is estimated to be approximately $1,040 million. It is expected that the total amount of the capital program for this period will be provided from Water and Sewer System revenues (including capacity charges) and no new debt. The projected total amount of the capital program may be affected by future environmental legislation and regulation. See "Regulation" above.

FINANCIAL INFORMATION RELATING TO WATER AND SEWER SYSTEM

Debt Relating to Water and Sewer System

Water and Sewer System Bonds

As of September 30, 2018, $1,282,875,000 in aggregate principal amount of bonds (the "Water and Sewer System Bonds") issued pursuant to the resolution of JEA adopted on February 18, 1997 and referred to therein as the "Water and Sewer System Revenue Bond Resolution" (as amended, restated and supplemented, the "Water and Sewer System Resolution") was outstanding. As of the date of this Annual Disclosure Report, there is $1,158,645,000 in aggregate principal amount of Water and Sewer System Bonds outstanding under the Water and Sewer System Resolution, consisting of (a) $161,960,000 in aggregate principal amount of variable rate Water and Sewer System Bonds and (b) $996,685,000 in aggregate principal amount of fixed rate Water and Sewer System Bonds.

Water and Sewer System Bonds may be issued for the purposes of (a) paying or providing for the payment of Costs (as defined in the Water and Sewer System Resolution) of the Water and Sewer System and (b) refunding any Water and Sewer System Bonds. See "SUMMARY OF CERTAIN PROVISIONS OF THE WATER AND SEWER SYSTEM RESOLUTION - Additional Water and Sewer System Bonds" in APPENDIX B attached hereto.

Pursuant to the Water and Sewer System Resolution and the laws of the State of Florida, the amount of Water and Sewer System Bonds that may be issued by JEA is not limited and is subject only to approval by the Council and satisfaction of the conditions set forth in the Water and Sewer System Resolution.

From time to time, JEA requests Council approval of the issuance of Water and Sewer System Bonds and Subordinated Indebtedness (as defined in the Water and Sewer System Resolution). Pursuant to previous Council approvals, JEA currently is authorized to issue additional Water and Sewer System Bonds and/or Subordinated Indebtedness for the purpose of paying or providing for the payment of Costs (as defined in the Water and Sewer System Resolution) of the Water and Sewer System in an aggregate principal amount of $218,078,023. JEA expects that such authorization will be adequate to finance its Water and Sewer System capital program through the Fiscal Year ending September 30, 2023. See "WATER AND SEWER SYSTEM - *WATER AND SEWER SYSTEM FUNCTIONS* - Capital Program" herein.

JEA also has received approvals from the Council for the issuance of Water and Sewer System Bonds for the purpose of refunding outstanding Water and Sewer System Bonds and Subordinated Indebtedness. JEA may issue additional Water and Sewer System Bonds or Subordinated Water and Sewer System Bonds to refund outstanding Water and Sewer System Bonds and/or Subordinated Indebtedness from time to time as it deems economical or advantageous.

In the future, JEA will continue to seek authorization as needed from the Council to issue additional Water and Sewer System Bonds and/or Subordinated Indebtedness in order to enable it to finance its Water and Sewer System capital program.

A summary of certain provisions of the Water and Sewer System Resolution, including a description of the recent amendments thereto described below, is attached to this Annual Disclosure Report as APPENDIX B.

Liquidity support in connection with tenders for purchase of the Variable Rate Water and Sewer System Revenue Bonds, 2008 Series B (the "SBPA Supported Variable Rate Water and Sewer Bond") currently is provided by a bank pursuant to a standby bond purchase agreement between JEA and such bank. Credit and liquidity support for JEA's Variable Rate Water and Sewer System Revenue Bonds, 2008 Series A-2 (the "LOC Supported Variable Rate Water and Sewer System Bond" and, together with the SBPA Supported Variable Rate Water and Sewer System Bond, the "Senior Liquidity Supported Water and Sewer Bonds") currently is provided by a direct-pay letter of credit issued by a different bank. Any Senior Liquidity Supported Water and Sewer Bond that is purchased by the applicable bank pursuant to its (i) standby bond purchase agreement between JEA and such bank or (ii) letter of credit issued in connection with the reimbursement agreement between JEA and such bank, as applicable, and is not remarketed is required to be repaid as to principal in equal semiannual installments over a period of approximately five years from the date so purchased. In addition, any Senior Liquidity Supported Water and Sewer Bond that is purchased by the applicable bank pursuant to its standby bond purchase agreement or letter of credit reimbursement agreement, as applicable, will constitute an "Option Bond" within the meaning of the Water and Sewer System Resolution and, as such, may be tendered or deemed tendered to JEA for payment upon the occurrence of certain "events of default" on the part of JEA under such standby bond purchase agreement or letter of credit reimbursement agreement, as applicable. Upon any such tender or deemed tender for purchase, the Senior Liquidity Supported Water and Sewer Bond so tendered or deemed tendered will be due and payable immediately. For a discussion of certain "ratings triggers" contained in such standby bond purchase agreement and such reimbursement agreement, see "OTHER FINANCIAL INFORMATION - Effect of JEA Credit Rating Changes" herein. As of the date of this Annual Disclosure Report, no Senior Liquidity Supported Water and Sewer Bonds are held by the banks providing such standby bond purchase agreement or such letter of credit. The standby bond purchase agreement and letter of credit are subject to periodic renewal at the discretion of the respective bank. The current expiration date for the standby bond purchase agreement is May 8, 2020, and the current expiration date for the letter of credit is December 1, 2023.

Amendments to the Water and Sewer System Resolution

In June 2013, JEA adopted Resolution No. 2013-10 ("Resolution 2013-10") which provides for the amendment of certain provisions of the Water and Sewer System Resolution and the First Supplemental Water and Sewer System Revenue Bond Resolution, adopted by JEA on August 19, 1997 (the "First Supplemental Resolution") so as to:

(i) revise certain definitions in order to allow for the more efficient and advantageous investment of certain funds held under the Water and Sewer System Resolution; and

(ii) revise certain provisions of the First Supplemental Resolution related to the use of a reserve fund credit instrument (as defined therein) to fund the Initial Subaccount in the Debt Service Reserve Account established thereby.

Such amendments became effective on May 2, 2018 following the issuance of the JEA Water and Sewer System Revenue Bonds, 2017 Series A on December 21, 2017, the mailing of notice to bondholders and satisfaction of the requirements of the Water and Sewer System Resolution and the First Supplemental Resolution. Certain of such amendments are included in the "SUMMARY OF CERTAIN PROVISIONS OF THE WATER AND SEWER SYSTEM RESOLUTION" attached hereto as APPENDIX B.

Subordinated Water and Sewer System Bonds

As of September 30, 2018, $246,465,000 in aggregate principal amount of bonds (the "Subordinated Water and Sewer System Bonds") issued pursuant to the resolution of JEA adopted on May 15, 2003 and referred to therein as the "Water and Sewer System Subordinated Revenue Bond Resolution" (as supplemented, the "Subordinated Water and Sewer System Resolution") was outstanding. As of the date of this Annual Disclosure Report, there is $224,020,000 in aggregate principal amount of Subordinated Water and Sewer System Bonds outstanding under the Subordinated Water and Sewer System Resolution, consisting of (a) $105,335,000 in aggregate principal amount of variable rate Subordinated Water and Sewer System Bonds and (b) $118,685,000 in aggregate principal amount of fixed rate Subordinated Water and Sewer System Bonds.

The Subordinated Water and Sewer System Bonds may be issued (a) for any lawful purpose of JEA relating to the Water and Sewer System or (b) to refund any of the Water and Sewer System Bonds or the Subordinated Water and Sewer System Bonds.

Pursuant to the Subordinated Water and Sewer System Resolution and the laws of the State of Florida, and in accordance with the Water and Sewer System Resolution, the amount of Subordinated Water and Sewer System Bonds that may be issued by JEA is not limited and is subject only to approval by the Council and satisfaction of the conditions set forth in the Subordinated Water and Sewer System Resolution. For a discussion of the Council authorization currently in effect for the issuance of Water and Sewer System Bonds and/or Subordinated Water and Sewer System Bonds, see subsection "*Water and Sewer System Bonds*" above in this section.

A summary of certain provisions of the Subordinated Water and Sewer System Resolution is attached to this Annual Disclosure Report as APPENDIX C.

Liquidity support in connection with tenders for purchase of the Variable Rate Water and Sewer System Subordinated Revenue Bonds, 2008 Series A-1, 2008 Series A-2 and 2008 Series B-1 (the "Subordinated Liquidity Supported Water and Sewer Bonds") currently is provided by certain banks pursuant to standby bond purchase agreements between JEA and each such bank. Any Subordinated Liquidity Supported Water and Sewer Bond that is purchased by the applicable bank pursuant to its standby bond purchase agreement and is not remarketed is required to be repaid as to principal in equal semiannual installments over a period of approximately five years from the date so purchased. In addition, any Subordinated Liquidity Supported Water and Sewer Bond that is purchased by the applicable bank pursuant to its standby bond purchase agreement will constitute an "Option Subordinated Bond" within the meaning of the Subordinated Water and Sewer System Resolution and, as such, may be tendered or deemed tendered to JEA for payment upon the occurrence of certain "events of default" on the part of JEA under the standby bond purchase agreement. Upon any such tender or deemed tender for purchase, the Subordinated Liquidity Supported Water and Sewer Bond so tendered or deemed tendered will be due and payable immediately. For a discussion of certain "ratings triggers" contained in such standby bond purchase agreements, see "OTHER FINANCIAL INFORMATION - Effect of JEA Credit Rating Changes" herein. As of the date of this Annual Disclosure Report, no Subordinated Liquidity Supported Water and Sewer Bonds are held by the banks providing such standby bond purchase agreements. Such standby bond purchase agreements are subject to periodic renewal at the discretion of the respective bank. The current expiration dates for the standby bond purchase agreements range from March 8, 2020 to March 19, 2021.

Water and Sewer System Contract Debts

Contract Debts, a component of the Water and Sewer System's Operation and Maintenance Expenses, is defined by the Water and Sewer System Resolution to mean any obligations of JEA under any contract, lease, installment sale agreement, bulk purchase agreement or otherwise to make payments out of the Revenues of the Water and Sewer System for property, services or commodities whether or not the same are made available, furnished or received. JEA has not incurred any obligations constituting Contract Debts under the Water and Sewer System Resolution, but it may do so in the future. All Contract Debts will be payable from the Revenues of the Water and Sewer System prior to any payments from such Revenues for indebtedness not constituting Contract Debt issued for the Water and Sewer System, including the Water and Sewer System Bonds and Subordinated Indebtedness (including the Subordinated Water and Sewer System Bonds).

Water and Sewer System Support of the District Energy System Bonds

Effective as of October 1, 2004, JEA established the District Energy System, a separate system to provide chilled water services and other local district energy functions. JEA transferred its assets relating to chilled water production and distribution from the Electric System to the District Energy System. The Electric System received approximately $30,000,000 from the District Energy System for the transferred assets. The District Energy System is operated as a separate system for accounting and financing purposes. See the financial statements of JEA attached hereto as APPENDIX A.

As of the date of this Annual Disclosure Report, there is $34,825,000 in aggregate principal amount of District Energy System Bonds outstanding under the District Energy System Resolution.

Pursuant to Resolution No. 2013-2, adopted by JEA on March 19, 2013, revenues of the Water and Sewer System shall be deposited into a special subaccount in the Debt Service Reserve Account (the "2013 Series A Bonds Subaccount") established for the District Energy System Refunding Revenue Bonds, 2013 Series A (the "DES 2013 Series A Bonds") and pledged to pay debt service on the DES 2013 Series A Bonds in the event that revenues of the District Energy System are insufficient to pay debt service on such DES 2013 Series A Bonds.

Schedules of Debt Service Coverage

The following table sets forth Schedules of the Debt Service Coverage for the Water and Sewer System for the twelve months ended September 30, 2018 and September 30, 2017, and has been prepared in accordance with the requirements of the Resolution. Such information should be read in conjunction with JEA's audited financial statements for the Water and Sewer System and the notes thereto for the fiscal years ended September 30, 2018 and 2017, included as APPENDIX A to this Annual Disclosure Report.

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JEA Water and Sewer System Schedules of Debt Service Coverage
(In Thousands)

	Fiscal Year Ended September 30, 2018	Fiscal Year Ended September 30, 2017
Revenues:		
Water	$171,216	$181,313
Water capacity fees	9,730	8,859
Sewer	260,606	264,469
Sewer capacity fees	18,268	15,916
Investment income	7,097	6,793
Other (1)	11,831	9,560
Plus: amounts paid from the Rate Stabilization Fund into the Revenue Fund	16,128	26,842
Less: amounts paid from the Revenue Fund into the Rate Stabilization Fund	(23,829)	(24,276)
Total revenues	471,047	489,476
Less: Operating and maintenance expenses(2)	160,122	152,007
Net revenues	$310,925	$337,469
Debt service on Water and Sewer System Bonds (prior to reduction of Build America Bonds subsidy)	$ 95,818	$ 97,669
Less: Build America Bonds subsidy	(2,495)	(2,500)
Debt service on Water and Sewer System Bonds	$ 93,323	$ 95,199
Debt service coverage on Water and Sewer System Bonds(3)	3.33x	3.54x
Net revenues (from above)	$310,925	$337,469
Debt service on Water and Sewer System Bonds (from above)	$ 93,323	$ 95,199
Plus: debt service on Subordinated Water and Sewer System Bonds	18,084	17,592
Debt service on Water and Sewer System Bonds and Subordinated Water and Sewer System Bonds	$111,407	$112,791
Debt service coverage on Water and Sewer System Bonds and Subordinated Water and Sewer System Bonds excluding capacity fees(4)	2.54x	2.77x
Debt service coverage on Water and Sewer System Bonds and Subordinated Water and Sewer System Bonds including capacity fees(4)	2.79x	2.99x

(1) Excludes the Build America Bonds subsidy.
(2) Excludes depreciation and recognition of deferred costs and revenues, net.
(3) Net revenues divided by debt service on Water and Sewer System Bonds. Minimum annual coverage is 1.25x.
(4) Net revenues divided by debt service on Water and Sewer System Bonds and Subordinated Water and Sewer System Bonds. Minimum annual coverage is either 1.0x debt service on Water and Sewer System Bonds and Subordinated Water and Sewer System Bonds (excluding capacity fees) or the sum of 1.0x debt service on Water and Sewer System Bonds and 1.20x debt service on Subordinated Water and Sewer System Bonds (including capacity fees).

Management's Discussion of Water and Sewer System Operations

Revenues. Water revenues decreased $10.1 million, or 5.6 percent, for the Fiscal Year ended September 30, 2018 as compared to the Fiscal Year ended September 30, 2017, primarily related to a 2.8 percent decrease in consumption, which was partially offset by a 2.1 percent increase in customer accounts. Sewer revenues (including reuse) decreased $3.9 million, or 1.5 percent, for the Fiscal Year ended September 30, 2018 as compared to the Fiscal Year ended September 30, 2017, primarily related to a 1.4 percent decrease in sewer sales, a 5.2 percent decrease in reuse sales which was partially offset by a 2.5 percent increase in sewer accounts and a 22.4 percent increase in reuse accounts.

Water sales volume, measured in thousands of gallons (kgals), decreased 1,058,629 kgals, or 2.8 percent, to 36,186,559 kgals for the Fiscal Year ended September 30, 2018 from 37,245,188 kgals for the Fiscal Year ended September 30, 2017. Sewer sales volume decreased 372,148 kgals, or 1.4 percent, to 26,340,622 kgals for the Fiscal Year ended September 30, 2018 from 26,712,770 kgals for the Fiscal Year ended September 30, 2017. Reuse sales volume decreased 170,572 kgals, or 5.2 percent, to 3,119,739 kgals for the Fiscal Year ended September 30, 2018 from 3,290,311 kgals for the Fiscal Year ended September 30, 2017.

Amounts paid from the rate stabilization fund into the revenue fund decreased $10.7 million, or 39.9 percent, primarily related to a withdrawal during the Fiscal Year ended September 30, 2017 from the debt management stabilization fund in order to legally defease certain Water and Sewer System Subordinated Revenue Bonds.

Operating and Maintenance Expenses. Operating and maintenance expenses increased $8.1 million, or 5.3 percent, for the Fiscal Year ended September 30, 2018 as compared to the Fiscal Year ended September 30, 2017, primarily related to a $4.7 million increase in professional services, industrial services and compensation, a $2.9 million increase in interfund charges and a $0.5 million net increase in miscellaneous other operating expenses.

Net Revenues. Net revenues available for debt service decreased $26.5 million, or 7.9 percent, to $311.0 million for the Fiscal Year ended September 30, 2018 from $337.5 million for the Fiscal Year ended September 30, 2017. Total revenues decreased $18.4 million, or 3.8 percent, and total operating expenses increased $8.1 million, or 5.3 percent, for the Fiscal Year ended September 30, 2018 as compared to the Fiscal Year ended September 30, 2017, as described above.

Debt Service on Water and Sewer System Bonds. Debt service on Water and Sewer System Bonds for the Fiscal Year ended September 30, 2018 decreased $1.9 million, or 2.0 percent, as compared to the Fiscal Year ended September 30, 2017, primarily related to lower interest as a result of the December 2017 bond refunding.

During the Fiscal Year ended September 30, 2018, JEA issued Water and Sewer System Bonds as summarized in the following table:

Series	Purpose	Month Issued	Par Amount Issued	Par Amount Refunded
2017 Series A	Refunding(1)	December 2017	$378,220,000	$394,335,000

(1) Fixed rate bonds issued to refund fixed rate bonds.

JEA did not issue any Water and Sewer System Bonds during the Fiscal Year ended September 30, 2017.

Debt Service Coverage on Water and Sewer System Bonds. The debt service coverage ratio on Water and Sewer System Bonds decreased to 3.33 times for the Fiscal Year ended September 30, 2018 as compared to the debt service coverage ratio of 3.54 times for the Fiscal Year ended September 30, 2017, as a result of the 7.9 percent decrease in net revenues available for debt service being proportionately greater than the 2.0 percent decrease in debt service on Water and Sewer System Bonds between such periods.

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Debt Service on Subordinated Water and Sewer System Bonds. Debt service on Subordinated Water and Sewer System Bonds increased $0.5 million, or 2.8 percent, for the Fiscal Year ended September 30, 2018 as compared to the Fiscal Year ended September 30, 2017, primarily related to higher principal amortization.

During the Fiscal Year ended September 30, 2018, JEA issued Subordinated Water and Sewer System Bonds as summarized in the following table:

Series	Purpose	Month Issued	Par Amount Issued	Par Amount Refunded
2017 Series A	Refunding(1)	December 2017	$58,940,000	$65,970,000

(1) Fixed rate bonds issued to refund fixed rate bonds.

JEA did not issue any Subordinated Water and Sewer System Bonds during the Fiscal Year ended September 30, 2017.

Debt Service Coverage on Water and Sewer System Bonds and Subordinated Water and Sewer System Bonds including capacity fees. The debt service coverage ratio on Water and Sewer System Bonds and Subordinated Water and Sewer System Bonds decreased to 2.79 times for the Fiscal Year ended September 30, 2018 as compared to the debt service coverage ratio of 2.99 times for the Fiscal Year ended September 30, 2017, as a result of the 7.9 percent decrease in net revenues available for debt service being proportionately greater than the 1.2 percent decrease in debt service on Water and Sewer System Bonds and Subordinated Water and Sewer System Bonds between such period.

Liquidity Resources

The Days of Cash on Hand for the Water and Sewer System at September 30, 2018 was 434 days, and the Days of Liquidity was 529 days. The Days of Cash on Hand for the Water and Sewer System at September 30, 2017 was 496 days, and the Days of Liquidity was 596 days. The Days of Cash on Hand computation is as follows:

(*Cash and cash equivalents* and *Investments* amounts under *Current assets* on the Combining Statement of Net Position + *Renewal and Replacement Fund* balance referenced in Note 4 of the JEA Financial Statements attached hereto as APPENDIX C) / ((*Total operating expenses - Depreciation + Contributions to General Fund, City of Jacksonville, Florida*) / 365 days).

The Days of Liquidity computation is as follows:

(*Cash and cash equivalents* and *Investments* amounts under *Current assets* on the Combining Statement of Net Position + *Renewal and Replacement Fund* balance referenced in Note 4 of the JEA Financial Statements attached hereto as APPENDIX C + allocated share of available Revolving Credit Facility*) / ((*Total operating expenses - Depreciation + Contributions to General Fund, City of Jacksonville, Florida*) / 365 days).

* Allocated share of available Revolving Credit Facility at September 30, 2018 was approximately $49.6 million and approximately $51.3 million at September 30, 2017; however, total available balance of $297 million could have been drawn.

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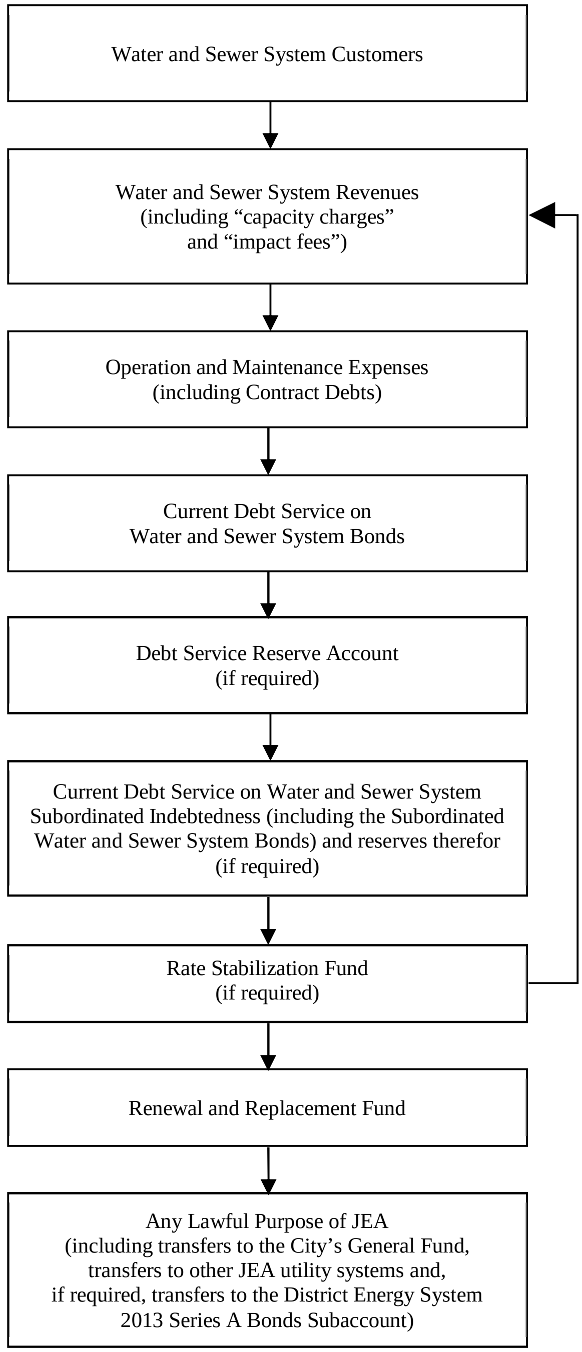
APPLICATION OF WATER AND SEWER SYSTEM REVENUES

The following chart shows a summary of the major components of the application of revenues under the Water and Sewer System Resolution.



DISTRICT ENERGY SYSTEM

DISTRICT ENERGY FUNCTIONS

General

The District Energy System provides chilled water to customers for air-conditioning. The facilities for the chilled water business consist of chilled water plants to generate chilled water and underground piping to distribute the chilled water to buildings located within the respective districts served by the plants and certain ancillary equipment. JEA's first chilled water facility became fully operational in March 2003.

The establishment of the District Energy System was approved by the Jacksonville City Council in September 2004. Effective as of October 1, 2004, the District Energy System was established as a separate utility system for its local district energy facilities, including the chilled water activities, and any local district heating facilities JEA may develop in the future. Since its commencement of operations, JEA has added three new chilled water facilities.

Chilled Water Facilities

Chilled water systems air condition buildings by circulating cold water in a continuous flow to the building. A central chilled water plant provides chilled water to buildings through an underground loop, rather than the customer installing and operating its own chiller equipment. JEA has entered into agreements with the City to provide chilled water systems to the baseball park, the arena, the Duval County Courthouse, the library and other government buildings. JEA also has contracts with private entities to serve institutional buildings and residential condominiums.

JEA's first chilled water facility, the Hogan's Creek Plant, located on Hogan Street in downtown Jacksonville, became fully operational in March 2003. At this time, the plant is serving the Baseball Grounds of Jacksonville (310 ton contract demand) and the Jacksonville Veteran's Memorial Arena (2,350 ton contract demand). The facility includes three 2,100 ton chillers, two 1,700 ton cooling towers and a one million gallon chilled water storage tank for peak demand capacity.

A second chilled water facility located on Duval Street serves five City of Jacksonville buildings including the Court House, State Attorney's Office, Library, City Hall Annex and a City garage for a total contract demand of 5,870 tons. The plant also serves the JEA downtown complex with a demand of 700 tons. The facility includes three 2,400 ton chillers, one 800 ton standby chiller and a 7,200 ton cooling tower.

JEA's third chilled water facility is located at 2103 Boulevard Avenue in the Springfield neighborhood. The Springfield facility currently serves eight locations on the UF Health Jacksonville complex. The total contracted demand for the facility is 6,500 tons. The facility includes six 1,500 ton chillers, an 8,100 ton cooling tower and a 3,000 ton cooling tower. The second cooling tower was added in 2018.

A fourth chilled water facility is located on Riverplace Boulevard with two 400 ton air-cooled chillers. The total contracted demand is 594 tons at this facility, and there are no plans to pursue other customers for this facility.

Customers and Sales

The District Energy System currently has contracts to provide 17 locations with chilled water. Total District Energy System sales revenues for the Fiscal Year Ended September 30, 2018 were approximately $8,756,000.

Customer Billing Procedures

Customers are billed on a cycle basis approximately once per month. If the customer has not paid a bill within 42 days after the initial bill date, JEA may discontinue service to that customer. Customers who meet JEA's credit criteria are not assessed a deposit. Customers who do not meet JEA's credit criteria, or do not maintain a good payment record, are assessed a deposit which may vary with consumption. A late payment fee of 1.5 percent is assessed to customers for past due balances in excess of 27 days.

Rates

District Energy System revenues are derived from two basic types of charges: (a) a demand charge based upon the customer's estimated expected yearly cooling load requirements and (b) a consumption charge based upon the actual amount of chilled water consumed by the customer. JEA has sole discretion to set rate levels and revenue requirements for the District Energy System.

Standard rates for chilled water services are based on the customer's demand and consumption of chilled water and a standard 2,400 Equivalent Full Load Hour ("EFLH") profile. EFLH is defined as the annual ton-hours of chilled water required divided by the chiller's design capacity in tons.

The following schedule reflects the rates for chilled water service:

Contract Size	**Charge**	**Rate Effective on December 1, 2016**	**Rate Effective on February 1, 2016**	**Rate Effective on October 1, 2015**	**Rate Effective on July 1, 2012**
> 200 tons @ ≤ 2,400 EFLH	Demand Charge Consumption Charge	\$20.00/ ton \$0.10569/ ton-hour	\$20.00/ ton \$0.10973/ ton-hour	\$20.00/ ton \$0.11624/ ton-hour	\$20.00/ ton \$0.11754/ ton-hour
> 200 tons @ > 2,400 EFLH	Demand Charge Consumption Charge	\$20.00/ ton \$0.08869/ ton-hour	\$20.00/ ton \$0.09273/ ton-hour	\$20.00/ ton \$0.09924/ ton-hour	\$20.00/ ton \$0.10054/ ton-hour
< 200 tons @ ≤ 2,400 EFLH	Demand Charge Consumption Charge	NONE \$0.19569/ ton-hour	NONE \$0.19973/ ton-hour	NONE \$0.20624/ ton-hour	NONE \$0.20754/ ton-hour
< 200 tons @ > 2,400 EFLH	Demand Charge Consumption Charge	NONE \$0.08869/ ton-hour	NONE \$0.09273/ ton-hour	NONE \$0.09924/ ton-hour	NONE \$0.10054/ ton-hour

Permits, Licenses and Approvals

All permits, licenses and approvals required for the operation of all of the District Energy System facilities have been obtained, and all of the facilities are operating in compliance with such permits, licenses and approvals.

Capital Program

The District Energy System's capital program consists of capital requirements for renewal and replacement and improvements to existing facilities. The District Energy System's projected capital program for the five-year period ending September 30, 2023 is summarized below.

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District Energy System Capital Program
(000's omitted)

Fiscal Year Ending September 30,	Amount
2019	$ 3,070
2020	1,350
2021	1,780
2022	1,350
2023	1,350
Total	$8,900

The total amount of the capital program for the Fiscal Years 2019 through 2023 is estimated to be approximately $8.9 million, which includes approximately $2.5 million for a new backup power generator at the Springfield facility. This facility primarily serves the UF Health Jacksonville medical campus. JEA expects the total amount required for the capital program will be derived from revenues and other available funds of the District Energy System.

FINANCIAL INFORMATION RELATING TO DISTRICT ENERGY SYSTEM

Debt Relating to the District Energy System

District Energy System Bonds

As of September 30, 2018, $36,485,000 in aggregate principal amount of bonds (the "District Energy System Bonds") issued pursuant to the resolution of JEA adopted on June 15, 2004, as amended and supplemented (the "District Energy System Resolution") was outstanding. As of the date of this Annual Disclosure Report, there is $34,825,000 in aggregate principal amount of District Energy System Bonds outstanding under the District Energy System Resolution.

District Energy System Bonds may be issued to finance any lawful purpose of JEA relating to the District Energy System. See "SUMMARY OF CERTAIN PROVISIONS OF THE DISTRICT ENERGY SYSTEM RESOLUTION - Additional Bonds" in APPENDIX D attached hereto.

Pursuant to the District Energy System Resolution and the laws of the State of Florida, the amount of District Energy System Bonds that may be issued by JEA is not limited and is subject only to approval by the Council and satisfaction of the conditions set forth in the District Energy System Resolution.

Pursuant to a previous Council approval, JEA currently is authorized to issue additional District Energy System Bonds for the purpose of financing the costs of additions, extensions and improvements to the District Energy System in such principal amount as shall provide JEA with "net proceeds" (defined as principal amount, less original issue discount, less underwriters' discount, less costs of issuance) of approximately $54,321,245. JEA expects that such authorization will be adequate to enable JEA to maintain its District Energy System capital improvement program as projected through the Fiscal Year ending September 30, 2023. See "DISTRICT ENERGY SYSTEM - *DISTRICT ENERGY SYSTEM FUNCTIONS* - Capital Program" herein. In the future, JEA will continue to seek authorization as needed from the Council to issue additional District Energy System Bonds in order to enable it to finance its District Energy System capital program.

JEA also has received approvals from the Council for the issuance of District Energy System Bonds for the purpose of refunding outstanding District Energy System Bonds. JEA may issue additional District Energy System Bonds to refund outstanding District Energy System Bonds from time to time as it deems economical or advantageous.

A summary of certain provisions of the District Energy System Resolution is attached to this Annual Disclosure Report as APPENDIX D.

District Energy System Contract Debts

Contract Debts, a component of the District Energy System's Operation and Maintenance Expenses, is defined by the District Energy System Resolution to mean any obligations of JEA under a contract, lease, installment sale agreement, bulk purchase agreement or otherwise to make payments out of Revenues for property, services or commodities whether or not the same are made available, furnished or received. JEA has not incurred any obligations constituting Contract Debts under the District Energy System Resolution, but it may do so in the future. All Contract Debts will be payable from the Revenues of the District Energy System prior to any payments from such Revenues for indebtedness not constituting Contract Debt issued for the District Energy System, including the District Energy System Bonds.

Schedules of Debt Service Coverage

The following table sets forth Schedules of the Debt Service Coverage for the District Energy System for the years ended September 30, 2018 and September 30, 2017, respectively. Such Schedules of Debt Service Coverage were derived from supplemental information included with JEA's 2018 Financial Statements and certain other information available to JEA. Such Schedules of Debt Service Coverage should be read in conjunction with such financial statements and the notes thereto.

JEA did not issue any District Energy System Bonds during the Fiscal Year ended September 30, 2018.

JEA District Energy System Schedules of Debt Service Coverage
(000's omitted)

	Fiscal Year ended September 30, 2018	Fiscal Year ended September 30, 2017
Revenues:		
Services revenues	$8,756	$8,692
Investment income	103	45
Total revenues	8,859	8,737
Less: Operating expenses[1]	4,603	4,570
Net revenues	$4,256	$4,167
Aggregate debt service	$3,019	$3,022
Debt service coverage[2][3]	1.41x	1.38x

(1) Excludes depreciation.
(2) On June 19, 2013, the closing date of the District Energy System Refunding Revenue Bonds, 2013 Series A, JEA covenanted to deposit into the 2013 Series A Bonds Subaccount from Available Water and Sewer Revenues an amount equal to the Aggregate DES Service Deficiency that exists with respect to the 2013 Series A Bonds, in the event that the amount on deposit in the Debt Service Account in the Debt Service Fund in accordance with the District Energy System Resolution is less than Accrued Aggregate Debt Service as of the last Business Day of the then current month.
(3) Net Revenues divided by aggregate debt service. Minimum annual coverage is 1.15x.

Management's Discussion of District Energy System Operations

Revenues. Total revenues increased $0.12 million, or 1.4 percent, to $8.86 million for the Fiscal Year ended September 30, 2018 compared to the Fiscal Year ended September 30, 2017.

Operating Expenses. Operating expenses increased $0.03 million, or 0.7 percent, to $4.60 million for the Fiscal Year ended September 30, 2018 compared to the Fiscal Year ended September 30, 2017.

Net Revenues. Net revenues increased $0.09 million, or 2.1 percent, to $4.26 million for the Fiscal Year ended September 30, 2018 from $4.17 million for the Fiscal Year ended September 30, 2017, primarily related to the increase in total revenues offset, in part, by the increase in operating expenses.

Aggregate Debt Service on District Energy System Bonds. Aggregate Debt Service on District Energy System Bonds for the Fiscal Year ended September 30, 2018 remained relatively unchanged as compared to the Fiscal Year ended September 30, 2017.

Debt Service Coverage on District Energy System Bonds. The debt service coverage ratio on District Energy System Bonds increased slightly to 1.41 times for the Fiscal Year ended September 30, 2018 as compared to the debt service coverage ratio of 1.38 times for the Fiscal Year ended September 30, 2017 as a result of the 2.1 percent increase in net revenues available for debt service and the relatively unchanged aggregate debt service on District Energy System Bonds between such periods.

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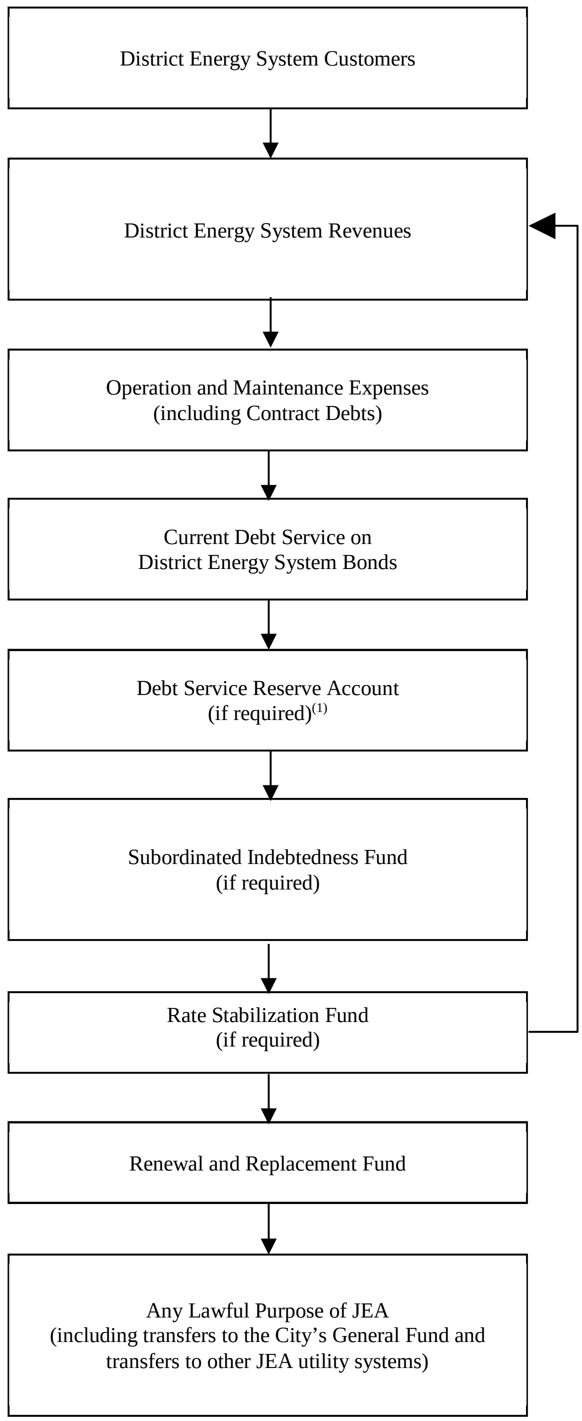
APPLICATION OF DISTRICT ENERGY SYSTEM REVENUES

The following chart shows a summary of the major components of the application of revenues under the District Energy System Resolution.



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(1) Revenues of the Water and Sewer System shall be deposited into a special subaccount in the Debt Service Reserve Account (the "2013 Series A Bonds Subaccount") established for the DES 2013 Series A Bonds and pledged to pay debt service on the DES 2013 Series A Bonds in the event that revenues of the District Energy System are insufficient to pay debt service on such DES 2013 Series A Bonds.

OTHER FINANCIAL INFORMATION

General

JEA maintains separate accounting records for the Water and Sewer System and the District Energy System. For purposes of financial reporting, however, JEA prepares combined financial statements that include the Electric System, the Bulk Power Supply System, JEA's interest in the Power Park[(1)], the Water and Sewer System and the District Energy System. Set forth in APPENDIX A hereto are (a) the financial statements of JEA for its Fiscal Year 2018 (which consist of the statement of net position of JEA as of September 30, 2018 and the related statement of revenues, expenses, and changes in net position and cash flows for the year then ended and the notes thereto; such financial statements are hereinafter referred to as "JEA's 2018 Financial Statements"), together with the report of Ernst & Young LLP, independent auditors, on such financial statements, (b) certain supplemental data as of September 30, 2018 and for the year then ended (which consist of the combining statement of net position, the combining statement of revenues, expenses, and changes in net position and the combining statement of cash flows) and (c) certain statements of bond compliance information (which consist of schedules of debt service coverage for the year ended September 30, 2018 for the Electric System, the Bulk Power Supply System, JEA's interest in the Power Park, the Water and Sewer System and the District Energy System), together with the report of Ernst & Young LLP, independent auditors, on such schedules. All such statements, information, data and schedules should be read in conjunction with the notes to JEA's 2018 Financial Statements, which are an integral part of the financial statements.

The assets reflected in the statement of net position included in JEA's 2018 Financial Statements include all of the assets of the Water and Sewer System, Electric System, the Bulk Power Supply System, JEA's interest in the Power Park and the District Energy System, and the liabilities reflected in such statement of net position include, among other things, the Water and Sewer System Bonds, the Subordinated Water and Sewer System Bonds, the Electric System Bonds, the Subordinated Electric System Bonds, the Power Park Issue Three Bonds, the Additional Bulk Power Supply System Bonds and the District Energy System Bonds. The statement of revenues, expenses, and changes in net assets include all expenses (*e.g.*, interest charges, operating and maintenance expenses, fuel expenses) of the Water and Sewer System, the Electric System, the Bulk Power Supply System, JEA's interest in the Power Park and the District Energy System.

Except as described under the caption "INTRODUCTION - General" herein, for financing purposes, the debt of JEA relating to the Electric Utilities Functions, the debt of JEA relating to its Water and Sewer System and the debt of JEA relating to the District Energy System are payable from and secured by separate revenue sources (*i.e.*, (a) the debt of JEA relating to its Electric Utility Functions is payable from and secured by the revenues derived by the Electric System from the sale of electricity and related services; (b) the debt of JEA relating to the Water and Sewer System is payable from and secured by the revenues derived by the Water and Sewer System from the sale of water and the provision of wastewater treatment and related services; and (c) except as described under the caption "WATER AND SEWER SYSTEM - *FINANCIAL INFORMATION RELATING TO WATER AND SEWER SYSTEM FUNCTIONS* - Debt Relating to Water and Sewer System Functions - *Water and Sewer System Support of the District Energy System Bonds*" herein, the debt of JEA relating to the District Energy System is payable from and secured by the revenues derived by the District Energy System from the sale of chilled water and related services). Accordingly, potential purchasers of the Water and Sewer System and District Energy System Bonds are advised that the information in JEA's 2018 Financial Statements relating to JEA's Electric System is not relevant to a decision to purchase the Water and Sewer System and District Energy System Bonds.

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(1) The Power Park ceased operations on January 5, 2018.

Transfers to the City

The Charter currently provides that, as consideration for the unique relationship between the City and JEA, there shall be assessed upon JEA in each Fiscal Year, for the uses and purposes of the City, from the revenues of the Electric System and Water and Sewer System operated by JEA available after the payment of all costs and expenses incurred by JEA in connection with the operation of the Electric System and the Water and Sewer System (including, without limitation, all costs of operation and maintenance, debt service on all obligations issued by JEA in connection with such Electric System and the Water and Sewer System and required reserves therefor and the annual deposit to the depreciation and reserve account required pursuant to terms of the Charter), an amount that is periodically negotiated by JEA and the City. The City's annual assessment of JEA does not include assessments pertaining to the District Energy System. The Charter provides that the Council may reconsider the assessment calculations every five years; however, pursuant to the Charter, the Council may also revise the assessments at any time by amending the Charter with a two-thirds vote of the Council. From time to time, proposals have been made, and may be made in the future, to increase the amount of the City's annual assessment on JEA.

Effective October 1, 2008, JEA is required to pay to the City a combined assessment for the Electric System and the Water and Sewer System and this combined assessment has been set forth in the Charter.

JEA and the City reached agreement on amendments ("2016 Amendments") to the Charter which affect the amount of the combined assessment that JEA is required to pay to the City. The 2016 Amendments were set forth in Ordinance 2015-764, were approved by the Council on March 8, 2016 and took effect on March 10, 2016. The 2016 Amendments set forth the combined assessment from fiscal year 2016-2017 through fiscal year 2020-2021. JEA and the City reached agreement on additional amendments ("2019 Amendments," and together with the 2016 Amendments, the "Charter Amendments") to the Charter set forth in Ordinance 2018-747, enacted by the Council on February 12, 2019, which set forth the combined assessment from fiscal year 2021-2022 through fiscal year 2022-2023. The Charter Amendments provide that effective October 1, 2016, the combined assessment for the Electric System and the Water and Sewer System will be equal, but not exceed the greater of (A) the sum of (i) the amount calculated by multiplying 7.468 mills by the gross kilowatt hours delivered by JEA to retail users of electricity in JEA's service area and to wholesale customers under firm contracts having an original term of more than one year (other than sales of energy to FPL from JEA's St. Johns River Power Park System) during the 12-month period ending on April 30 of the Fiscal Year immediately preceding the Fiscal Year for which such assessment is applicable, plus (ii) the amount calculated by multiplying 389.20 mills by the number of kgals (1000 gallons) potable water and sewer service, excluding reclaimed water service, provided to consumers during the 12-month period ending on April 30 of the Fiscal Year immediately preceding the Fiscal Year for which such assessment is applicable or (B) a minimum calculated amount which increases by 1% per year from fiscal year 2016-2017 through fiscal year 2020-2021 using the fiscal year 2015-16 combined assessment of $114,187,538 as the base year. The amounts applicable to clause (B) above are: for fiscal year 2016-2017 - $115,329,413; for fiscal year 2017-2018 - $116,482,708; for fiscal year 2018-2019 - $117,647,535; for fiscal year 2019-2020 - $118,824,010; and for fiscal year 2020-2021 - $120,012,250; for fiscal year 2021-2022 - $121,212,373; and for fiscal year 2022-2023 - $122,424,496. A "mill" is one one-thousandth of a U.S. Dollar. The Charter Amendments provide that the amended assessment calculations for the electric system and the water and sewer system shall be in effect until September 30, 2023 and that the Council may reconsider the assessment calculations after October 1, 2022 and changes, if any, shall become effective October 1, 2023. As provided in the Charter, the Council may change the assessment calculation by ordinance within the provisions of the relevant section of the Charter. The Charter Amendments contemplate that in the event the Council does not reconsider the assessment calculations, the assessments shall be calculated using the existing formulas specified in the Charter, including a minimum calculated amount in clause (B) therein, which increases by one percent per year for each fiscal year computed as provided in the Charter.

In addition to the changes to the annual assessment, the 2016 Amendments provide that JEA, pursuant to the terms of an Interagency Agreement with the City (the "Interagency Agreement"), agrees to provide total nitrogen water quality credit to the City to assist the City in meeting its Basin Management Action Plan load reduction goal ("BMAP Credit"). The 2016 Amendments provide that if JEA cannot provide the BMAP Credit pursuant to the terms of the Interagency Agreement, the Council and JEA shall work cooperatively to address the BMAP Credit shortfall or the Council may reconsider the assessment calculations. The 2019 Amendments provide that JEA, pursuant to amended terms of the Interagency Agreement, agrees to transfer additional future BMAP Credits to the City.

In recognition of the 2016 Amendments to the Charter as described above, JEA paid to the City an additional one-time contribution in the Fiscal Year ending September 30, 2016 of $15,000,000 (the "2016 Additional Contribution"). The City has committed to use the 2016 Additional Contribution for City water and sewer infrastructure projects. Pursuant to the 2019 Amendments, JEA paid to the City an additional one-time contribution in the Fiscal Year ending September 30, 2019 of $15,155,000 (the "2019 Additional Contribution"). The City intends to use $15,000,000 of the 2019 Additional Contribution for City water and sewer infrastructure projects and $155,000 for river level monitoring equipment.

The portion of the budgeted aggregate assessment calculated with respect to the Electric System has increased from approximately $91,471,795 for the Fiscal Year ended September 30, 2018 to $92,952,147 for the Fiscal Year ending September 30, 2019. While the Charter requires JEA to pay the JEA assessment to the City at such times as the City requests, but not in advance of collection, the Ordinance Code of the City requires JEA to pay the JEA assessment on a monthly basis. Pursuant to Section 21.07(f) of the Charter, although the calculation of the amounts assessed upon JEA pursuant to the Charter and the annual transfer of available revenues from JEA to the City pursuant to the Charter are based on formulas that are applied specifically to the respective utility systems operated by JEA, JEA may, in its discretion, determine how to allocate the aggregate assessment between the Electric System and the Water and Sewer System, and the aggregate assessment may be paid from any available revenues of JEA.

In addition, the Charter provides that the Council shall have the power to appropriate annually a portion of the available revenues of each utility system operated by JEA (other than electric, water and sewer systems) for the uses and purposes of the City in an amount to be based on a formula to be agreed upon by JEA and the Council.

The Charter imposes a monthly Franchise Fee which JEA was required to pay to the City commencing June 1, 2008 for revenues derived effective April 1, 2008 in an amount initially equal to three percent (and not to exceed six percent, with increases requiring a request by the Mayor of the City and a two-thirds supermajority vote by the Council) of the revenues of the Electric System derived within Duval County other than the beach communities and the Town of Baldwin and subject to a per customer maximum. The Charter authorizes JEA to pass through the amount of the Franchise Fee to the customers of JEA, which JEA does. As a result, the Franchise Fee has no effect on JEA's net revenues.

Effect of JEA Credit Rating Changes

General

JEA has entered into certain agreements that contain provisions giving counterparties certain rights and options in the event of a downgrade in JEA's credit ratings below specified levels, which provisions commonly are referred to as "ratings triggers."

The table below sets forth the current ratings and outlooks for JEA's Water and Sewer System Bonds and Subordinated Water and Sewer System Bonds, without giving effect to any third-party credit enhancement. Given JEA's current levels of ratings, JEA's management does not believe that the ratings triggers contained in any of its existing agreements will have a material adverse effect on its results of operations or financial condition. However, JEA's ratings reflect the views of the rating agencies and not of JEA, and therefore JEA cannot give any assurance that its ratings will be maintained at current levels for any period of time.

	Fitch Ratings	Moody's	S&P
Outstanding Water and Sewer System Bonds	AA (stable)	A2 (negative)	AAA (stable)
Outstanding Subordinated Water and Sewer System Bonds	AA (stable)	A2 (negative)	AA+ (stable)

Liquidity Support for JEA's Variable Rate Bonds

In particular, JEA has entered into a credit agreement, standby bond purchase agreements and letter of credit reimbursement agreement with certain commercial banks in order to provide liquidity support in connection with tenders for purchase of the Senior Liquidity Supported Water and Sewer Bonds and the Subordinated Liquidity Supported Water and Sewer Bonds (collectively the "Liquidity Supported Bonds"). As of the date of this Annual Disclosure Report, there is $137,110,000 in aggregate principal amount of Senior Liquidity Supported Water and Sewer Bonds outstanding and $105,335,000 in aggregate principal amount of Subordinated Liquidity Supported Water and Sewer Bonds outstanding. The standby bond purchase agreements and reimbursement agreements, as applicable, relating to the Liquidity Supported Bonds provide that any of such Liquidity Supported Bonds that are purchased by the applicable bank pursuant to its standby bond purchase agreement or letter of credit, as applicable, may be tendered or deemed tendered to JEA for payment upon the occurrence of certain "events of default" with respect to JEA under such standby bond purchase agreement or such reimbursement agreement, as applicable. Upon any such tender or deemed tender for purchase, such Liquidity Supported Bonds so tendered or deemed tendered will be due and payable immediately.

In general, the credit agreement and each standby bond purchase agreement and reimbursement agreement, as applicable, provides that it is an event of default on the part of JEA thereunder if the long-term ratings on the Liquidity Supported Bonds to which the credit agreement or such standby bond purchase agreement or such reimbursement agreement, as applicable, relates, without giving effect to any third-party credit enhancement, fall below "BBB-" by Fitch Ratings, "Baa3" by Moody's Investors Service ("Moody's") and / or "BBB-" by Standard & Poor's, a business of Standard & Poor's Financial Services LLC, a limited liability company, organized and existing under the laws of the State of Delaware ("S&P"), or are suspended or withdrawn (generally for credit-related reasons).

Interest Rate Swap Transactions

From time to time, JEA enters into interest rate swap transactions pursuant to both its debt management policy (see "Debt Management Policy" below) and its investment policies (see "Investment Policies" below), which interest rate swap transactions may be for the account of the Water and Sewer System. JEA had interest rate swap transactions outstanding under interest rate swap master agreements with four different counterparties in an aggregate notional amount of $522,470,000 as of September 30, 2018, of which $115,660,000 were for the account of the Water and Sewer System. For additional information concerning those interest rate swap transactions, see (a) "Debt Management Policy" below, (b) "Investment Policies" below and (c) Notes 1(k) and 8 to JEA's 2018 Financial Statements set forth in APPENDIX A attached hereto.

Under each master agreement, the interest rate swap transactions entered into pursuant to that master agreement are subject to early termination upon the occurrence and continuance of certain "events of default" and upon the occurrence of certain "termination events." One of such "termination events" with respect to JEA is a suspension or withdrawal of certain credit ratings with respect to JEA or a downgrade of such ratings to below the levels set forth in the master agreement or in the confirmation related to a particular interest rate swap transaction. Upon any such early termination of an interest rate swap transaction, JEA may owe to the counterparty a termination payment, the amount of which could be substantial. The amount of any such potential termination payment would be determined in the manner provided in the applicable master agreement and would be based primarily upon market interest rate levels and the remaining term of the interest rate swap transaction at the time of termination. In general, the ratings triggers on the part of JEA contained in the master agreements range from (x) below "BBB" by S&P and below "Baa2" by Moody's to (y) below "A-" by S&P and below "A3" by Moody's.

Additionally, the master agreement between JEA and Merrill Lynch Derivative Products AG ("MLDP") for the account of the Water and Sewer System contains an automatic transfer provision triggered by a certain rating downgrade or downgrades, as applicable, of JEA or Merrill Lynch Derivative Products AG. Under certain circumstances if the rating on JEA's senior lien Water and Sewer System Bonds or the long-term, unsecured, unsubordinated debt rating or financial program rating of Merrill Lynch Derivative Products AG were to fall below the double-A category, all rights and obligations of Merrill Lynch Derivative Products AG under the master agreement and all transactions under the master agreement would be automatically assigned and delegated to Merrill Lynch Capital Services, Inc. ("MLCS"). MLCS has entered into an agreement with JEA to cause a guarantee from Merrill Lynch & Co. to be delivered to JEA after the assignment occurs and such guarantee will guarantee the payments of MLCS under the master agreement to JEA. S&P downgraded MLDP to "A+" on August 5, 2013, triggering the assignment to MLCS and the Merrill Lynch & Co. guarantee described above.

As of September 30, 2018, JEA's estimated aggregate exposure under all of its then outstanding interest rate swap transactions (*i.e.,* the net amount of the termination payments that JEA would owe to its counterparties if all of the interest rate swap transactions were terminated) was $86,356,000, of which $16,253,000 was attributable to interest rate swap transactions entered into for the account of the Water and Sewer System. As of March 31, 2019, JEA's estimated aggregate exposure under all of its then outstanding interest rate swap transactions was $112,315,000, of which $22,544,000 was attributable to interest rate swap transactions entered into for the account of the Water and Sewer System.

In connection with the issuance or proposed issuance of certain of JEA's bonds, JEA has entered into various floating-to-fixed rate interest rate swap transactions for the account of the Water and Sewer System. These swap transactions are entered into with various providers and are otherwise described in the table below.

Related Bonds	Counterparty	Initial Notional Amount	Notional Amount as of March 31, 2019	Fixed Rate of Interest	Variable Rate Index(1)	Termination Date(2)
Water and Sewer System Revenue Bonds, 2006 Series B	Morgan Stanley Capital Services, Inc.	$38,730,000	$24,850,000	3.99-4.09%	CPI Index	10/1/2019 to 10/1/2022
Variable Rate Water and Sewer System Revenue Bonds, 2008 Series B	Merrill Lynch Capital Services, Inc.	$85,290,000	$85,290,000	3.895%	BMA Municipal Swap Index	10/1/2041

(1) The BMA Municipal Swap Index is now known as the SIFMA Municipal Swap Index.
(2) Unless earlier terminated.

Debt Management Policy

JEA's debt management policy applies to all current and future debt and related hedging instruments issued by JEA. The policy is designed to provide both broad policy guidance and facilitate management, control and oversight of JEA's debt function, thus fostering ongoing access to the capital markets in order to fund future capital projects of JEA.

The counterparties with whom JEA may deal must meet the requirements for counterparties described under the caption "Investment Policies" below. The policy requires JEA staff to submit to the JEA Board an annual plan of finance, which will address, at a minimum, the amount of debt projected to be issued during the next Fiscal Year, whether such debt is senior or subordinated, whether such debt is fixed or variable, and whether any hedging instruments may be utilized. Under the policy, JEA's net variable rate debt will not exceed 30 percent of total debt and JEA's net variable rate debt plus net fixed-to-floating interest rate swaps will not exceed 55 percent of total debt. "Net variable rate debt" is actual variable rate debt minus net variable rate assets. "Net variable rate assets" is actual variable rate assets minus the notional amount of investment/asset-matched interest rate swaps. "Net fixed-to-floating interest rate swaps" is the aggregate notional amount of fixed-to-floating swaps maturing in 10 years or less minus the aggregate notional amount of floating-to-fixed swaps maturing in 10 years or less outstanding on the last day of each month. "Total debt" equals fixed rate debt plus variable rate debt. "Variable rate assets" are investments maturing in less than one year. "Variable rate debt" is actual variable rate debt outstanding less variable rate debt that is associated with a floating-to-fixed rate swap where the term of the swap matches the term of the variable rate debt. The percentages are to be computed monthly.

JEA's fixed rate debt, variable rate debt and debt-related hedging instruments are to be managed in conjunction with investment assets and investment-related hedging instruments to incorporate the natural occurrence of hedging impacts in those balance sheet categories. The purpose is to use each side of the balance sheet to mitigate or hedge cash flow risks posed by the other side of the balance sheet.

The policy creates procedures to be followed in conjunction with the issuance of fixed rate debt, variable rate debt and debt refundings. Beginning in the Fiscal Year ended September 30, 2010, deposits were made to the Rate Stabilization Fund for the Debt Management Strategy Reserve and reflect the difference in the actual interest rates for interest expense on the unhedged variable rate debt as compared to the budgeted assumptions for interest expense on the unhedged variable rate debt. At a minimum, 50 percent of the calculated reserve will be recorded and deposited each fiscal year. An additional amount, up to the full value of the calculated reserve (the remaining 50 percent), will be reviewed by the Debt and Investment Committee and recorded at their option. However, the amount deposited to the Rate Stabilization Fund (in addition to actual debt service costs for the fiscal year) cannot exceed the total amount of the budgeted debt service. The reserve will be calculated on a system by system basis; however, based on the calculation, any mandatory deposit will exclude the District Energy System. The reserve is capped at five percent of the par amount of the total outstanding variable rate debt. Withdrawals from the Debt Management Strategy Stabilization Fund for debt management strategy can be used for any lawful purpose including debt service, debt repayment, and capital outlay and must be approved in writing by the Managing Director and Chief Executive Officer. Under JEA's pricing policy, withdrawals from the Debt Management Strategy Stabilization Fund are limited to expenses related to market disruption in the capital markets, disruption in availability of credit or unanticipated credit expenses, or to fund variable interest costs in excess of budget. Any amounts withdrawn for these costs will subsequently be presented for approval by the Board.

The policy establishes a framework for JEA's utilization of hedging instruments including interest rate swaps and caps and collars. The utilization of hedging instruments offers JEA a cost effective alternative to traditional debt financing choices. JEA is authorized to enter into floating-to-fixed rate swaps, fixed-rate-to-floating rate swaps and basis swaps (*i.e.*, swaps which seek to manage the risk associated with the mismatch between two benchmarks used to set the indices utilized in an interest rate swap transaction). The percentage of variable rate exposure (the notional amount of net fixed-to-floating interest rate swaps and net variable rate debt outstanding) to total debt outstanding may not exceed 55 percent. The notional amount of interest rate swaps, caps, collars and related hedging instruments is limited to the amount approved by the JEA Board from time to time.

Interest rate caps and related hedging instruments are to be utilized to help JEA manage interest rate risk in its debt management program. Generally, a fixed-to-floating interest rate swap will have an associated interest rate cap for the same notional amount at a level no greater than 200 basis points above the interest rate swap fixed rate. It is also contemplated that an interest rate cap will not always have the same maturity as the interest swap with which it is associated. The average life of the aggregate of outstanding caps will not be less than 75 percent of the average life of the associated aggregate swaps.

The policy sets out various decision rules which govern the decision to execute various hedging instruments. Valuations are performed on a quarterly basis and adjustments to fair value are included in JEA's financial statements.

The policy calls for no more than $500,000,000 of net interest rate swap and cap or other hedging instruments to be outstanding in the aggregate with any one provider or affiliate thereof. The aggregate amount of all "long dated" (greater than 10 years) transactions executed with financial institutions and all affiliates thereof, shall be limited to an amount based on the credit rating of the financial institution at the time of the entry into the long dated hedging transaction as shown below:

Rating Level	Notional Amount
AAA/Aaa by one or more rating agencies	$400,000,000
AA-/Aa3 or better by at least two rating agencies	300,000,000
A/A2 or better by at least two rating agencies	200,000,000
Below A/A2 by at least two rating agencies	0

The ratings criteria shown above apply either to the counterparty to the long dated transaction or, if the payment obligation of such counterparty under the relevant swap agreement shall be guaranteed by an affiliate thereof, such affiliate. The overall maximum by definition of the above limits cannot exceed $400,000,000 for long dated transactions.

These diversification requirements include all interest rate swap, cap and other hedging instruments JEA may utilize to manage interest rate risks including, but not limited to, debt management and 100 percent investment/asset-matched program. Interest rate swap and cap transactions are to be competitively bid (unless otherwise determined by the Managing Director and Chief Executive Officer) by at least three providers that have executed interest rate swap agreements with JEA.

Under the policy, an annual budgeted reserve contribution is to be made to a reserve fund. The contributions to the reserve fund will be funded in three equal installments of 1 percent of the notional amount beginning in the month the swap is executed. Once funded, the reserve fund shall at all times be not less than three percent of the notional amount of fixed-to-floating rate debt interest rate swaps outstanding, but can be used for any lawful purpose as approved by JEA's Managing Director and Chief Executive Officer.

The aggregate notional amount of all hedging instrument transactions entered into for the account of the Water and Sewer System outstanding at any one time, net of offsetting transactions, under all swap agreements is established at not to exceed (A) $600,000,000 in the case of interest rate swaps, (B) $250,000,000 in the case of basis swaps and (C) $400,000,000 in the case of caps and collars. A transaction that reverses an original transaction in every respect thereby offsetting the cashflows perfectly is referred to herein as an "offsetting transaction." Generally, in the past JEA has elected to receive or pay an upfront cash payment to reverse the original swap transaction. The phrase "net of offsetting transactions" would relate to reversals that remain on JEA's books if JEA elected not to take/make an upfront cash payment.

Investment Policies

The goals of JEA's investment policy are to (i) provide safety of capital, (ii) provide sufficient liquidity to meet anticipated cash flow requirements, and (iii) maximize investment yields while complying with the first two goals. Sound investment management practices help maintain JEA's competitive position since investment income reduces utility rates. JEA's funds are invested only in securities of the type and maturity permitted by its bond resolutions, Florida statutes, its internal investment policy and federal income tax limitations. JEA does not speculate on the future movement of interest rates and is not permitted to utilize debt leverage in its investment portfolio. Debt leverage is the practice of borrowing funds solely for the purpose of reinvesting the proceeds in an attempt to earn more income than the cost of the debt.

JEA invests its funds pursuant to Section 218.415, Florida Statutes, its various bond resolutions and its JEA Board-approved investment policy. As of September 30, 2018, 50 percent of JEA's total investment portfolio (including funds held under the Water and Sewer System Resolution, the Subordinated Water and Sewer System Resolution, the District Energy System Resolution, the Bulk Power Supply System Resolution, the Electric System Resolution, the Subordinated Electric System Resolution, the First Power Park Resolution and the Second Power Park Resolution) was invested in securities issued by the United States Government, federal agencies or state and local government entities and has a weighted average maturity of approximately 3.3 years. As of September 30, 2018, the remaining 50 percent of such investment portfolio was invested in commercial paper rated at least "A-1" and "P-1" by S&P and Moody's, respectively, having a weighted average maturity of less than 90 days, in money market mutual funds and in demand deposit bank accounts. JEA's funds that are invested in commercial paper, in money market mutual funds and in bank accounts are used primarily for operating expenses.

JEA has entered into securities lending agreements in the past wherein from time to time JEA loaned certain securities in exchange for eligible collateral consisting of United States Government and federal agency securities whose market values were at least 103 percent of the market values of the loaned securities which were re-priced daily. JEA earned a fee in connection with such securities lending agreements, which augmented its portfolio yield. Although JEA currently does not have any securities held pursuant to its securities lending program, JEA may enter into similar securities lending agreements in the future.

JEA previously implemented a strategy to lengthen synthetically the investment maturity of its short-term revolving funds by entering into 100 percent asset-matched interest rate swap transactions. Through the use of this strategy, JEA may lock-in a fixed rate of return for up to five years on those funds, such as debt service sinking funds, that it is permitted to invest only in short-term investment securities. As of September 30, 2018, JEA had, and as of the date of this Annual Disclosure Report, JEA has, no outstanding interest rate swap transactions for this purpose, although it may enter into interest rate swap transactions for this purpose in the future.

The JEA Board has established limits on the notional amount of JEA's interest rate swap transactions and standards for the qualification of financial institutions with whom JEA may enter into interest rate swap transactions. The counterparties with whom JEA may deal must be rated (i) "AAA/Aaa" by one or more nationally recognized rating agencies at the time of execution, (ii) "AA-/Aa3" or better by at least two of such credit rating agencies at the time of execution, or (iii) if such counterparty is not rated "A/A2" or better at the time of execution, ("AA-/Aa3" or better for interest rate swap transactions entered into prior to 2014), provide for a guarantee by an affiliate of such counterparty rated at least "A/A2" or better at the time of execution where such affiliate agrees to unconditionally guarantee the payment obligations of such counterparty under the swap agreement. In addition, swap agreements generally will require the counterparty to enter into a collateral agreement to provide collateral when (a) the ratings of such counterparty (or its guarantor) fall below "AA-/Aa3" by two rating agencies and (b) a termination payment would be owed to JEA.

JEA's payment obligations under the interest rate swap transactions consist of periodic payments based upon fluctuations in interest rates and, in the event of a termination of a transaction prior to the stated term thereof, potential termination payments. The amounts of such potential termination payments are based primarily upon market interest rate levels and the remaining term of the transaction at the time of termination. JEA is authorized to enter into both (a) interest rate swap agreements the obligations of JEA under which are payable from available funds of the Electric System ("Electric System Swap Agreements") and (b) interest rate swap agreements the obligations of JEA under which are payable from available funds of the Water and Sewer System ("Water and Sewer System Swap Agreements").

In the case of interest rate swap transactions entered into pursuant to Water and Sewer System Swap Agreements, JEA's payment obligations thereunder are payable following the payment of the operation and maintenance expenses of the Water and Sewer System, including any Contract Debts of the Water and Sewer System, debt service on Water and Sewer System Bonds, debt service on any Subordinated Indebtedness of the Water and Sewer System (including Subordinated Water and Sewer System Bonds) and the deposits to the Renewal and Replacement Fund established by the Water and Sewer System Resolution.

Interest rate swap transactions for the account of the Water and Sewer System may be entered into pursuant to either Water and Sewer System Swap Agreements or Electric System Swap Agreements. In the case of interest rate swap transactions for the account of the Water and Sewer System that are entered into pursuant to Electric System Swap Agreements, JEA has established procedures pursuant to which (a) all amounts received by JEA pursuant to such interest rate swap transactions are transferred to the Revenue Fund established pursuant to the Water and Sewer System Resolution and (b) all payments required to be made by JEA pursuant to such interest rate swap transactions are paid for from Revenues of the Water and Sewer System; *provided*, *however*, that no such payments may be made from Revenues of the Water and Sewer System until payment (or provision for payment) has been made of the operation and maintenance expenses of the Water and Sewer System, including any Contract Debts of the Water and Sewer System, debt service for the Water and Sewer System Bonds, debt service for any Subordinated Indebtedness of the Water and Sewer System (including the Subordinated Water and Sewer System Bonds) and the deposits to the Renewal and Replacement Fund established by the Water and Sewer System Resolution.

For further information regarding this interest rate swap program, see Notes 1(k) and 8 to JEA's 2018 Financial Statements set forth in APPENDIX A attached hereto.

Revolving Credit Facilities

Effective December 17, 2015, JEA entered into a revolving credit agreement with JPMorgan Chase Bank, National Association ("JPMorgan") for a $300,000,000 commitment (the "Revolving Credit Facility"). The Revolving Credit Facility was initially scheduled to expire on December 17, 2018. Effective May 24, 2018, JEA and JPMorgan amended the agreement to extend the expiration date to May 24, 2021, and effective November 1, 2018, the parties further amended the agreement to increase the maximum principal amount of the credit facility available for Electric System loans by $200,000,000, for a total commitment equal to $500,000,000. Subject to meeting various conditions, the Revolving Credit Facility is available to JEA to provide working capital and short-term and interim financing for capital projects in connection with any of its systems. Payment obligations allocable to the Electric System, Power Park (under the Second Power Park Resolution) and the Bulk Power System under the Revolving Credit Facility are payable from the respective revenues of the Electric System, Power Park (under the Second Power Park Resolution) and the Bulk Power Supply System, as applicable, but are subordinate to the payment of JEA's Electric System, Power Park and Bulk Power Supply System debt (including the Electric System Bonds, the Subordinated Electric System Bonds, the Power Park Issue Three Bonds, and the Additional Bulk Power Supply System Bonds). As of the date of this Annual Disclosure Report, JEA has $5,000,000 in borrowings outstanding under the Revolving Credit Facility, which are for the account of the Water and Sewer System.

Loans Among Utility Systems

Pursuant to the Charter, JEA has the authority to lend money from one of its utility systems to another of its utility systems under terms and conditions as determined by JEA. As of the date of this Annual Disclosure Report, no loans among the systems are outstanding.

No Default Certificates

Section 714.2 of the Water and Sewer System Resolution and Section 7.07 of the Subordinated Water and Sewer Resolution require that JEA annually obtain a certificate of its independent firm of certified public accountants stating whether or not, to the knowledge of the signer, JEA is in default with respect to any of the covenants, agreements or conditions on its part contained in the Water and Sewer System Resolution and the Subordinated Water and Sewer System Resolution, respectively, and if so, the nature of such default. Section 713.2 of the District Energy System Resolution requires that JEA annually obtain a certificate of its independent firm of certified public accountants stating whether or not, to the knowledge of the signer, JEA is in default with respect to any of the covenants, agreements or conditions on its part contained in the District Energy System Resolution, and if so, the nature of such default. The actual certificates provided by such accountants state that nothing has come to such accountants' attention that caused such accountants to believe that JEA failed to comply with the terms, covenants, provisions or conditions of the applicable section(s) of the relevant resolutions, *insofar as they relate to accounting matters* (emphasis supplied). The accountants have advised JEA that the italicized qualifying language is required to be included by their professional standards (specifically, Statement on Auditing Standards No. 62). JEA does not believe that any other nationally-recognized accounting firm will provide certificates that strictly meet the requirements of the applicable section(s) of the relevant resolutions and that differ materially from the certificates provided by JEA's accountants.

Notwithstanding the failure of the accountants' certificates to strictly meet the requirements of the respective resolutions as described above, as of the date of this Annual Disclosure Report, JEA is not in default in the performance of any of the covenants, agreements or conditions contained in the Water and Sewer System Resolution, Subordinated Water and Sewer Resolution and the District Energy System Resolution.

LITIGATION

In the opinion of the Office of General Counsel of the City, there is no pending litigation or proceedings that may result in any material adverse change in the financial condition of JEA relating to the Water and Sewer System or the District Energy System other than as set forth in the financial statements of JEA in APPENDIX A of this Annual Disclosure Report and other than the matters set forth in this Annual Disclosure Report.

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AUTHORIZATION

The dissemination and use of this Annual Disclosure Report have been duly authorized by the JEA Board.

JEA

By: *[/s/ April Green](#)*
Chair

By: */s/ Aaron F. Zahn*
Managing Director and Chief Executive Officer

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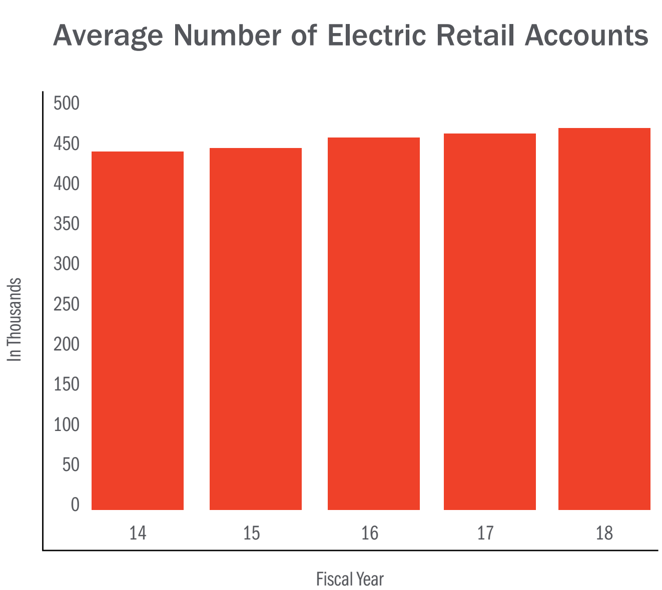
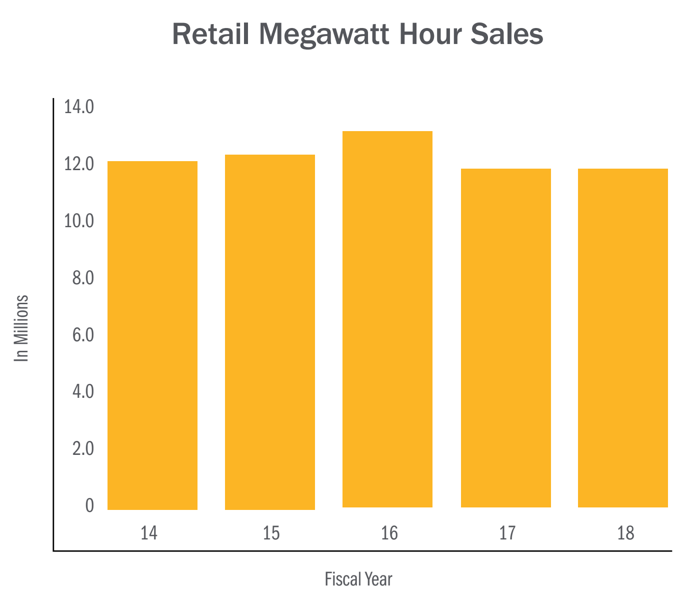
SCHEDULE 1

OPERATING HIGHLIGHTS

ELECTRIC FINANCIAL AND OPERATING HIGHLIGHTS

	Years Ended September 30					
	2018	**2017**	**2016**	**2015**	**2014**	% Change **2018–2017**
FINANCIAL HIGHLIGHTS						
Total operating revenues (thousands)	$1,366,111	$1,428,329	$1,364,242	$1,370,212	$1,479,483	-4.36%
Fuel and purchased power expenses (thousands)	$530,246	$536,250	$485,874	$517,239	$585,021	-1.12%
Total operating expenses (thousands)	$1,102,133	$1,088,386	$1,032,774	$1,061,853	$1,196,160	1.26%
Debt service coverage:						
Senior and subordinated - Electric	2.30 x	2.53 x	2.89 x	2.63 x	2.41 x	-9.09%
Senior - Electric	6.55 x	7.53 x	6.59 x	5.80 x	5.40 x	-13.01%
Bulk Power Supply System	3.47 x	1.75 x	1.81 x	1.24 x	2.24 x	98.29%
St. Johns River Power Park 2nd Resolution	1.60 x	1.18 x	1.17 x	1.16 x	2.21 x	35.59%
OPERATING HIGHLIGHTS						
Sales (megawatt hours)	12,732,236	13,893,852	14,586,486	14,379,697	14,312,013	-8.36%
Peak demand - megawatts 60 minute net	3,080	2,682	2,674	2,863	2,823	14.84%
Total accounts - average number	466,411	458,953	451,788	443,705	434,917	1.63%
Sales per residential account (kilowatt hours)	13,205	12,672	13,433	13,468	13,301	4.21%
Average residential revenue per kilowatt hour	$11.42	$11.44	$11.24	$11.82	$11.97	-0.17%
Power supply:						
Natural gas	48%	39%	32%	32%	27%	23.08%
Coal	22%	43%	42%	50%	57%	-48.84%
Purchases	18%	12%	11%	8%	5%	50.00%
Petroleum coke	12%	6%	15%	10%	10%	100.00%
Oil	0%	0%	0%	0%	1%	0.00%

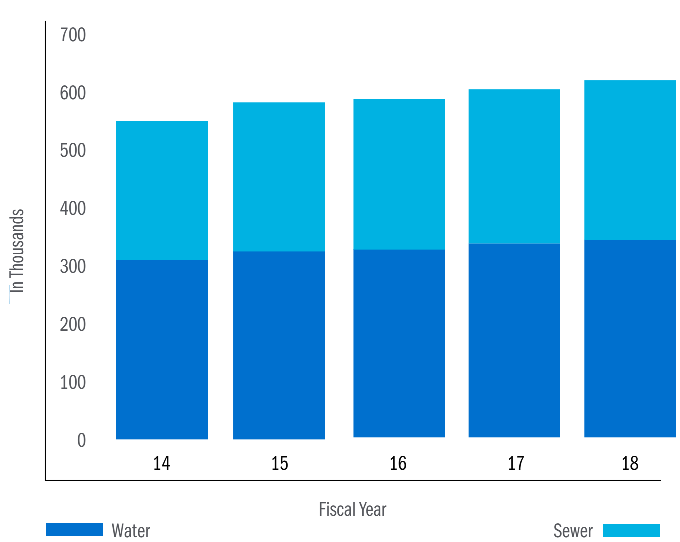




WATER AND SEWER FINANCIAL AND OPERATING HIGHLIGHTS

	Years Ended September 30					% Change
	2018	**2017**	**2016**	**2015**	**2014**	**2018–2017**
FINANCIAL HIGHLIGHTS						
Total operating revenues (thousands)	$435,682	$457,908	$427,750	$389,733	$393,355	-4.85%
Operating expenses (thousands)	$310,435	$305,131	$297,325	$269,509	$263,275	1.74%
Debt service coverage:						
Senior and subordinated	2.79 x	2.99 x	3.28 x	2.75 x	2.46 x	-6.69%
Senior	3.33 x	3.54 x	3.78 x	3.13 x	2.71 x	-5.93%
OPERATING HIGHLIGHTS						
WATER						
Total sales (kgals)	36,186,559	37,245,188	36,357,919	34,558,284	32,468,336	-2.84%
Total accounts - average number	348,159	341,016	333,139	325,352	318,708	2.09%
Average sales per residential account (kgals)	59.33	63.21	62.78	61.32	59.84	-6.14%
Average residential revenue per kgal	$5.43	$5.48	$5.26	$5.30	$5.35	-0.91%
SEWER						
Total sales (kgals)	26,340,622	26,712,770	25,817,658	24,922,141	23,526,976	-1.39%
Total accounts - average number	270,871	264,336	257,719	250,974	244,836	2.47%
Average sales per residential account (kgals)	57.91	61.84	60.96	59.75	58.40	-6.36%
Average residential revenue per kgal	$9.52	$9.46	$9.26	$9.33	$9.46	0.63%
REUSE						
Total sales (kgals)	3,119,739	3,290,311	2,644,046	1,783,730	1,300,838	-5.18%
Total accounts - average number	11,498	9,391	7,498	5,891	4,501	22.44%

Average Number of Water and Sewer Accounts

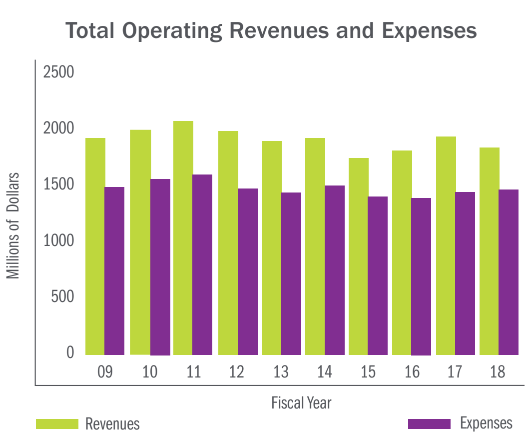


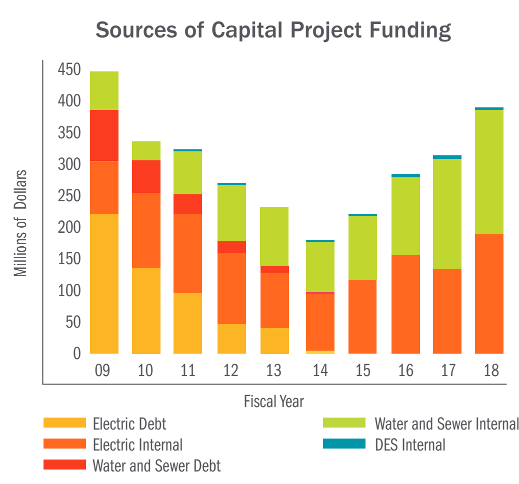
Water and Sewer Sales Volume

FINANCIAL SUMMARY

Combined Electric System, Bulk Power Supply System, St Johns River Power Park System, Water and Sewer and District Energy System (in thousands of dollars)

	2018-17	2017-16	2016-15	2015-14	2014-13
Operating revenues:					
Electric	$1,267,202	$1,382,206	$1,321,713	$1,324,883	$1,431,167
Water and sewer	423,480	448,057	417,404	379,789	383,643
District energy system	8,348	8,185	8,337	8,778	8,682
Other, net	90,952	36,729	34,298	35,930	38,389
Total operating revenues	1,789,982	1,875,177	1,781,752	1,749,380	1,861,881
Operating expenses:					
Fuel and purchased power	530,246	536,250	485,874	517,239	585,021
Maintenance and other operating expense	429,989	392,142	380,219	374,166	364,764
Depreciation	360,609	386,699	382,432	366,486	375,505
State utility and franchise taxes	71,307	69,683	71,244	72,510	72,221
Recognition of deferred costs and revenues, net	6,856	(4,075)	(1,527)	(11,168)	49,271
Total operating expenses	1,399,007	1,380,699	1,318,242	1,319,233	1,446,782
Operating income	390,975	494,478	463,510	430,147	415,099
Nonoperating revenues (expenses):					
Interest on debt	(166,508)	(182,992)	(184,457)	(198,199)	(223,736)
Investment income	11,826	10,576	14,225	12,904	20,546
Allowance for funds used during construction	11,764	11,774	9,407	5,723	3,894
Other nonoperating income, net	9,857	5,918	8,765	11,833	7,280
Earnings from The Energy Authority	4,074	6,335	6,136	1,461	3,567
Loss on sale of asset	-	-	-	(199)	-
Other interest, net	(1,825)	(451)	(403)	(68)	(38)
Total nonoperating expenses, net	(130,812)	(148,840)	(146,327)	(166,545)	(188,487)
Income before contributions and special item	260,163	345,638	317,183	263,602	226,612
Contributions (to) from:					
General fund, City of Jacksonville	(116,620)	(115,823)	(129,187)	(111,688)	(109,188)
Capital contributions:					
Developers and other	82,157	66,875	53,652	52,709	38,845
Reduction of plant cost through contributions	(54,114)	(42,069)	(31,632)	(33,105)	-
Total contributions	(88,577)	(91,017)	(107,167)	(92,084)	(70,343)
Special item	(45,099)	-	-	151,490	-
Change in net position	126,487	254,621	210,016	323,008	156,269
Net position - beginning of year, originally reported	2,628,822	2,376,925	2,166,909	1,843,901	2,039,737
Effect of change in accounting	-	(2,724)	-	-	(352,105)
Net position - beginning of year, as restated	2,628,822	2,374,201	2,166,909	1,843,901	1,687,632
Net position - end of year	$2,755,309	$2,628,822	$2,376,925	$2,166,909	$1,843,901

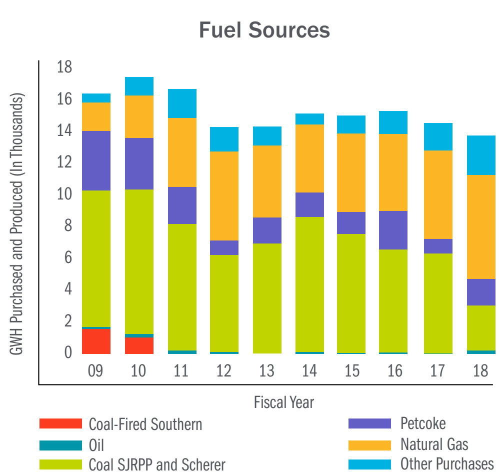


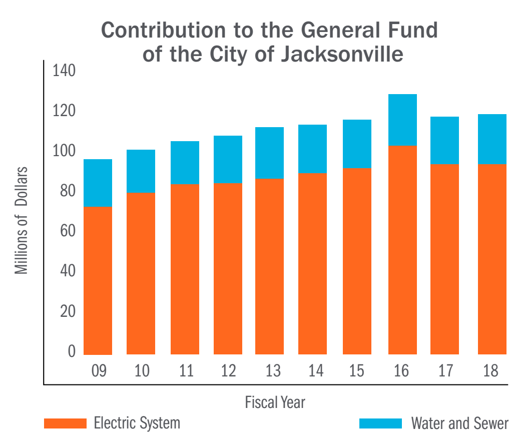


FINANCIAL SUMMARY, CONTINUED

Combined Electric System, Bulk Power Supply System, St Johns River Power Park System, Water and Sewer and District Energy System (in thousands of dollars)

	2013-12	2012-11	2011-10	2010-09	2009-08
Operating revenues:					
Electric	$1,383,696	$1,473,134	$1,624,473	$1,548,248	$1,525,966
Water and sewer	381,677	385,631	358,176	303,241	249,813
District energy system	8,471	8,571	8,067	7,595	6,914
Other, net	38,975	41,046	48,842	50,692	48,687
Total operating revenues	1,812,819	1,908,382	2,039,558	1,909,776	1,831,380
Operating expenses:					
Fuel and purchased power	539,646	548,030	733,296	741,374	719,296
Maintenance and other operating expense	371,041	366,751	334,066	322,672	295,480
Depreciation	378,067	379,570	351,931	353,606	344,158
State utility and franchise taxes	70,237	72,925	78,787	73,120	72,127
Recognition of deferred costs and revenues, net	64,305	59,153	27,014	22,149	33,108
Total operating expenses	1,423,296	1,426,429	1,525,094	1,512,921	1,464,169
Operating income	389,523	481,953	514,464	396,855	367,211
Nonoperating revenues (expenses):					
Interest on debt	(235,228)	(248,681)	(289,320)	(285,669)	(264,701)
Investment income (loss)	(13,240)	8,804	11,908	(3,604)	23,463
Allowance for funds used during construction	3,986	3,365	5,387	9,713	12,708
Other nonoperating income, net	7,530	16,420	7,698	3,832	-
Earnings from The Energy Authority	4,325	6,328	12,265	6,103	4,088
Water & Sewer Expansion Authority	-	-	(485)	(719)	(864)
Loss on sale of asset	-	-	-	-	(986)
Other interest, net	(134)	(23)	(109)	(54)	(72)
Total nonoperating expenses, net	(232,761)	(213,787)	(252,656)	(270,398)	(226,364)
Income before contributions and special item	156,762	268,166	261,808	126,457	140,847
Contributions (to) from:					
General fund, City of Jacksonville	(106,687)	(104,188)	(101,688)	(99,187)	(96,687)
Capital contributions:					
Developers and other	29,292	18,774	23,539	19,883	38,071
Water & Sewer Expansion Authority	-	-	11,465	-	-
City of Jacksonville Better Jacksonville Plan	-	-	-	-	1,516
Total contributions	(77,395)	(85,414)	(66,684)	(79,304)	(57,100)
Change in net position	79,367	182,752	195,124	47,153	83,747
Net position - beginning of year, originally reported	1,991,311	1,808,559	1,613,435	1,566,282	1,482,535
Effect of change in accounting	(30,941)	-	-	-	-
Net position - beginning of year, as restated	1,960,370	1,808,559	1,613,435	1,566,282	1,482,535
Net position - end of year	$2,039,737	$1,991,311	$1,808,559	$1,613,435	$1,566,282





OPERATING SUMMARY: ELECTRIC SYSTEM

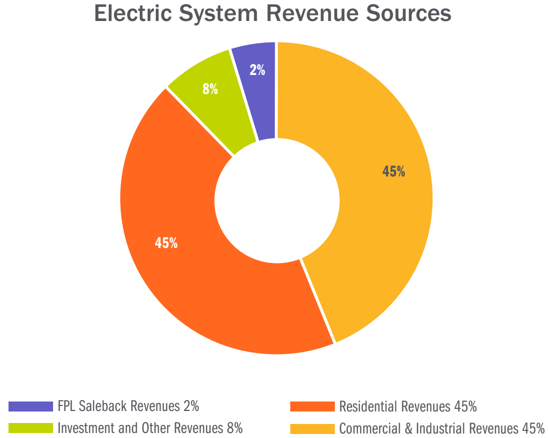
Electric System, Bulk Power System and St Johns River Power Park

	2018-17	2017-16	2016-15	2015-14	2014-13
Electric revenues (000's omitted):					
Residential	$618,171	$584,663	$599,009	$619,897	$608,983
Commercial and industrial	594,395	587,972	597,796	627,547	632,121
Public street lighting	12,873	13,069	13,488	11,982	13,943
Sales for resale	5,474	21,813	31,210	32,424	34,700
Florida Power & Light saleback	30,767	128,737	130,053	128,475	159,747
Total	1,261,680	1,336,254	1,371,556	1,420,325	1,449,494
Sales (megawatt hours):					
Residential	5,414,721	5,108,945	5,328,245	5,243,002	5,086,866
Commercial and industrial	6,851,803	6,725,201	6,847,583	6,767,836	6,636,445
Public street lighting	59,176	65,721	80,108	89,376	111,325
Sales for resale					
Territorial	38,640	150,268	305,315	333,994	337,353
Off-system	35,429	150,635	169,037	83,367	136,342
Florida Power & Light saleback	332,467	1,693,082	1,856,198	1,862,122	2,003,682
Total	12,732,236	13,893,852	14,586,486	14,379,697	14,312,013
Average number of accounts:					
Residential	410,060	403,164	396,664	389,287	382,438
Commercial and industrial	52,573	52,060	51,472	50,867	48,999
Public street lighting	3,777	3,727	3,649	3,549	3,477
Sales for resale (1)	1	2	3	2	3
Total	466,411	458,953	451,788	443,705	434,917
System installed capacity - MW (2)	3,084	3,722	3,722	3,759	3,759
Peak demand - MW (60 minute net)	3,080	2,682	2,674	2,863	2,823
System load factor - %	48%	53%	56%	51%	51%
Residential averages - annual:					
Revenue per account - $	1,507.51	1,450.19	1,510.12	1,592.39	1,592.37
kWh per account	13,205	12,672	13,433	13,468	13,301
Revenue per kWh - ¢	11.42	11.44	11.24	11.82	11.97
All other retail - annual:					
Revenue per account - $	10,776.72	10,773.85	11,089.86	11,752.59	12,311.61
kWh per account	122,644	121,729	125,682	126,015	128,588
Revenue per kWh - ¢	8.79	8.85	8.82	9.33	9.57
Heating-cooling degree days	4,256	3,737	4,117	4,159	3,998

(1) Includes Florida Power and Light, but does not include the average number of off-system non-firm sales customers.

(2) Includes JEA's 50% share of the SJRPP's two coal-fired generating units (638 net megawatts each) and JEA's 23.64% share of Scherer's 846 net megawatt coal-fired generating Unit 4. System installed capacity is reported based on winter capacity.

Electric System Revenue Sources



OPERATING SUMMARY: ELECTRIC SYSTEM, CONTINUED

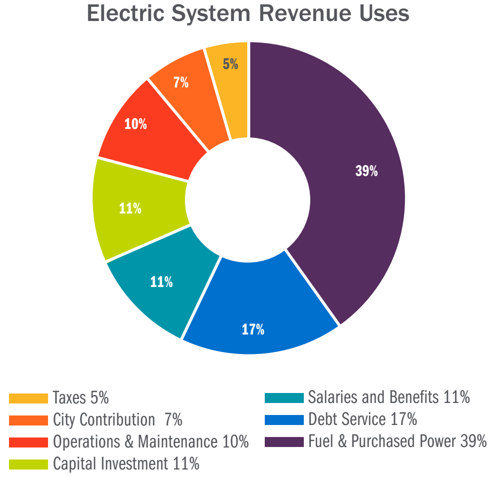
Electric System, Bulk Power System and St Johns River Power Park

	2013-12	2012-11	2011-10	2010-09	2009-08
Electric revenues (000's omitted):					
Residential	$580,893	$601,581	$686,706	$659,829	$645,725
Commercial and industrial	617,962	670,983	704,976	647,316	678,218
Public street lighting	14,661	15,311	15,347	14,203	14,440
Sales for resale	29,989	37,153	41,155	53,990	52,941
Florida Power & Light saleback	158,031	166,873	196,353	190,293	157,898
Total	1,401,536	1,491,901	1,644,537	1,565,631	1,549,222
Sales (megawatt hours):					
Residential	4,877,264	4,806,144	5,444,926	5,707,670	5,300,203
Commercial and industrial	6,599,249	6,670,200	6,908,240	6,932,123	6,849,291
Public street lighting	123,177	122,614	122,402	121,413	120,191
Sales for resale					
Territorial	329,922	374,116	394,548	418,867	406,051
Off-system	42,286	74,852	99,953	391,559	579,730
Florida Power & Light saleback	1,810,651	1,806,781	2,492,559	2,950,244	2,659,565
Total	13,782,549	13,854,707	15,462,628	16,521,876	15,915,031
Average number of accounts:					
Residential	375,600	371,658	369,566	368,682	367,864
Commercial and industrial	47,709	47,230	46,710	46,325	45,810
Public street lighting	3,460	3,424	3,424	3,495	3,550
Sales for resale (1)	3	3	3	3	3
Total	426,772	422,315	419,703	418,505	417,227
System installed capacity - MW (2)	3,759	3,759	3,759	3,376	3,376
Peak demand - MW (60 minute net)	2,596	2,665	3,062	3,224	3,064
System load factor - %	54%	53%	50%	49%	49%
Residential averages - annual:					
Revenue per account - $	1,546.57	1,618.64	1,858.14	1,789.70	1,755.34
kWh per account	12,985	12,932	14,733	15,481	14,408
Revenue per kWh - ¢	11.91	12.52	12.61	11.56	12.42
All other retail - annual:					
Revenue per account - $	12,363.40	13,548.66	14,367.95	13,278.18	14,032.78
kWh per account	131,377	134,102	140,237	141,580	141,197
Revenue per kWh - ¢	9.41	10.10	10.25	9.38	9.94
Heating-cooling degree days	3,830	3,618	4,345	4,705	4,094

(1) Includes Florida Power and Light, but does not include the average number of off-system non-firm sales customers.

(2) Includes JEA's 50% share of the SJRPP's two coal-fired generating units (638 net megawatts each) and JEA's 23.64% share of Scherer's 846 net megawatt coal-fired generating Unit 4. System installed capacity is reported based on winter capacity.

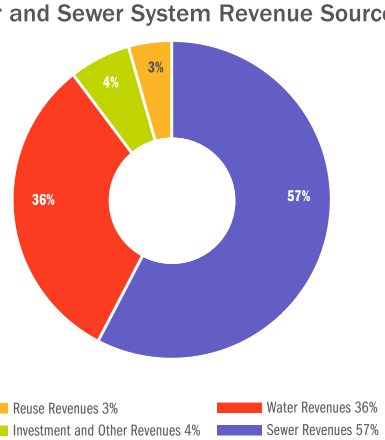
Electric System Revenue Uses



OPERATING SUMMARY: WATER AND SEWER SYSTEM

		2018-17	2017-16	2016-15	2015-14	2014-13
WATER	**Water revenues (000's omitted):**					
	Residential	$91,954	$96,615	$89,946	$86,215	$83,014
	Commercial and industrial	47,494	47,969	46,212	45,078	43,647
	Irrigation	32,004	36,836	34,846	32,681	30,088
	Total	171,452	181,420	171,004	163,974	156,749
	Water sales (kgals):					
	Residential	16,932,812	17,624,952	17,086,586	16,271,698	15,507,752
	Commercial and industrial	14,023,130	13,402,094	13,343,376	12,870,984	12,131,400
	Irrigation	5,230,617	6,218,142	5,927,957	5,415,602	4,829,184
	Total	36,186,559	37,245,188	36,357,919	34,558,284	32,468,336
	Average number of accounts:					
	Residential	285,404	278,838	272,157	265,373	259,159
	Commercial and industrial	25,702	25,423	24,698	23,951	23,722
	Irrigation	37,053	36,755	36,284	36,028	35,827
	Total	348,159	341,016	333,139	325,352	318,708
	Residential averages - annual:					
	Revenue per account - $	322.19	346.49	330.49	324.88	320.32
	kgals per account	59.33	63.21	62.78	61.32	59.84
	Revenue per kgal - $	5.43	5.48	5.26	5.30	5.35
SEWER	**Sewer revenues (000's omitted):**					
	Residential	$139,174	$143,967	$135,288	$129,976	$125,526
	Commercial and industrial	108,126	107,446	103,731	101,910	97,339
	Total	247,300	251,413	239,019	231,886	222,865
	Volume (kgals):					
	Residential	14,623,682	15,225,124	14,614,026	13,934,981	13,269,638
	Commercial and industrial	11,716,940	11,487,646	11,203,632	10,987,160	10,257,338
	Total	26,340,622	26,712,770	25,817,658	24,922,141	23,526,976
	Average number of accounts:					
	Residential	252,531	246,187	239,738	233,203	227,216
	Commercial and industrial	18,340	18,149	17,981	17,771	17,620
	Total	270,871	264,336	257,719	250,974	244,836
	Residential averages - annual:					
	Revenue per account - $	551.12	584.79	564.32	557.35	552.45
	kgals per account	57.91	61.84	60.96	59.75	58.40
	Revenue per kgal - $	9.52	9.46	9.26	9.33	9.46
REUSE	**Reuse revenues (000's omitted):**	$13,659	$13,216	$10,267	$7,378	$5,533
	Reuse sales (kgals):	3,119,739	3,290,311	2,644,046	1,783,730	1,300,838
	Average number of accounts:	11,498	9,391	7,498	5,891	4,501
RAINFALL	**Inches**	57.41	72.89	31.38	49.43	51.17
	Days	120	98	98	114	114

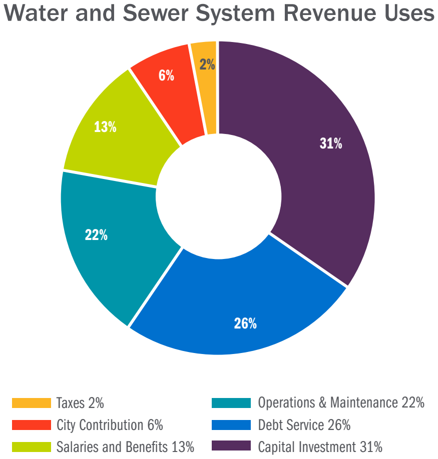
Water and Sewer System Revenue Sources



OPERATING SUMMARY: WATER AND SEWER SYSTEM, CONTINUED

		2013-12	2012-11	2011-10	2010-09	2009-08
WATER	**Water revenues (000's omitted):**					
	Residential	$81,832	$83,390	$81,859	$70,396	$59,441
	Commercial and industrial	42,809	43,629	40,299	34,872	27,591
	Irrigation	32,796	34,802	35,932	26,876	19,080
	Total	157,437	161,821	158,090	132,144	106,112
	Water sales (kgals):					
	Residential	15,741,904	16,589,517	18,485,853	17,609,301	17,572,032
	Commercial and industrial	11,777,128	12,134,488	12,271,645	12,091,091	12,184,482
	Irrigation	5,568,772	6,621,039	8,225,409	7,049,874	7,089,431
	Total	33,087,804	35,345,044	38,982,907	36,750,266	36,845,945
	Average number of accounts:					
	Residential	253,662	250,204	248,605	247,609	246,276
	Commercial and industrial	23,487	23,365	23,221	22,996	23,460
	Irrigation	35,765	35,652	35,559	35,441	35,340
	Total	312,914	309,221	307,385	306,046	305,076
	Residential averages - annual:					
	Revenue per account - $	322.60	333.29	329.27	284.30	241.36
	kgals per account	62.06	66.30	74.36	71.12	71.35
	Revenue per kgal - $	5.20	5.03	4.43	4.00	3.38
SEWER	**Sewer revenues (000's omitted):**					
	Residential	$124,642	$126,722	$116,024	$99,327	$84,961
	Commercial and industrial	96,009	94,232	81,633	70,831	59,017
	Total	220,651	220,954	197,657	170,158	143,978
	Volume (kgals):					
	Residential	13,439,781	14,091,702	15,597,512	14,847,431	14,353,777
	Commercial and industrial	10,184,193	10,398,369	10,321,967	10,279,241	10,413,889
	Total	23,623,974	24,490,071	25,919,479	25,126,672	24,767,666
	Average number of accounts:					
	Residential	221,821	218,264	216,323	214,506	212,741
	Commercial and industrial	17,462	17,351	17,269	17,229	17,617
	Total	239,283	235,615	233,592	231,735	230,358
	Residential averages - annual:					
	Revenue per account - $	561.90	580.59	536.35	463.05	399.36
	kgals per account	60.59	64.56	72.10	69.22	67.47
	Revenue per kgal - $	9.27	8.99	7.44	6.69	5.92
REUSE	**Reuse revenues (000's omitted):**	$4,551	$3,936	$3,622	$2,093	$1,156
	Reuse sales (kgals):	1,109,653	1,330,359	1,551,175	989,010	805,925
	Average number of accounts:	3,143	2,241	1,666	1,201	837
RAINFALL	**Inches**	45.54	55.24	42.18	40.53	53.67
	Days	121	N/A	N/A	N/A	N/A

Water and Sewer System Revenue Uses



APPENDIX A

JEA FINANCIAL INFORMATION

Financial Statements, Supplementary Information, and Bond Compliance Information

JEA

Years Ended September 30, 2018 and 2017
With Report of Independent Auditors

Ernst & Young LLP

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JEA

Financial Statements, Supplementary Information, and Bond Compliance Information

Years Ended September 30, 2018 and 2017

Contents

Building a better
working world

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Report of Independent Auditors

The Board of Directors
JEA
Jacksonville, Florida

Report on the Financial Statements

We have audited the accompanying financial statements of JEA, a component unit of the City of Jacksonville, as of and for the years ended September 30, 2018 and 2017, and the related notes to the financial statements, which collectively comprise JEA's basic financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in conformity with U.S. generally accepted accounting principles; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free of material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States and the standards applicable to financial audits contained in *Government Auditing Standards,* issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the respective financial position of JEA as of September 30, 2018 and 2017, and the respective changes in its financial position and cash flows thereof for the years then ended in conformity with U.S. generally accepted accounting principles.

Adoption of GASB Statement No. 75, Accounting and Financial Reporting for Postemployment Benefits Other than Pensions and GASB Statement No. 83, Certain Asset Retirement Obligations

As discussed in Footnote 1 to the financial statements, JEA changed its method of accounting for postemployment benefits other than pensions and certain asset retirement obligations as a result of the adoption of Governmental Accounting Standards Board (GASB) Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other than Pensions,* effective October 1, 2016 and GASB Statement No. 83, *Certain Asset Retirement Obligations*, effective October 1, 2017, respectively. Our opinion is not modified with respect to these matters.

Other Matters

Required Supplementary Information

U.S. generally accepted accounting principles require that the Management's Discussion and Analysis, the Schedule of JEA's Proportionate Share of the Net Pension Liability and Schedule of JEA Contributions, SJRPP Plan – Schedule of Changes in Net Pension Liability and Related Ratios, SJRPP Pension Plan – Schedule of Contributions, OPEB Plan – Schedule of Changes in Net OPEB Liability and Related Ratios and OPEB Plan – Schedule of Contributions, as listed in the table of contents be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board which considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Supplementary Information

Our audit was conducted for the purpose of forming an opinion on the financial statements as a whole. The combining statements of net position, revenues, expenses and changes in net position and cash flows, as listed in the table of contents are presented for purposes of additional analysis and are not a required part of the basic financial statements.

Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the financial statements. The information has been subjected to the auditing procedures applied in the audit of the financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the financial statements or to the financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States. In our opinion, the combining statements of net position, revenues, expenses and changes in net position and cash flows, as listed in the table of contents are fairly stated, in all material respects, in relation to the financial statements as a whole.

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Other Reporting Required by Government Auditing Standards

In accordance with *Government Auditing Standards*, we also have issued our report dated December 3, 2018 on our consideration of JEA's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of JEA's internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering JEA's internal control over financial reporting and compliance.

Ernst + Young LLP

December 3, 2018

Management's Discussion and Analysis

Introduction

JEA is a municipal utility operating in Jacksonville, Florida (Duval County) and parts of three adjacent counties. The operation is composed of three enterprise funds – the Electric Enterprise Fund, the Water and Sewer Fund, and the District Energy System (DES). The Electric Enterprise Fund is comprised of the JEA Electric System, Bulk Power Supply System (Scherer), and St. Johns River Power Park System (SJRPP). The Electric Enterprise Fund, Water and Sewer Fund, and DES are presented on a combined basis in the accompanying statements of net position, statements of revenues, expenses and changes in net position, and statements of cash flows.

Overview of the Combined Financial Statements

This discussion and analysis serves as an introduction to JEA's basic financial statements. The information presented here should be read in conjunction with the financial statements and accompanying notes.

The basic financial statements are presented on a comparative basis for the fiscal years ended September 30, 2018 and 2017. The statements of net position present JEA's assets, deferred outflows of resources, liabilities, and deferred inflows of resources, with the residual reported as net position. Revenue and expense information is presented in the accompanying statements of revenues, expenses, and changes in net position. The accompanying statements of cash flows present JEA's sources and uses of cash and cash equivalents and are presented using the direct method. This method provides broad categories of cash receipts and cash disbursements pertaining to cash provided by or used in operations, investing, and financing activities.

The notes to the financial statements are an integral part of JEA's basic financial statements and contain information on accounting principles and additional information on certain components of these statements.

The following tables summarize the financial condition and operations of JEA for the 2018 and 2017 fiscal years:

Condensed Statements of Net Position

	2018	2017*	2016
		(In millions)	
Assets and deferred outflows of resources			
Current assets	**$ 874**	$ 902	$ 917
Other noncurrent assets	**1,677**	1,624	1,552
Net capital assets	**5,380**	5,814	5,875
Deferred outflows of resources	**435**	438	462
Total assets and deferred outflows of resources	**$ 8,366**	$ 8,778	$ 8,806
Liabilities and deferred inflows of resources			
Current liabilities	**$ 207**	$ 189	$ 168
Current liabilities payable from restricted assets	**367**	449	389
Net pension liability	**544**	554	493
Other noncurrent liabilities	**91**	90	47
Long-term debt	**4,053**	4,410	4,791
Deferred inflows of resources	**348**	457	541
Net position			
Net investment in capital assets	**1,857**	1,622	1,420
Restricted	**542**	614	612
Unrestricted	**357**	393	345
Total liabilities, deferred inflows of resources, and net position	**$ 8,366**	$ 8,778	$ 8,806

Condensed Statements of Revenues, Expenses, and Changes in Net Position

	2018	2017*	2016
		(In millions)	
Operating revenues	**$ 1,790**	$ 1,875	$ 1,782
Operating expenses	**(1,399)**	(1,380)	(1,319)
Operating income	**391**	495	463
Nonoperating expenses, net	**(131)**	(149)	(146)
Contributions	**(89)**	(91)	(107)
Special Item	**(45)**	–	–
Change in net position	**126**	255	210
Net position – beginning of the year	**2,629**	2,377	2,167
Effect of adoption of GASB Statement No. 75	**–**	(3)	–
Net position – beginning of the year, restated	**2,629**	2,374	2,167
Net position – end of the year	**$ 2,755**	$ 2,629	$ 2,377

*Restated for implementation of GASB Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions*

Financial Analysis of JEA for fiscal years 2018 and 2017

Operating Revenues

2018 Compared to 2017

Electric Enterprise

Total operating revenues decreased approximately $62 million (4.4%) compared to fiscal year 2017. Electric revenues decreased $114 million and other operating revenues increased by $52 million. The $114 million decrease in electric revenues was due to a $97 million decrease in sales to FPL as a result of the shutdown of SJRPP in January 2018, and a $40 million decrease in transfers from stabilization funds. See note 2, Regulatory Deferrals, for additional information. The decrease was partially offset by $23 million increase in territorial sales. Territorial MWh sales were up 314,205 megawatt hours (MWh) (2.6%), resulting in a 1.0% increase in average MWhs per customer, driven by a 13.9% increase in degree days. SJRPP Sales to FPL decreased by 1,360,616 MWh and off-system sales decreased by 115,206 MWh, which brought the change to a net decrease in MWh sales of 1,161,617 MWh (8.4%). The increase in other operating revenues was driven by the FPL shutdown payment. See note 3, St. Johns River Power Park Decommissioning, for further details.

Water and Sewer

Total operating revenues decreased approximately $22 million (4.9%) compared to fiscal year 2017. Water revenues decreased $10 million (5.5%) due to a 2.8% decrease in consumption, which was partially offset by a 2.1% increase in customer accounts. Water consumption decreased 1,058,629 kgals to 36,186,559 kgals. Sewer revenues decreased approximately $4 million (1.6%) primarily related to a 1.4% decrease in sales, which was partially offset by a 2.5% increase in sewer accounts. Sewer sales decreased 372,148 kgals to 26,340,622 kgals. The water and sewer revenue decreases were driven by a 22.4% increase in rain days. Reuse revenues increased approximately $1 million (3.4%), primarily related to a 22.4% increase in reuse accounts, which was partially offset by a 5.2% decrease in sales. Reuse sales decreased 170,572 kgals to 3,119,739 kgals. Water and sewer revenues were impacted by an $11 million net decrease in transfers from stabilization funds. See note 2, Regulatory Deferrals, for additional information. Other operating revenues increased by $2 million due to additional waste disposal revenues.

District Energy System

Operating revenues remained flat when compared to fiscal year 2017 at $9 million.

2017 Compared to 2016

Electric Enterprise

Total operating revenues increased approximately $64 million (4.7%) compared to fiscal year 2016. Electric revenues increased $61 million and other operating revenues increased by $3 million. The increase in electric revenues was due to an increase in transfers from stabilization funds related to fuel and debt management of $96 million, which was partially offset by a $35 million decrease in sales. See note 2, Regulatory Deferrals, for additional information. Territorial MWh sales were down 511,116 megawatt hours (MWh) (4.1%), resulting in a 5.6% decrease in average MWhs per customer. SJRPP Sales to FPL decreased by 163,116 MWh and off-system sales decreased by 18,402 MWh, which brought the total decrease in MWh sales to 692,634 MWh (4.7%).

Water and Sewer

Total operating revenues increased approximately $30 million (7.1%) compared to fiscal year 2016. Water revenues increased $10 million (6.1%) due to a 2.4% increase in consumption and a 2.4% increase in customer accounts. Water consumption increased 887,269 kgals to 37,245,188 kgals. Sewer revenues increased approximately $12 million (5.2%) primarily related to a 3.5% increase in sales and a 2.6% increase in sewer accounts. Sewer sales increased 895,112 kgals to 26,712,770 kgals. Reuse revenues increased approximately $3 million (28.7%), primarily related to a 24.4% increase in sales and a 25.2% increase in reuse accounts. Reuse sales increased 646,265 kgals to 3,290,311 kgals. Water and sewer revenues were impacted by a $5 million net increase in transfers, primarily related to a withdrawal from the debt management stabilization fund for a debt defeasance. See note 2, Regulatory Deferrals, for additional information.

District Energy System

DES operating revenues remained flat when compared to fiscal year 2016 at $9 million.

Operating Expenses

2018 Compared to 2017

Electric Enterprise

Total operating expenses increased approximately $14 million (1.3%), compared to fiscal year 2017.

Fuel and purchased power expense decreased approximately $6 million (1.1%), compared to fiscal year 2017. Costs decreased by $19 million while MWh generated and purchased increased by $13 million. As commodity prices have fluctuated over these periods, the mix between generation and purchased power has shifted as JEA has taken advantage of the most economical sources of power. In addition, the shutdown of the SJRPP power plant has decreased power production sourced by coal significantly. Total MWh power volumes increased 1.6% compared to fiscal year 2017 to 12,874,102 MWh, with an increase of 41.6% for MWh purchased and a decrease of 4.5% for MWh generated. Detailed below is JEA's power supply mix.

	FY 2018	FY 2017
Natural gas	**48%**	39%
Coal	**22%**	43%
Purchases	**18%**	12%
Petroleum coke	**12%**	6%
Total	**100%**	100%

Operating expenses, other than fuel and purchased power, increased approximately $20 million, compared to fiscal year 2017.

Maintenance and other operating expenses increased $30 million. The drivers for the increase were a $19 million increase in Scherer capital improvements and operating costs, $14 million in SJRPP renewal and replacement expenses, and $5 million increase in maintenance costs. These increases were offset by an $8 million reduction in SJRPP operating expenses due to the plant shutdown.

Depreciation expense decreased $28 million due to a decrease in the depreciable base, driven by the impairment of the SJRPP capital assets due to the shutdown of the SJRPP plant. State utility and franchise taxes increased $2 million due to higher electric revenue taxable sales. Recognition of deferred costs and revenues, net increased $16 million as a result of higher deferred cost amortization, primarily related to the reduced depreciation for SJRPP capital assets subsequent to the impairment. See note 3, St. Johns River Power Park Decommissioning, for additional details.

Water and Sewer

Operating expenses increased $5 million (1.7%), compared to fiscal year 2017. Maintenance and other expenses increased $8 million due to a $5 million increase in professional services, industrial services, and compensation and a $3 million increase in interfund charges. Depreciation expense increased $2 million due to an increase in the depreciable base. Recognition of deferred costs and revenues, net decreased $5 million due to a decrease in environmental projects paid from the rate stabilization fund.

District Energy System

Operating expenses remained flat when compared to fiscal year 2017 at $7 million.

2017 Compared to 2016

Electric Enterprise

Total operating expenses increased approximately $56 million (5.4%), compared to fiscal year 2016.

Fuel and purchased power expense increased approximately $51 million (10.4%), compared to fiscal year 2016, primarily due to higher solid fuels, natural gas and purchased power costs. The increase in commodity costs was partially offset by a decrease in total MWH generated and purchased. Generation cost increased by $62 million, purchased power cost increased by $12 million, while MWh generated and purchased decreased by $23 million. As commodity prices have fluctuated over these periods, the mix between generation and purchased power has shifted as JEA has taken advantage of the most economical sources of power. Total MWh power volumes decreased 4.4% compared to fiscal year 2016 to 12,667,351 MWh, with a decrease of 5.6% for MWh generated and an increase of 3.7% for MWh purchased. Detailed below is JEA's power supply mix.

	FY 2017	FY 2016
Coal	**43%**	42%
Natural gas	**39%**	32%
Petroleum coke	**6%**	15%
Purchases	**12%**	11%
Total	**100%**	100%

Operating expenses, other than fuel and purchased power, increased approximately $5 million, compared to fiscal year 2016. Maintenance and other operating expenses increased $3 million. The drivers for the increase were a $9 million increase in compensation and benefits costs and a $3 million increase related to insurance costs. These increases were offset by a decrease of $9 million in maintenance expenses due to a prior year major outage at Brandy Branch not repeated in the current year and reduced maintenance expenses at SJRPP and Scherer. Depreciation expense increased $5 million due to an increase in the depreciable base. State utility and franchise taxes decreased $2 million due to lower electric revenue sales. Recognition of deferred costs and revenues, net decreased $1 million as a result of lower deferred cost amortization.

Water and Sewer

Operating expenses increased $8 million (2.6%), compared to fiscal year 2016. Maintenance and other expenses increased $10 million due to a $5 million increase in compensation and benefits costs, $4 million increase in interfund charges, and a $1 million net increase in miscellaneous other operating expenses. Recognition of deferred costs and revenues, net decreased $2 million due to a decrease in environmental projects paid from the rate stabilization fund.

District Energy System

DES operating expenses remained flat when compared to fiscal year 2016 at $7 million.

Nonoperating Revenues and Expenses

2018 Compared to 2017

There was a decrease of approximately $18 million (12.1%) in total nonoperating expenses, net over the prior year. Detailed below are the drivers.

		FY 2018
		(in millions)
Changes in nonoperating expenses, net		
Decrease in interest on debt	$	16
Investment gains – fair value adjustments		4
Decrease in investment income		(3)
Decrease in The Energy Authority earnings		(2)
Gain on sale of assets		2
Decrease in other nonoperating expenses - timber		2
Increase in other interest expense		(1)
Total change in nonoperating expenses, net	$	18

2017 Compared to 2016

There was an increase of approximately $3 million (1.7%) in total nonoperating expenses, net over the prior year. Detailed below are the drivers.

		FY 2017
		(in millions)
Changes in nonoperating expenses, net		
Investment losses – fair value adjustments	$	(9)
Increase in investment income		5
Decrease in other nonoperating income – timber		(3)
Increase in allowance for funds used during construction		2
Decrease in interest on debt		2
Total change in nonoperating expenses, net	$	(3)

Capital Assets and Debt Administration for Fiscal Years 2018 and 2017

Capital Assets

As of September 30, 2018, JEA had approximately $5,380 million in capital assets, net of accumulated depreciation. This included $2,662 million in electric plant, $2,683 million in water and sewer plant, and $35 million in chilled water plant. During fiscal year 2018, capital additions were $387 million, which included $183 million in electric plant, $203 million in water and sewer plant, and $1 million in chilled water plant. Also during fiscal year 2018, a $451 million write down was recorded to the Electric Enterprise capital accounts due to the shutdown of the SJRPP power plant. More detailed information is presented in note 3, St. Johns River Power Park Decommissioning, to the financial statements. As of September 30, 2017, JEA had approximately $5,814 million in capital assets, net of accumulated depreciation. This included $3,162 million in electric plant, $2,616 million in water and sewer plant, and $36 million in chilled water plant. During fiscal year 2017, capital additions were $327 million, which included $145 million in electric plant, $180 million in water and sewer plant, and $2 million in chilled water plant. More detailed information about JEA's capital asset activity is presented in note 6, Capital Assets, to the financial statements.

With the adoption of the depreciation ratemaking policy in 2014, the depreciation of contributed assets are not included in rates charged to customers, because it has already been recovered with the contribution. In accordance with GASB 62, the contributed assets will be expensed in capital contributions as a reduction of plant cost through contributions. During fiscal year 2018, $2 million of contributed capital related to the Electric System and $52 million related to Water and Sewer System was recorded as a reduction of plant cost through contributions. During fiscal year 2017, $1 million of contributed capital related to the Electric System and $41 million related to Water and Sewer System was recorded as a reduction of plant cost through contributions.

JEA has ongoing capital improvement programs for the Electric Enterprise Fund and the Water and Sewer Fund. The capital programs consist of: (a) the Electric Enterprise Fund capital requirements for improvements to existing generating facilities that are determined to be necessary as a result of JEA's annual resource planning process; (b) the Electric Enterprise Fund's capital requirements for transmission and distribution facilities and other capital items; and (c) the Water and Sewer Fund capital requirements that are determined to be necessary as a result of the annual resource planning process. The cost of the capital improvement program is planned to be provided from revenues generated from operations and existing construction fund balances.

Scherer is subject to a joint ownership agreement. JEA's share of the estimated capital expenditures relating to this plant is $10 million and is included in the Electric Enterprise Fund amount above.

Debt Administration

Debt outstanding at September 30, 2018, was $3,999 million, a decrease of approximately $402 million from the prior fiscal year. This decrease was due to defeasance of principal of $994 million and regular principal payments of $229 million, being partially offset by new debt issued of $821 million.

Debt outstanding at September 30, 2017, was $4,401 million, a decrease of approximately $251 million from the prior fiscal year. This decrease was due to regular principal payments of $182 million and defeasance of principal of $159 million, being partially offset by new debt issued of $90 million.

JEA's debt ratings on its long-term debt per Fitch and Moody's Investors Service remained unchanged from fiscal year 2017. On September 28, 2018, Standard & Poor's downgraded its long-term ratings on the Electric System senior, SJRPP, and Scherer bonds from AA- to A+ and the Electric System subordinated bonds from A+ to A. All ratings as of September 2018 and 2017 are as follows:

	2018					2017				
	Electric System	Water and Sewer System	SJRPP	Scherer	District Energy System	Electric System	Water and Sewer System	SJRPP	Scherer	District Energy System
Senior debt										
Moody's Investors Service	**Aa2**	**Aa2**	**Aa2**	**Aa2**	**Aa3**	Aa2	Aa2	Aa2	Aa2	Aa3
Standard & Poor's	**A+**	**AAA**	**A+**	**A+**	**AA+**	AA-	AAA	AA-	AA-	AA+
Fitch	**AA**	**AA**	**AA**	**AA**	**AA**	AA	AA	AA	AA	AA
Subordinated debt										
Moody's Investors Service	**Aa3**	**Aa2**	*	*	*	Aa3	Aa2	*	*	*
Standard & Poor's	**A**	**AA+**	*	*	*	A+	AA+	*	*	*
Fitch	**AA**	**AA**	*	*	*	AA	AA	*	*	*

* There are no subordinated bonds related to this system.

Currently Known Facts Expected to have a Significant Effect on Financial Position and/or Changes in Operations

Setting of Rates

The setting of rates is the responsibility of the Board. Base rate changes are implemented after a public rate hearing and Board approval. Fuel rate changes are implemented solely with Board approval.

In October 2017, the Board approved a new rate rider called SolarMax for customers purchasing a minimum of 7,000,000 kWh of annual solar purchase power, effective November 1, 2017. The Board also approved a wastewater rate for Leachate waste disposed at a JEA sewage treatment plant at a charge of $5.16 per 100 gallons.

JEA has an ongoing plan to review, update and, where possible, expand its rate options to provide customers more rate choices for their utility services. As part of this initiative, the Board approved, at its August 2018 meeting, an extension of the Economic Stimulus Rider from September 30, 2018 to September 30, 2021 that provides a financial incentive for new commercial or industrial customers to locate within the JEA service area.

Bond Ratings

Moody's Investors Services lowered certain JEA bond ratings subsequent to the end of fiscal year 2018. As a result of the ratings change, commitment fees related to Electric System variable rate demand obligations and the interest rate related to the variable rate direct purchased bonds changed. For further details, see note 18, Subsequent Events.

Requests for Information

The financial report is designed to provide a general overview of JEA's finances for all those with an interest in JEA's finances. Questions concerning any of the information provided in this report or requests for additional information should be addressed to the Controller, JEA, 21 West Church Street, Jacksonville, Florida, 32202.

Audited Financial Statements

JEA

Statements of Net Position
(In Thousands)

	September	
	2018	**2017***
Assets		
Current assets:		
Cash and cash equivalents	**$ 441,206**	$ 489,559
Investments	**85,310**	25,122
Accounts and interest receivable, net of allowance ($1,830 for 2018 and $2,101 for 2017)	**251,148**	245,444
Inventories:		
Fuel	**36,871**	72,772
Materials and supplies	**59,204**	69,721
Total current assets	**873,739**	902,618
Noncurrent assets:		
Restricted assets:		
Cash and cash equivalents	**114,576**	124,475
Investments	**731,627**	936,708
Accounts and interest receivable	**62**	984
Total restricted assets	**846,265**	1,062,167
Costs to be recovered from future revenues	**808,096**	541,021
Investment in The Energy Authority	**6,811**	6,283
Other assets	**15,875**	14,511
Total noncurrent assets	**1,677,047**	1,623,982
Net capital assets	**5,380,259**	5,813,799
Total assets	**7,931,045**	8,340,399
Deferred outflows of resources		
Unrealized pension contributions and losses	**171,367**	173,578
Unamortized deferred losses on refundings	**143,722**	133,356
Accumulated decrease in fair value of hedging derivatives	**86,356**	125,269
Unrealized asset retirement obligation	**29,173**	–
Unrealized OPEB contributions and losses	**4,078**	5,240
Total deferred outflows of resources	**434,696**	437,443
Total assets and deferred outflows of resources	**$ 8,365,741**	$ 8,777,842

See accompanying notes to financial statements.

*Restated for implementation of GASB Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions*

JEA

Statements of Net Position (continued)
(In Thousands)

	September 2018	September 2017*
Liabilities		
Current liabilities:		
Accounts and accrued expenses payable	**$ 147,361**	$ 131,892
Customer deposits	**59,883**	57,278
Total current liabilities	**207,244**	189,170
Current liabilities payable from restricted assets:		
Debt due within one year	**185,790**	229,095
Renewal and replacement reserve	**54,370**	82,577
Interest payable	**73,737**	82,221
Construction contracts and accounts payable	**53,369**	54,961
Total current liabilities payable from restricted assets	**367,266**	448,854
Noncurrent liabilities:		
Net pension liability	**544,203**	554,337
Asset retirement obligation	**22,526**	–
Net OPEB liability	**18,835**	39,508
Other liabilities	**49,227**	50,022
Total other noncurrent liabilities	**634,791**	643,867
Long-term debt:		
Debt payable, less current portion	**3,813,680**	4,172,160
Unamortized premium, net	**152,891**	112,475
Fair value of debt management strategy instruments	**86,356**	125,269
Total long-term debt	**4,052,927**	4,409,904
Total liabilities	**5,262,228**	5,691,795
Deferred inflows of resources		
Revenues to be used for future costs	**286,832**	444,606
Unrealized pension gains	**50,124**	11,960
Unrealized OPEB gains	**8,712**	659
Accumulated increase in fair value of hedging derivatives	**2,536**	–
Total deferred inflows of resources	**348,204**	457,225
Net position		
Net investment in capital assets	**1,856,725**	1,622,160
Restricted for:		
Debt service	**187,374**	234,268
Other purposes	**354,663**	379,186
Unrestricted	**356,547**	393,208
Total net position	**2,755,309**	2,628,822
Total liabilities, deferred inflows of resources, and net position	**$ 8,365,741**	$ 8,777,842

See accompanying notes to financial statements.

*Restated for implementation of GASB Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions*

JEA

Statements of Revenues, Expenses, and Changes in Net Position

(In Thousands)

	September 2018	September 2017*
Operating revenues		
Electric	**$ 1,267,202**	$ 1,382,206
Water and sewer	**423,480**	448,057
District energy system	**8,348**	8,185
Other	**90,952**	36,729
Total operating revenues	**1,789,982**	1,875,177
Operating expenses		
Operations and maintenance:		
Fuel	**421,052**	458,794
Purchased power	**109,194**	77,456
Maintenance and other operating expenses	**429,989**	392,142
Depreciation	**360,609**	386,699
State utility and franchise taxes	**71,307**	69,683
Recognition of deferred costs and revenues, net	**6,856**	(4,075)
Total operating expenses	**1,399,007**	1,380,699
Operating income	**390,975**	494,478
Nonoperating revenues (expenses)		
Interest on debt	**(166,508)**	(182,992)
Investment income	**11,826**	10,576
Allowance for funds used during construction	**11,764**	11,774
Other nonoperating income, net	**9,857**	5,918
Earnings from The Energy Authority	**4,074**	6,335
Other interest, net	**(1,825)**	(451)
Total nonoperating expenses, net	**(130,812)**	(148,840)
Income before contributions	**260,163**	345,638
Contributions (to) from		
General Fund, City of Jacksonville, Florida	**(116,620)**	(115,823)
Developers and other	**82,157**	66,875
Reduction of plant cost through contributions	**(54,114)**	(42,069)
Total contributions, net	**(88,577)**	(91,017)
Special items	**(45,099)**	-
Change in net position	**126,487**	254,621
Net position, beginning of year	**2,628,822**	2,376,925
Effect of adoption of GASB Statement No. 75	**-**	(2,724)
Net position, beginning of year, as restated	**2,628,822**	2,374,201
Net position, end of year	**$ 2,755,309**	$ 2,628,822

See accompanying notes to financial statements.

*Restated for implementation of GASB Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions*

JEA

Statements of Cash Flows
(In Thousands)

	September 2018	September 2017
Operating activities		
Receipts from customers	**$ 1,740,598**	$ 1,758,515
Payments to suppliers	**(790,962)**	(738,231)
Payments to employees	**(267,569)**	(249,193)
Other operating activities	**93,902**	4,541
Net cash provided by operating activities	**775,969**	775,632
Noncapital and related financing activities		
Contribution to General Fund, City of Jacksonville, Florida	**(116,569)**	(115,694)
Net cash used in noncapital and related financing activities	**(116,569)**	(115,694)
Capital and related financing activities		
Defeasance of debt	**(993,690)**	(159,345)
Proceeds from issuance of debt	**821,000**	90,405
Acquisition and construction of capital assets	**(384,577)**	(308,133)
Repayment of debt principal	**(229,095)**	(181,525)
Interest paid on debt	**(182,849)**	(193,483)
Capital contributions	**28,043**	24,805
Other capital financing activities	**63,197**	2,528
Net cash used in capital and related financing activities	**(877,971)**	(724,748)
Investing activities		
Purchase of investments	**(1,037,966)**	(1,803,447)
Proceeds from sale and maturity of investments	**1,179,471**	1,861,596
Investment income	**15,301**	17,593
Distributions from The Energy Authority	**3,513**	6,182
Net cash provided by investing activities	**160,319**	81,924
Net change in cash and cash equivalents	**(58,252)**	17,114
Cash and cash equivalents at beginning of year	**614,034**	596,920
Cash and cash equivalents at end of year	**$ 555,782**	$ 614,034
Reconciliation of operating income to net cash provided by operating activities		
Operating income	**$ 390,975**	$ 494,478
Adjustments:		
Depreciation and amortization	**361,889**	388,040
Recognition of deferred costs and revenues, net	**6,856**	(4,075)
Other nonoperating income, net	**1,073**	(1,072)
Changes in noncash assets and noncash liabilities:		
Accounts receivable	**26,486**	(14,185)
Accounts receivable, restricted	**16**	32
Inventories	**46,419**	(24,692)
Other assets	**6,421**	(27,625)
Accounts and accrued expenses payable	**979**	23,262
Current liabilities payable from restricted assets	**(49,998)**	4,409
Other noncurrent liabilities and deferred inflows	**(15,147)**	(62,940)
Net cash provided by operating activities	**$ 775,969**	$ 775,632
Noncash activity		
Contribution of capital assets from developers	**$ 54,114**	$ 42,069
Unrealized losses on fair value of investments, net	**$ (3,386)**	$ (7,710)

See accompanying notes to financial statements.

(Dollars in Thousands)

1. Summary of Significant Accounting Policies and Practices

(a) Reporting Entity

JEA is currently organized into three enterprise funds – the Electric Enterprise Fund, the Water and Sewer Fund, and the District Energy System (DES). The Electric Enterprise Fund is comprised of the Electric System; the Bulk Power Supply System (Scherer), which consists of Scherer Unit 4, a coal-fired, 846-megawatt generating unit operated by Georgia Power Company (Georgia Power) and owned by JEA (23.64% ownership interest) and Florida Power & Light Company (FPL) (76.36% ownership interest); and St. Johns River Power Park System (SJRPP), which is jointly owned and operated by JEA (80% ownership interest) and FPL (20% ownership interest). The Water and Sewer Fund consists of water and sewer system activities. The DES consists of chilled water activities. These financial statements include JEA's ownership interests in Scherer and SJRPP. Separate accounting records are currently maintained for each system. The following information relates to JEA's ownership interests in respective plants as of September 30, 2018 and 2017:

	2018	2017
Bulk Power Supply System:		
Inventories	**$ 7,463**	$ 7,042
Costs to be recovered from future revenues	**6,155**	11,686
Capital assets, net	**135,595**	143,981
Debt due within one year	**5,710**	5,205
Long-term debt	**94,602**	100,465
Revenues to be used for future costs	**37,560**	41,438
SJRPP:		
Inventories	**1,680**	53,977
Other current assets	**68,672**	63,040
Capital assets, net	**10,144**	474,437
Restricted assets	**97,490**	272,823
Costs to be recovered from future revenues	**261,277**	4,042
Long-term debt	**281,359**	420,060
Other liabilities	**110,152**	184,464

The Electric Enterprise Fund, Water and Sewer Fund, and the DES are governed by the JEA Board of Directors (Board). The Board is responsible for setting rates based on operating and maintenance expenses and depreciation of the respective operations. The operations of the Bulk Power Supply System and SJRPP are subject to joint ownership agreements, and rates are established on a cost-of-service basis, including operating and maintenance expenses and debt service. See note 1(s), Setting of rates.

1. Summary of Significant Accounting Policies and Practices (continued)

(b) Basis of Accounting

JEA is presenting financial statements combined for the Electric Enterprise Fund, the Water and Sewer Fund, and the District Energy System. JEA uses the accrual basis of accounting for its operations and the uniform system of accounts prescribed by the Federal Energy Regulatory Commission for the Electric Enterprise Fund and the National Association of Regulatory Utility Commissioners for the Water and Sewer Fund.

The financial statements have been prepared in conformity with the Governmental Accounting Standards Board (GASB) codification, which defines JEA as a component unit of the City of Jacksonville, Florida (City). Accordingly, the financial statements of JEA are included in the Comprehensive Annual Financial Report of the City.

JEA presents its financial statements in accordance with the GASB pronouncements that establish standards for external financial reporting for all state and local governmental entities that include a statement of net position, a statement of revenues, expenses, and changes in net position, and a statement of cash flows. It requires the classification of net position into three components – net investment in capital assets, restricted, and unrestricted. These classifications are defined as follows:

- Net investment in capital assets consists of capital assets, net of accumulated depreciation, reduced by the outstanding balances of any debt that is attributable to those assets and increased/reduced by costs to be recovered from future revenues or revenues to be used for future costs.

- Restricted consists of assets that have constraints placed upon their use through external constraints imposed either by creditors (such as through debt covenants) or through laws, regulations, or constraints imposed by law through constitutional provisions or enabling legislation, reduced by any liabilities to be paid from these assets.

- Unrestricted consists of net position that does not meet the definition of restricted or net investment in capital assets.

JEA's bond resolutions specify the flow of funds from revenues and specify the requirements for the use of certain restricted and unrestricted assets.

(c) Revenues

Operating revenues are defined as revenues generated from the sale of primary products or services through normal business operations. Nonoperating revenues include investment income and earnings from investments recorded on the equity method.

(Dollars in Thousands)

1. Summary of Significant Accounting Policies and Practices (continued)

Operating revenues reported in the accompanying statements of revenues, expenses, and changes in net position are shown net of discounts, estimated allowances for bad debts, and amounts transferred to stabilization funds. Discounts and allowances totaled $32,441 in fiscal year 2018 and $31,664 in 2017. JEA withdrew the net amount of $15,813 in fiscal year 2018 and $65,791 in 2017 from stabilization funds. Electric Enterprise and Water and Sewer Fund revenues are recorded as earned. JEA earned 7.1% of its electric revenue from electricity sold to FPL in fiscal year 2018 and 9.2% in 2017. Operating revenues include amounts estimated for unbilled services provided during the reporting period of $82,576 in 2018 and $73,244 in 2017.

(d) Capital Assets

Utility plant represents four classes of capital assets – real property, tangible property, tangible personal property, and intangible property. All capital assets are recorded at historical cost and must have a useful life greater than one year. The costs of capital asset additions and replacements are capitalized. The costs of capital projects include direct labor and benefits of JEA employees working on capital projects and an allocation of overhead from certain JEA departments. Maintenance and replacements of minor items are charged to operating expenses. The cost of depreciable plant retired is removed from the capital asset accounts, and such cost plus removal expense less salvage value is charged to accumulated depreciation.

SJRPP and Scherer are required by its bond resolutions to deposit certain amounts in a renewal and replacement fund. These amounts are then required to be expended on capital expenditures to maintain and improve the system or applied to other designated uses as specifically allowed under the bond resolutions. The Electric Fund records the amounts deposited in the fund as a purchased power expense when deposited. The purchase of capital assets funded from the renewal and replacement fund is not capitalized by SJRPP or Scherer.

(e) Allowance for Funds Used During Construction

An allowance for funds used during construction (AFUDC) is included in construction work-in-progress and as a reduction of interest expense. JEA capitalizes interest on construction projects financed with revenue bonds and renewal and replacement funds. The average AFUDC rate for the debt of each system is listed in the table below.

Average AFUDC Rate (%)	**2018**	**2017**
Electric Enterprise Fund	**4.3%**	4.2%
Water and Sewer Fund	**4.3%**	4.2%
District Energy System	**3.7%**	3.6%

The amount capitalized is the interest cost of the debt less any interest earned on investment of debt proceeds from the date of the borrowing until the assets are placed in service. Total interest incurred was $166,508 for fiscal year 2018 and $182,992 for 2017, of which $11,764 was capitalized in fiscal year 2018 and $11,774 in 2017. There was no investment income on bond proceeds in either year that reduced the amount of interest expense.

(Dollars in Thousands)

1. Summary of Significant Accounting Policies and Practices (continued)

(f) Depreciation

Depreciation of capital assets is computed on a straight-line basis at rates based upon the estimated service lives of the various property classes. Depreciation begins on the date the assets are placed in service. Generally, recurring renewal and replacement capital additions are placed in service at the end of each fiscal year. The depreciation rates are based on depreciation studies performed by an outside consultant that are updated periodically, most recently in fiscal year 2011. The effective rate of depreciation based upon the average depreciable plant in service balance was 3.2% and 3.5% for fiscal years 2018 and 2017, respectively. The average depreciable life in years of the depreciable capital assets for each system is listed in the table below.

Average Depreciable Life *(Years)*	**2018**	**2017**
Electric Enterprise Fund	**23.9**	24.1
Water and Sewer Fund	**27.6**	27.7
District Energy System	**23.7**	24.0

(g) Amortization

Amortization of bond discounts and premiums is computed on a straight-line basis, which approximates the effective-interest method over the remaining term of the outstanding bonds.

(h) Losses on Refundings

Losses on refundings of JEA revenue bonds are deferred and amortized as a component of interest on debt using the straight-line method over the remaining life of the old debt or the new debt, whichever is shorter. Unamortized deferred losses on refundings are reported as deferred outflows of resources on the accompanying statements of net position. Whereas JEA has incurred accounting losses on refundings, calculated as the difference between the net carrying value of the refunded and the refunding bonds, JEA has over time realized economic gains calculated as the present value difference in the future debt service on the refunded and refunding bonds.

(i) Investments

Investments are presented at fair value or cost, which is further explained in note 14, *Fair Value Measurements*. Realized and unrealized gains and losses for all investments are included in investment income on the statements of revenues, expenses, and changes in net position. The investment in The Energy Authority (TEA) is recorded on the equity method (see note 7, Investment in The Energy Authority, for additional information).

1. Summary of Significant Accounting Policies and Practices (continued)

(j) Cash and Cash Equivalents

For purposes of reporting cash flows, cash and cash equivalents include cash on hand, bank demand accounts, money market mutual funds, and short-term liquid investments purchased with an original maturity of 90 days or less.

(k) Interest Rate Swap Agreements

JEA's risk management policies allow for the use of interest rate swaps to manage financial exposures, but prohibit the use of these instruments for speculative or trading purposes. JEA utilizes interest rate swaps to manage the interest rate risk associated with various assets and liabilities. Interest rate swaps are used in the area of debt management to take advantage of favorable market interest rates. Interest rate swaps are authorized under the policy to be used in the area of investment management to increase the yield on revolving short-term investments.

JEA applies GASB Statement No. 53, *Accounting and Financial Reporting for Derivative Instruments*, where applicable for effective hedging instruments. For effective hedging instruments, the changes in fair value are recorded on the statements of net position as deferred outflows and inflows of resources. For ineffective hedging instruments or investment derivatives, the changes in fair value are recorded on the statements of revenues, expenses, and changes in net position as an adjustment to investment income.

Under JEA's interest rate swap programs, JEA either pays a variable rate of interest, which is based on various indices, and receives a fixed rate of interest for a specified period of time (unless earlier terminated) or JEA pays a fixed rate of interest and receives a variable rate of interest, which is based on various indices for a specified period of time (unless earlier terminated). These indices are affected by changes in the market. The net amounts received or paid under the swap agreements are recorded as either an adjustment to investment income (asset management) or interest on debt (debt management) in the statements of revenues, expenses, and changes in net position. No money is initially exchanged when JEA enters into a new interest rate swap transaction.

During fiscal years 2018 and 2017, JEA did not have any interest rate swaps outstanding under JEA's asset management interest rate swap program. See the Debt Management Strategy section in note 8, Long-Term Debt, for more information on JEA's debt management interest rate swap program.

(l) Inventory

Inventories are maintained for fuel and materials and supplies. Fuel inventories are maintained at levels sufficient to meet generation requirements. Inventories are valued at average cost, with obsolete items being expensed when identified.

1. Summary of Significant Accounting Policies and Practices (continued)

(m) Energy Market Risk Management Program

The energy market risk management program is intended to help manage the risk of changes in the market prices of fuel consumed by JEA for electric generation. JEA executes over-the-counter forward purchase and sale contracts and swaps. For effective derivative transactions, hedge accounting is applied in accordance with GASB Statement No. 53 and the fair market value changes are recorded on the accompanying statements of net position as either a deferred outflow of resources or a deferred inflow of resources until such time that the transactions end. The related settled gains and losses from these transactions are recognized as fuel expenses on the accompanying statements of revenues, expenses, and changes in net position.

(n) Capital Contributions

Capital contributions represent contributions of cash and capital assets from the City, developers, customers, and other third parties. Capital contributions are recorded in the accompanying statement of revenues, expenses, and changes in net position at the time of receipt. Assets received are recorded as contributions from developers and others at acquisition cost. Corresponding expenses of $54,114 and $42,069 were recorded in fiscal years 2018 and 2017 to recognize the costs of the assets since it will not be included in revenue requirements charged to customers in the future.

(o) Pension

For purposes of measuring the net liability, deferred outflows of resources and deferred inflows of resources related to pensions, pension expense and fiduciary net position; JEA's portion of the City of Jacksonville General Employees' Retirement Plan (GERP) and St. Johns River Power Park System Employees' Retirement Plan (SJRPP Plan) have been determined on the same basis as reported in the GERP and SJRPP Plan financial statements. Employer contributions made subsequent to the measurement date and before the fiscal year end are recorded as a deferred outflow of resources.

Basis of Accounting – The pension trust financial statements are prepared using the accrual basis of accounting. Plan member contributions are recognized in the period in which the contributions are due. Employer contribution, benefit payments and refunds are recognized when due and payable in accordance with the terms of the plans. Florida law and the Florida Division of Retirement require plan contributions be made annually in amounts determined by an actuarial valuation stated as a percent of covered payroll or in dollars. The Florida Division of Retirement reviews and approves the GERP actuarial report to ensure compliance with actuarial standards. The SJRPP Plan is governed by a five-member Pension Committee to ensure compliance with actuarial standards.

1. Summary of Significant Accounting Policies and Practices (continued)

Method Used to Value Investments – Investments are reported at fair value. Securities traded on a national or international exchange are valued at the last reported sales price at current exchange rates. The fair value of real estate investments in GERP is based on independent appraisals or estimates of fair value as provided by third-party fund managers. Investments that do not have an established market are reported at estimated fair value as provided by third-party fund managers. Investments are managed by third-party money managers while cash and securities are generally held by the independent custodians.

(p) Compensated Absences

JEA employees accumulate earned personal leave benefits (compensated absences) at various rates within limits specified in collective bargaining agreements and other employment plans. Accrued leave may be taken at any time when authorized. In addition, employees may elect to sell back any leave accrued during the fiscal year. Leave accrued over the maximum allowed leave balances is paid to the employee after the end of the fiscal year.

Upon termination from employment, employees are paid for their unused leave balances. In accordance with GASB Statement No. 16, *Accounting for Compensated Absences* (GASB No. 16), the amount reflected as the current portion is estimated based upon historical trends of retirements and attrition.

This liability reflects amounts attributable to employee services already rendered, cumulative, probable for payment, and reasonably estimated in conformity with GASB No. 16.

Compensated absences liabilities are accrued when incurred in the financial statements in conformity with generally accepted accounting principles (GAAP). The compensated absences liability is determined based on current rates of pay.

The compensated absence liability as of September 30, 2018, was $30,854. Of this amount, $1,423 was included in accounts and accrued expenses payable on the accompanying statements of net position. The remaining balance of $29,431 was included in other liabilities on the accompanying statements of net position. During fiscal year 2018, annual leave earned totaled $21,983 and annual leave taken totaled $22,788. The compensated absence liability as of September 30, 2017, was $31,798. Of this amount, $3,527 was included in accounts and accrued expenses payable on the accompanying statements of net position. The remaining balance of $28,271 was included in other liabilities on the accompanying statements of net position. During fiscal year 2017, annual leave earned totaled $21,856 and annual leave taken totaled $19,757.

(q) Pollution Remediation Obligations

JEA applies GASB Statement No. 49, *Accounting and Financial Reporting for Pollution Remediation Obligations*. See note 15, Commitments and Contingent Liabilities, for further discussion.

1. Summary of Significant Accounting Policies and Practices (continued)

(r) Asset Retirement Obligations

JEA applies GASB Statement No. 83, *Certain Asset Retirement Obligations*. See note 3, St. Johns River Power Park Decommissioning, for further discussion.

(s) Costs to Be Recovered from Future Revenues/Revenues to Be Used for Future Costs

JEA records certain assets and liabilities (or deferred inflows) that result from the effects of the ratemaking process that would not be recorded under GAAP for nonregulated entities. Currently, the electric utility industry is predominantly regulated on a basis designed to recover the cost of providing electric power to its customers. If cost-based regulation were to be discontinued in the electric industry for any reason, market prices for electricity could be reduced or increased and utilities might be required to reduce their statements of net position amounts to reflect market conditions.

Discontinuance of cost-based regulation could also require affected utilities to write off their associated regulatory assets and liabilities. Management cannot predict the potential impact, if any, of the change in the regulatory environment on JEA's future financial position and results of operations.

(t) Setting of Rates

The setting of rates is the responsibility of the Board. Base rate changes are implemented after a public rate hearing and Board approval. Fuel rate changes are implemented solely with Board approval.

In October 2017, the Board approved a new rate rider called SolarMax for customers purchasing a minimum of 7,000,000 kWh of annual solar purchase power, effective November 1, 2017. The Board also approved a wastewater rate for Leachate waste disposed at a JEA sewage treatment plant at a charge of $5.16 per 100 gallons.

JEA has an ongoing plan to review, update and, where possible, expand its rate options to provide customers more rate choices for their utility services. As part of this initiative, the Board approved, at its August 2018 meeting, an extension of the Economic Stimulus Rider from September 30, 2018 to September 30, 2021 that provides a financial incentive for new commercial or industrial customers to locate within the JEA service area.

(u) Reclassifications

Certain 2017 amounts have been reclassified to conform to the 2018 presentation.

(Dollars in Thousands)

1. Summary of Significant Accounting Policies and Practices (continued)

(v) Pervasiveness of Estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and deferred outflows of resources, liabilities and deferred inflows of resources, and disclosure of contingent assets at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

(w) Newly Adopted Standards for Fiscal Year 2018

In June 2015, GASB issued Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other than Pension (OPEB)*. This statement replaces the requirements of Statements No. 45, *Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions, as amended* and No. 57, *OPEB Measurements by Agent Employers and Agent Multiple-Employer Plans*, for OPEB. This statement establishes standards for measuring and recognizing liabilities, deferred outflows and deferred inflows of resources and expenses for governments that provide OPEB benefits. Note disclosure and required supplementary information requirements are also addressed. For comparative purposes, the statement of net position and statement of revenues, expenses, and changes in net position for the year ended September 30, 2017 were restated for this change. See the chart below for details of the restatement.

	Originally Reported October 1, 2016	GASB 75	As Restated October 1, 2016
Statement of Net Position			
Assets			
Costs to be recovered from future revenues	$ 463,610	$ 39,337	$ 502,947
Other assets	17,931	(2,724)	15,207
Deferred outflows of resources			
Unrealized OPEB contributions	–	5,061	5,061
Noncurrent liabilities			
Net OPEB liability	–	44,398	44,398
Net position	2,376,925	(2,724)	2,374,201
Statement of Revenues, Expenses, and Change in Net Position			
Adjustment to beginning net position			
Effect of adoption of GASB Statement No. 75	–	(2,724)	(2,724)

1. Summary of Significant Accounting Policies and Practices (continued)

In March 2016, GASB issued Statement 81, *Irrevocable Split-Interest Agreements*. This statement requires that a government that receives resources related to an irrevocable split-interest agreement recognize assets, liabilities, and deferred inflows of resources at the inception of the agreement. In addition, this statement requires a government recognize assets representing its beneficial interest in irrevocable split-interest agreements that are administered by a third party, if the government controls the beneficial interests. The implementation of this statement did not have an impact on JEA's financial statements.

In November 2016, GASB issued Statement No. 83, *Certain Asset Retirement Obligations*. This statement addresses accounting and financial reporting for certain asset retirement obligations (AROs). An ARO is a legally enforceable liability associated with the retirement of a tangible capital asset. This statement is effective for JEA in fiscal year 2019. However, JEA early adopted this statement in fiscal year 2018 in association with its accounting for the shutdown and dismantlement of St. Johns River Power Park. See note 3, SJRPP for details.

In March 2017, GASB issued Statement No. 85, *Omnibus 2017*. The objective of this statement is to address practice issues that have been identified during implementation and application of certain GASB statements. It addresses a variety of topics including issues related to blending component units, goodwill, fair value measurement and application, and pensions and other postemployment benefits. The implementation of this statement did not have an impact on JEA's financial statements.

In May 2017, GASB issued Statement No. 86, *Certain Debt Extinguishment Issues*. The primary objective of this statement is to improve consistency in accounting and financial reporting for in-substance defeasance of debt by providing guidance for transactions in which cash and other monetary assets acquired with only existing resources—resources other than the proceeds of refunding debt—are placed in an irrevocable trust for the sole purpose of extinguishing debt. This statement also improves accounting and financial reporting for prepaid insurance on debt that is extinguished and notes to financial statements for debt that is defeased in substance. The implementation of this statement did not have an impact on JEA's financial statements.

(x) Recently Issued Accounting Pronouncements Not Yet Effective

In January 2017, GASB issued Statement No. 84, *Fiduciary Activities*. This statement establishes criteria for identifying fiduciary activities of all state and local governments. The focus of the criteria generally is on (1) whether a government is controlling the assets of the fiduciary activity and (2) the beneficiaries with whom a fiduciary relationship exists. Separate criteria are included to identify fiduciary component units and postemployment benefit arrangements that are fiduciary activities. This statement is effective for JEA in fiscal year 2020. The impact on JEA's financial reporting will be the reporting of its pension and other postemployment benefit plans in fiduciary fund financial statements.

1. Summary of Significant Accounting Policies and Practices (continued)

In June 2017, GASB issued Statement No. 87, *Leases*. The objective of this statement is to better meet the information needs of financial statement users by improving accounting and financial reporting for leases by governments. This statement increases the usefulness of governments' financial statements by requiring recognition of certain lease assets and liabilities for leases that previously were classified as operating leases and recognized as inflows of resources or outflows of resources based on the payment provisions of the contract. It establishes a single model for lease accounting based on the foundational principle that leases are financings of the right to use an underlying asset. Under this statement, a lessee is required to recognize a lease liability and an intangible right-to-use lease asset, and a lessor is required to recognize a lease receivable and a deferred inflow of resources, thereby enhancing the relevance and consistency of information about governments' leasing activities. This statement is effective for JEA in fiscal year 2021. The impact on JEA's financial reporting has not been determined.

In April 2018, GASB issued Statement No. 88, *Certain Disclosures Related to Debt, including Direct Borrowings and Direct Placements*. The objective of this Statement is to improve the information that is disclosed in notes to government financial statements related to debt, including direct borrowings and direct placements. It also clarifies which liabilities governments should include when disclosing information related to debt. This Statement requires that additional essential information related to debt be disclosed in notes to financial statements, including unused lines of credit; assets pledged as collateral for the debt; and terms specified in debt agreements related to significant events of default with finance-related consequences, significant termination events with finance-related consequences, and significant subjective acceleration clauses. For notes to financial statements related to debt, this Statement also requires that existing and additional information be provided for direct borrowings and direct placements of debt separately from other debt. This statement is effective for JEA in fiscal year 2019. The impact on JEA's financial statements will be additional disclosures within the financial statement footnotes.

In June 2018, GASB issued Statement No. 89, *Accounting for Interest Cost Incurred before the End of a Construction Period*. The objectives of this Statement are (1) to enhance the relevance and comparability of information about capital assets and the cost of borrowing for a reporting period and (2) to simplify accounting for interest cost incurred before the end of a construction period. This Statement requires that interest cost incurred before the end of a construction period be recognized as an expense in the period in which the cost is incurred for financial statements prepared using the economic resources measurement focus. However, GASB allows those entities meeting the criteria for regulated operations, and electing to apply the related provisions of Statement 62, to continue to capitalize qualifying interest cost as a regulatory asset. This statement is effective for JEA in fiscal year 2021. The impact on JEA's financial reporting has not been determined.

In August 2018, GASB issues Statement No. 90, *Majority Equity Interests—an amendment of GASB Statements No. 14 and No. 61*. The objectives of this Statement are to improve the consistency and comparability of reporting a government's majority equity interest in a legally separate organization and to improve the relevance of financial statement information for certain component units. This statement is effective for JEA in fiscal year 2020. The implementation of this statement is not expected to have an impact on JEA's financial statements.

(Dollars in Thousands)

2. Regulatory Deferrals

Based on regulatory action taken by the Board and in accordance with the Regulated Operations section within GASB Statement 62, JEA has recorded the following regulatory assets and liabilities that will be included in the ratemaking process and recognized as expenses and revenues, respectively, in future periods. These amounts are shown under other noncurrent assets or deferred inflows of resources on the accompanying statements of net position.

Regulatory Assets

The following is a summary of JEA's regulatory assets at September 30:

Regulatory Asset		2018		2017 Restated
Unfunded pension costs	**$**	**433,583**	$	392,719
SJRPP and Bulk Power cost to be recovered		**267,432**		14,940
Water environmental projects		**59,859**		68,409
Unfunded OPEB costs		**23,469**		34,927
Storm costs to be recovered		**18,966**		27,999
Debt issue cost		**4,787**		2,027
Total regulatory assets	**$**	**808,096**	$	541,021

Unfunded Pension Costs – Accrued pension represents a regulatory asset related to unrecognized actuarial gains and losses, unrecognized prior service cost, and unrecognized transition obligation. In fiscal year 2018, the asset consisted of amounts attributable to JEA's portion of the GERP. For the SJRPP pension plan, JEA made excess contributions during fiscal year 2018 that resulted in a regulatory liability. See excess pension contributions in the Regulatory Liabilities section of this footnote. In fiscal year 2017, the balance includes amounts attributable to JEA's portion of the GERP and amounts related to the SJRPP Plan. The regulatory asset is amortized with the recognition of actuarial gains and losses, prior service cost, and transition obligations to net periodic benefit costs for pension.

2. Regulatory Deferrals (continued)

SJRPP and Bulk Power costs to be recovered – SJRPP deferred debt-related costs of $261,277 at September 30, 2018 and $3,254 at September 30, 2017 are the result of differences between expenses in determining rates and those used in financial reporting. During fiscal year 2018, operations of SJRPP, as generating facility, ceased and the majority of the assets are being dismantled. A write down of $451,037 of undepreciated book value of the assets was recognized during fiscal year 2018 and $128,280 of bonds were defeased as a result of the shutdown of SJRPP. After shutdown, SJRPP has remaining plant in service assets of $3,484 and outstanding debt of $280,605. The details relating to the shutdown of SJRPP are further discussed in note 3, St. Johns River Power Park Decommissioning. The JEA board approved the deferral of this regulatory asset. SJRPP has a contract with the JEA Electric System to recover these costs from future revenues that will coincide with retirement of long-term debt. The amount recovered each year will be the difference between debt principal maturities (adjusted for the effects of premiums, discounts, and amortization of gains and losses) and straight-line depreciation and results in recognition of deferred costs on the accompanying statements of revenues, expenses, and changes in net position. The Bulk Power Supply System deferred debt-related costs were $6,155 at September 30, 2018 and $11,686 at September 30, 2017. The amount recovered each year will be the difference between debt principal maturities (adjusted for the effects of premiums, discounts, and amortization of gains and losses) and straight-line depreciation. The Bulk Power Supply System will recover these costs from future revenues that will coincide with the retirement of long-term debt.

Water Environmental Projects – In August 2015, the Board approved the recovery of previously approved environmental capital projects that had not been collected through the environmental surcharge over a ten-year period beginning October 1, 2015. The amount approved for recovery and transferred out of capital assets was $101,277 of which $59,859 remained unrecovered as of September 30, 2018 and $68,409 remained unrecovered as of September 30, 2017. This deferral is being amortized over ten years.

Unfunded OPEB Costs – Accrued OPEB represents a regulatory asset related to unrecognized actuarial gains and losses, unrecognized prior service cost, and unrecognized transition obligation attributable to JEA's other postemployment benefit plan. The regulatory asset is amortized with the recognition of actuarial gains and losses, prior service cost, and transition obligations to net periodic benefit costs for OPEB. The Board approved the recovery of the unfunded amounts in future revenue requirements with the adoption of GASB 75 in fiscal year 2018. In addition, the Board approved the deferral of the difference between the annual contributions (funding) and OPEB expense.

Storm costs to be recovered – This amount represents storm costs that are expected to be recovered from insurance and the Federal Emergency Management Agency (FEMA). See note 16, Storm Costs, for further details.

Debt issue costs – With the application of regulatory accounting in fiscal year 2015, the Board approved deferral of the issue costs on all new debt issues with the amounts being amortized over the life of the bonds, as they are included in revenue requirements. These costs are incurred in connection with the issuance of debt obligations and are mainly underwriter fees and legal costs. Unrecovered costs remaining at the end of the fiscal year were $4,787 in fiscal year 2018 and $2,027 in 2017.

(Dollars in Thousands)

2. Regulatory Deferrals (continued)

Regulatory Liabilities

The following is a summary of JEA's regulatory liabilities at September 30:

Regulatory Liabilities	2018	2017
Fuel stabilization	**$ 74,376**	$ 131,715
Environmental	**55,077**	41,630
Nonfuel purchase power	**53,493**	25,189
Debt management stabilization	**44,093**	44,093
SJRPP and Bulk Power revenues to be used for future costs	**37,560**	189,070
Excess pension contributions	**10,624**	–
Self-insurance medical reserve	**8,139**	9,214
Customer benefit stabilization	**3,470**	3,695
Total regulatory liabilities	**$ 286,832**	$ 444,606

Fuel stabilization – This account represents the difference between the fuel costs incurred and fuel charge revenues collected from customers, inclusive of accrued utility revenue and fuel costs. During fiscal year 2018, a net of $57,339 of costs were incurred in excess of the revenues collected and was recognized as a reduction of the regulatory liability. During fiscal year 2017, a net of $48,400 of costs were incurred in excess of the revenues collected and was recognized as a reduction of the regulatory liability.

Environmental – The Board has authorized an environmental surcharge that is applied to all electric customer kilowatt-hour and water customer kilogallon sales. Electric costs included in the surcharge include all costs of environmental remediation and compliance with new and existing environmental regulations, excluding the amount already collected in the Environmental Liability Reserve. Water costs included in the surcharge include operating and capital costs of environmentally driven or regulatory required projects approved by the Board to be included in the surcharge. Any amounts under or over-collected are recorded as a regulatory asset or liability. During fiscal year 2018, $31,401 was collected through the surcharge with $8,551 of recovery of previously approved environmental capital projects, $6,169 of capital projects, and $3,234 of operations and maintenance costs being incurred with the remaining $13,447 recognized as a regulatory liability. During fiscal year 2017, $31,659 was collected through the surcharge with $11,286 of capital projects, $8,551 of recovery of previously approved environmental capital projects, and $1,866 of operations and maintenance costs being incurred with the remaining $9,956 recognized as a regulatory liability.

Nonfuel purchased power – JEA entered into a power purchase agreement related to the Alvin W. Vogtle Nuclear Plant in Burke County, Georgia (Plant Vogtle). This agreement is discussed in further detail in note 10, Fuel Purchase and Purchased Power Commitments. Related to that agreement, the JEA Board approved a nonfuel purchased power stabilization fund to balance the timing of the payments for Plant Vogtle's debt service with the anticipated in service date. It may be used for other purposes with the Board's approval. The amounts included in the fund are to be used for Plant Vogtle or refunded to customers if not needed. During fiscal year 2018, $40,000 was deposited into the stabilization fund to fund the additional debt service payments as a result of the new anticipated in service dates.

2. Regulatory Deferrals (continued)

Debt management stabilization – The Board has authorized the use of a debt management stabilization fund. Amounts are included in the fund based on differences between budgeted and actual debt cost up to an established maximum reserve fund. The reserve is available to support JEA during times of financial market crisis. Withdrawals from the debt management stabilization fund for debt management strategy can be made for expenses related to market disruption in the capital markets, disruption in availability of credit, or unanticipated credit expenses. The reserve can also be used to reduce short-term variable interest expense in excess of the amounts included in the budget. The Board evaluates during the budget approval process and periodically throughout the year the amounts in the reserve that will be included in JEA's annual revenue requirements. As a result, $44,093 collected in the past for the debt management stabilization fund was recorded as a regulatory liability at September 30, 2018 and 2017, respectively. During fiscal year 2018, no additional amounts were deposited or withdrawn from the stabilization fund. During fiscal year 2017, $18,323 was withdrawn and used to defease bonds.

SJRPP and Bulk Power revenues to be used for future costs – As a result of the shutdown of SJRPP, the deferred debt-related revenues of $144,933 at the shutdown date in January 2018 was adjusted. Through the regulatory approval by the board, a regulatory asset was recorded. See SJRPP and Bulk Power costs to be recovered in this note for further details. SJRPP had deferred debt-related revenues of $147,632 at September 30, 2017 as the result of differences between revenues in determining rates and those used in financial reporting. Bulk Power Supply System early debt principal in excess of straight-line depreciation of $37,560 at September 30, 2018 and $41,438 at September 30, 2017 is included in deferred inflows of resources on the accompanying statements of net position.

Excess pension contributions – Excess pensions contributions represents a regulatory liability related to unrecognized actuarial gains and losses, unrecognized prior service cost, and unrecognized transition obligation attributable to the SJRPP Plan. The regulatory liability is amortized with the recognition of actuarial gains and losses, prior service cost, and transition obligations to net periodic benefit costs for pension.

Self-insurance medical reserve – The Board has established, from operating revenues, an internally designated "Health Self-Insurance Fund" to cover reserve requirements for its self-insurance health program over medical and prescription benefits. The Board, as part of the budget process, will approve amounts to be collected in rates that include both the current anticipated cost less amounts approved to be contributed by employees as well as amounts to maintain an adequate reserve for future costs.

Under the self-insurance program, JEA is liable for all claims. JEA retains an additional stop-loss policy for claims in excess of $250 per employee, with an aggregate limit of 125.0% of claims. There have been no significant reductions in coverage from the prior year. The health insurance benefits program is administered through a third-party insurance company and, as such, the administrator is responsible for processing the claims in accordance with the benefit specifications with JEA reimbursing the insurance company for its payouts. Liabilities associated with the health care program are determined based on an actuarial study and include claims that have been incurred but not reported.

(Dollars in Thousands)

2. Regulatory Deferrals (continued)

The changes in the self-insurance medical reserve for the years ended September 30, 2018 and 2017 are as follows:

		2018		2017
Beginning balance	**$**	**9,214**	$	11,178
Contributions		**29,561**		29,615
Incurred claims		**(30,636)**		(31,579)
Ending balance	**$**	**8,139**	$	9,214

Customer benefit stabilization – The pricing policy adopted by the Board includes a demand side management surcharge. The costs approved for recovery through the surcharge included programs for the electrification, direct load control, demand side management, residential low-income efficiency programs, and customer utility optimization education programs.

3. St. Johns River Power Park Decommissioning

JEA and FPL entered into an Agreement for Joint Ownership, Construction and Operation of SJRPP Coal Units #1 and #2 (JOA) dated as of April 2, 1982. JEA owns 80% and FPL owns 20% of SJRPP. A Purchased Power Agreement (PPA) in the JOA assigned 37.5% of JEA's 80% generation to FPL, which effectively provided 50% of the generation to both owners of SJRPP. The JOA ends on April 2, 2022. JEA and FPL reached an agreement to close SJRPP, including early termination of the PPA. On May 16, 2017, JEA's board of directors approved the Asset Transfer and Contract Termination Agreement, which outlined the terms of the retirement, decommissioning, and dismantling of the plant. The week following, FPL approved the contract and filed a petition with the Florida Public Service Commission (FPSC) for approval to shut down SJRPP. The final order was approved by FPSC in October 2017.

Shutdown occurred on January 5, 2018. On that date, FPL paid JEA $90,400, made up of FPL's cash reserves at SJRPP and a shutdown cash payment of $51,869 as a result of the early termination of the PPA. The payment was recorded as other operating revenue and the expenses related to the shutdown were charged to maintenance and other operating expenses on the statement of revenues, expenses, and changes in net position.

In addition, on that date, FPL paid JEA the FPL Debt Service Reserves, which JEA then paid to an escrow account to consummate the bond defeasance of $128,280 of Issue Two debt. On January 5, 2018, JEA defeased all of the SJRPP System Revenue Issue Two debt and, on March 21, 2018, JEA satisfied and discharged the First Power Park Resolution.

As part of the agreement, JEA assumed all payment obligations and other liabilities related to separation benefits for the qualifying SJRPP employees and any amounts required to be deposited into the SJRPP Pension Fund. JEA paid a total of $8,974 in separation benefits for SJRPP employees.

3. St. Johns River Power Park Decommissioning (continued)

FPL conveyed their 20% interest in SJRPP's fuel inventory to JEA. The fuel inventory received, totaling $4,595, was recorded at fair value. The remaining coal at SJRPP was transferred and consumed at JEA Northside Units 1 and 2. These transactions were recorded at the book value of the coal as the coal was transferred. Based on a physical inventory, the book balance of coal inventory at September 30, 2018 was written down by $11,484 to reflect the remaining coal at SJRPP of $1,015.

FPL received a credit for their estimated share of the material and supplies inventory balance at shutdown, pending sale of the inventory. After the sales period passed, FPL paid a shutdown payment adjustment for their share of 20% of the loss on the remaining materials and supplies inventory. JEA is in the process of liquidating the material and supplies inventory. However, the remaining materials and supplies was written down to fair value. As a result, an adjustment of $22,444 was recorded to adjust the remaining balance down to $665.

As part of the agreement, the parties agreed that all operation of SJRPP as a generating facility would cease at shutdown. As such, the majority of the plant assets will be dismantled. As a result of the shutdown of SJRPP and in accordance with GASB 42, *Accounting and Financial Reporting for Impairment of Capital Assets*, an impairment loss of $451,037 was recorded, as a special item, on the un-depreciated book value of the assets that are being dismantled. In conjunction with the recording of the impairment loss related to SJRPP decommissioning, it was determined that there were certain items included in the regulatory asset balance that were longer going to be recovered through the ratemaking process, primarily those costs deferred related to debt issues that were defeased. As a result, an additional adjustment of $45,099 to regulatory balances was included in the statement of revenues, expenses and changes in net position in the current period, as a special item. The remaining regulatory balance will be amortized over the life of the remaining debt outstanding related to Issue Three debt. See note 2, Regulatory Deferrals, for additional information related to SJRPP's regulatory deferrals.

FPL conveyed their 20% undivided ownership of plant in service assets to JEA. The retained plant in service assets were recorded at fair value. At the end of fiscal year 2018, JEA had remaining plant in service assets of $3,484. In addition, FPL will convey their 20% undivided ownership interest in the SJRPP site to JEA upon completion of dismantlement and environmental remediation.

(Dollars in Thousands)

3. St. Johns River Power Park Decommissioning (continued)

Under a service management agreement, FPL will pay 20% of the dismantlement and remediation costs incurred. Dismantlement and remediation is expected to be complete by April 2020. Monitoring of the site will continue for ten years subsequent to the completion date. JEA's share of the estimated cost for dismantlement and remediation is approximately $43,204. As discussed in note 1, Summary of Significant Accounting Policies and Practices, JEA early adopted Statement No. 83, *Certain Retirement Obligations* in association with its accounting for the asset retirement obligations (ARO) related to dismantlement and remediation at SJRPP. The current portion of the remaining liability, $6,647, is recorded in accounts and accrued expenses payable and the long-term portion, $22,526, is a separate line item, asset retirement obligation, on the statement of net position. These amounts are offset by the separate line item, unrealized asset retirement obligation, in deferred outflows of resources, totaling $29,173. Currently, JEA does not possess sufficient information to reasonably estimate the amounts of additional liabilities, if any, on the site until completion of future environmental studies. In addition, conditions that are currently unknown could result in additional exposure, the amount and materiality of which cannot presently be reasonably estimated. Based upon information currently available, however, JEA believes its ARO accurately reflects the estimated cost of remedial actions currently required.

4. Restricted Assets

Restricted assets were held in the following funds at September 30, 2018 and 2017:

	September 30, 2018				
	Electric	SJRPP	Water and Sewer	DES	Total
Renewal and Replacement Fund	**$ 189,929**	**$ 52,610**	**$ 141,423**	**$ 1,078**	**$ 385,040**
Sinking Fund	**167,483**	**7,446**	**81,242**	**2,340**	**258,511**
Debt Service Reserve Fund	**65,433**	**11,354**	**102,850**	**–**	**179,637**
Revenue Fund	–	**26,014**	–	–	**26,014**
Adjustment to fair value of investments	**(3,302)**	**66**	**(1,347)**	**–**	**(4,583)**
Environmental Fund	**–**	**–**	**1,159**	**–**	**1,159**
Construction Fund	**203**	–	**284**	–	**487**
Total	**$ 419,746**	**$ 97,490**	**$ 325,611**	**$ 3,418**	**$ 846,265**

	September 30, 2017				
	Electric	SJRPP	Water and Sewer	DES	Total
Renewal and Replacement Fund	$ 201,388	$ 82,577	$ 150,331	$ 899	$ 435,195
Sinking Fund	174,529	51,280	82,208	2,331	310,348
Debt Service Reserve Fund	65,433	141,145	107,488	–	314,066
Revenue Fund	–	1,903	–	–	1,903
Adjustment to fair value of investments	750	(4,082)	2,133	–	(1,199)
Environmental Fund	–	–	1,839	–	1,839
Construction Fund	–	–	15	–	15
Total	$ 442,100	$ 272,823	$ 344,014	$ 3,230	$ 1,062,167

The Electric System, SJRPP System, Bulk Power Supply, Water and Sewer System, and the DES are permitted to invest restricted funds in specified types of investments in accordance with their bond resolutions and the investment policy.

(Dollars in Thousands)

4. Restricted Assets (continued)

The requirements of the respective bond resolutions for contributions to the respective systems' renewal and replacement funds are as follows:

Electric System:	An amount equal to the greater of 10% of the prior year defined net revenues or 5% of the prior year defined gross revenues.
SJRPP System:	An amount equal to 12.5% of aggregate debt service, as defined, on bonds issued under the First SJRPP Bond Resolution. An amount equal to 12.5% of aggregate debt service, as defined, on bonds issued under the Second SJRPP Bond Resolution. However, no such deposit is required under the Second SJRPP Bond Resolution as long as the First SJRPP Bond Resolution has not been discharged. On January 5, 2018, JEA defeased all the SJRPP System Revenue Issue Two bonds in their entirety and on March 21, 2018, JEA satisfied and discharged the First Power Park Resolution; therefore, the deposits required under the Second SJRPP Bond Resolution began in fiscal year 2018.
Bulk Power Supply System:	An amount equal to 12.5% of aggregate debt service, as defined.
Water and Sewer System:	An amount equal to the greater of 10% of the prior year defined annual net revenues or 5% of the prior year defined gross revenues.
DES:	An amount equal to the greater of 10% of the prior year defined annual net revenues or 5% of the prior year defined revenues.

5. Cash and Investments

JEA maintains cash and investment pools that are utilized by all funds except for the bond funds. Included in the JEA cash balances are amounts on deposit with JEA's commercial bank, as well as amounts held in various money market funds as authorized in the JEA Investment Policy. The commercial bank balances are covered by federal depository insurance or collateralized subject to the Florida Security for Public Deposits Act of Chapter 280, Florida Statutes. Amounts subject to Chapter 280, Florida Statutes, are collateralized by securities deposited by JEA's commercial bank under certain pledging formulas with the State Treasurer or other qualified custodians.

JEA follows GASB Statement No. 31, *Accounting and Financial Reporting for Certain Investments and for External Investment Pools*, which requires the adjustments of the carrying value of investments to fair value to be presented as a component of investment income. Investments are presented at fair value or cost, which is further explained in note 14, Fair Value Measurements.

(Dollars in Thousands)

5. Cash and Investments (continued)

At September 30, 2018 and 2017, the fair value of all securities, regardless of statement of net position classification as cash equivalent or investment, was as follows:

	2018	2017
Securities:		
U.S. Treasury and government agency securities	**$ 462,897**	$ 538,887
State and local government securities	**223,845**	323,507
Commercial paper	**133,074**	170,829
Local government investment pool	**194,786**	138,207
Money market mutual funds	**23,208**	51,460
Total securities, at fair value	**$ 1,037,810**	$ 1,222,890

These securities are held in the following accounts:

	2018	2017
Current assets:		
Cash and cash equivalents	**$ 441,206**	$ 489,559
Investments	**85,310**	25,122
Restricted assets:		
Cash and cash equivalents	**114,576**	124,475
Investments	**731,627**	936,708
Total cash and investments	**1,372,719**	1,575,864
Plus: interest due on securities	**2,878**	2,967
Less: cash on deposit	**(337,787)**	(355,941)
Total securities, at fair value	**$ 1,037,810**	$ 1,222,890

JEA is authorized to invest in securities as described in its investment policy and in each bond resolution. As of September 30, 2018, JEA's investments in securities and their maturities are categorized below in accordance with GASB Statement No. 40, *Deposit and Investment Risk Disclosures – an amendment of GASB Statement No. 3*. It is assumed that callable investments will not be called. Puttable securities are presented as investments with a maturity of less than one year.

(Dollars in Thousands)

5. Cash and Investments (continued)

The maturity distribution of the investments held at September 30, 2018 is listed below.

Type of Investments	Less than One Year	One to Five Years	Five to Ten Years	Ten to Twenty Years	Total
U.S. Treasury and government agency securities	$ 245,490	$ 193,550	$ 12,956	$ 10,901	$ 462,897
State and local government securities	48,852	86,537	8,821	79,635	223,845
Commercial paper	133,074	–	–	–	133,074
Local government investment pools	194,786	–	–	–	194,786
Money market mutual funds	23,208	–	–	–	23,208
Total securities, at fair value	$ 645,410	$ 280,087	$ 21,777	$ 90,536	$ 1,037,810

Interest Rate Risk – As a means of limiting its exposure to fair value losses arising from rising interest rates, JEA's investment policy requires the investment portfolio to be structured in such a manner as to provide sufficient liquidity to pay obligations as they come due. To the extent possible, investment maturities are matched with known cash needs and anticipated cash flow requirements. Additionally, maturity limitations for investments related to the issuance of debt are outlined in the bond resolution relating to those bond issues. JEA's investment policy also limits investments in commercial paper to maturities of less than nine months.

Credit Risk – JEA's investment policy is consistent with the requirements for investments of state and local governments contained in the Florida Statutes and its objectives are to seek reasonable income, preserve capital, and avoid speculative investments. Consistent with JEA's investment policy and bond resolutions: (1) the U.S. government agency securities held in the portfolio are issued or guaranteed by agencies created pursuant to an Act of Congress as an agency or instrumentality of the United States of America; (2) the state and local government securities are rated by two nationally recognized rating agencies and are rated at least AA- by Standard & Poor's, Aa3 by Moody's Investors Services, or AA- by Fitch Ratings; and (3) the money market mutual funds are rated AAA by Standard & Poor's or Aaa by Moody's Investors Services. JEA's investment policy limits investments in commercial paper to the highest whole rating category issued by at least two nationally recognized rating agencies, and the issuer must be a Fortune 500 company, a Fortune Global 500 company with significant operations in the U.S., or the governments of Canada or Canadian provinces and the ratings outlook must be positive or stable at the time of the investment. As of September 30, 2018, JEA's investments in commercial paper are rated at least A-1 by Standard & Poor's and P-1 by Moody's Investors Services. In addition, JEA's investment policy limits the commercial paper investment in any one issuer to $12,500. Additionally, JEA's investment policy limits investments in commercial paper to 25% of the total cash and investment portfolio regardless of statement of net position classification as cash equivalent or investment. As of September 30, 2018, JEA had 12.8% of its investments in commercial paper.

5. Cash and Investments (continued)

Custodial Credit Risk – For an investment, custodial credit risk is the risk that, in the event of the failure of the counterparty, JEA will not be able to recover the value of its investments or collateral securities that are in the possession of an outside party. All of JEA's investments are held by JEA or by an agent in JEA's name.

Concentration of Credit Risk – As of September 30, 2018, investments in any one issuer representing 5% or more of JEA's investments included $235,878 (22.7%) invested in issues of the Federal Home Loan Bank, $170,424 (16.4%) held in U.S. Treasury securities, and $56,595 (5.5%) invested in issues of the Federal Farm Credit Bank. JEA's investment policy limits the maximum holding of any one U.S. government agency issuer to 35% of total cash and investments regardless of statement of net position classification as cash equivalent or investment. Other than investments in U.S. Treasury securities or U.S. Treasury money market funds, JEA's investment policy limits the percentage of the total cash and investment portfolio (regardless of statement of net position classification as cash equivalent or investment) that may be held in various security types. As of September 30, 2018, investments in all security types were within the allowable policy limits.

(Dollars in Thousands)

6. Capital Assets

Capital asset activity for the year ended September 30, 2018 is as follows:

	Balance September 30, 2017	Additions	Retirements	Transfers/ Adjustments	Balance September 30, 2018
Electric Enterprise Fund:					
Generation assets	$ 3,685,363	$ –	$ (5,686)	$ 20,237	$ 3,699,914
Transmission assets	571,810	–	(175)	22,223	593,858
Distribution assets	1,927,058	–	(5,881)	78,899	2,000,076
Other assets	459,240	–	(1,754)	(8,609)	448,877
Total capital assets	6,643,471	–	(13,496)	112,750	6,742,725
Less: accumulated depreciation and amortization	(3,718,060)	(680,606)	13,496	–	(4,385,170)
Land	130,246	–	(197)	237	130,286
Construction work-in-process	106,012	183,278	–	(114,763)	174,527
Net capital assets	3,161,669	(497,328)	(197)	(1,776)	2,662,368
Water and Sewer Fund:					
Pumping assets	509,490	–	(9,533)	25,691	525,648
Treatment assets	627,165	–	(7,037)	26,141	646,269
Transmission and distribution assets	1,182,420	–	(312)	24,772	1,206,880
Collection assets	1,485,168	–	(427)	23,857	1,508,598
Reclaimed water assets	138,535	–	(730)	(271)	137,534
General and other assets	397,765	–	(1,512)	10,812	407,065
Total capital assets	4,340,543	–	(19,551)	111,002	4,431,994
Less: accumulated depreciation	(1,991,742)	(140,025)	19,551	4,189	(2,108,027)
Land	61,259	–	(11)	(33)	61,215
Construction work-in-process	205,890	202,761	–	(110,969)	297,682
Net capital assets	2,615,950	62,736	(11)	4,189	2,682,864
District Energy System:					
Chilled water plant assets	55,240	–	(940)	2,076	56,376
Total capital assets	55,240	–	(940)	2,076	56,376
Less: accumulated depreciation	(24,091)	(2,403)	940	–	(25,554)
Land	3,051	–	–	–	3,051
Construction work-in process	1,980	1,250	–	(2,076)	1,154
Net capital assets	36,180	(1,153)	–	–	35,027
Total	$ 5,813,799	$ (435,745)	$ (208)	$ 2,413	$ 5,380,259

(Dollars in Thousands)

6. Capital Assets (continued)

Capital asset activity for the year ended September 30, 2017 is as follows:

	Balance September 30, 2016	Additions	Retirements	Transfers/ Adjustments	Balance September 30, 2017
Electric Enterprise Fund:					
Generation assets	$ 3,679,557	$ –	$ (41,299)	$ 47,105	$ 3,685,363
Transmission assets	547,705	–	(1,563)	25,668	571,810
Distribution assets	1,822,944	–	(5,011)	109,125	1,927,058
Other assets	436,508	–	(3,238)	25,970	459,240
Total capital assets	6,486,714	–	(51,111)	207,868	6,643,471
Less: accumulated depreciation and amortization	(3,525,733)	(243,438)	51,111	–	(3,718,060)
Land	127,895	–	(30)	2,381	130,246
Construction work-in-process	181,247	144,855	–	(220,090)	106,012
Net capital assets	3,270,123	(98,583)	(30)	(9,841)	3,161,669
Water and Sewer Fund:					
Pumping assets	501,502	–	(9,152)	17,140	509,490
Treatment assets	606,217	–	(6,434)	27,382	627,165
Transmission and distribution assets	1,161,588	–	(314)	21,146	1,182,420
Collection assets	1,468,752	–	(530)	16,946	1,485,168
Reclaimed water assets	131,557	–	(91)	7,069	138,535
General and other assets	382,964	–	(3,408)	18,209	397,765
Total capital assets	4,252,580	–	(19,929)	107,892	4,340,543
Less: accumulated depreciation	(1,879,932)	(135,928)	19,929	4,189	(1,991,742)
Land	59,714	–	(830)	2,375	61,259
Construction work-in-process	135,881	180,276	–	(110,267)	205,890
Net capital assets	2,568,243	44,348	(830)	4,189	2,615,950
District Energy System:					
Chilled water plant assets	53,648	–	(88)	1,680	55,240
Total capital assets	53,648	–	(88)	1,680	55,240
Less: accumulated depreciation	(21,815)	(2,364)	88	–	(24,091)
Land	3,051	–	–	–	3,051
Construction work-in process	1,675	1,985	–	(1,680)	1,980
Net capital assets	36,559	(379)	–	–	36,180
Total	$ 5,874,925	$ (54,614)	$ (860)	$ (5,652)	$ 5,813,799

(Dollars in Thousands)

7. Investment in The Energy Authority

JEA is a member of TEA, a municipal power marketing and risk management joint venture, headquartered in Jacksonville, Florida. TEA currently has eight members, and JEA's ownership interest in TEA is 16.7%. TEA provides wholesale power marketing and resource management services to members (including JEA) and nonmembers and allocates transaction savings and operating expenses pursuant to a settlement agreement. TEA also assists members (including JEA) and nonmembers with natural gas procurement and related gas hedging activities. JEA's earnings from TEA were $4,074 in fiscal year 2018 and $6,335 in 2017 for all power marketing activities. JEA's distributions from TEA were $3,513 in fiscal year 2018 and $6,182 in 2017. The investment in TEA was $6,811 at September 30, 2018 and $6,283 at September 30, 2017 and is included in noncurrent assets on the accompanying statement of net position.

The following is a summary of the unaudited financial information of TEA for the nine months ended September 30, 2018 and 2017. TEA issues separate audited financial statements on a calendar-year basis.

	Unaudited	
	2018	**2017**
Condensed statement of net position:		
Current assets	**$ 165,904**	$ 177,777
Noncurrent assets	**21,510**	15,622
Total assets	**$ 187,414**	$ 193,399
Current liabilities	**$ 146,768**	$ 155,313
Noncurrent liabilities	**15**	394
Members' capital	**40,631**	37,692
Total liabilities and members' capital	**$ 187,414**	$ 193,399
Condensed statement of operations:		
Operating revenues	**$ 1,334,738**	$ 1,153,933
Operating expenses	**1,252,868**	1,092,748
Operating income	**$ 81,870**	$ 61,185
Net income	**$ 81,975**	$ 61,223

As of September 30, 2018, JEA is obligated to guaranty, directly or indirectly, TEA's electric trading activities in an amount up to $28,929 and TEA's natural gas procurement and trading activities up to $31,000, in either case, plus attorney's fees that any party claiming and prevailing under the guaranty might incur and be entitled to recover under its contract with TEA. JEA has approved up to $60,000 (plus attorney fees) for TEA's natural gas procurement and trading activities.

7. Investment in The Energy Authority (continued)

Generally, JEA's guaranty obligations for electric trading would arise if TEA did not make the contractually required payment for energy, capacity, or transmission that was delivered or made available, or if TEA failed to deliver or provide energy, capacity, or transmission as required under a contract. Generally, JEA's guaranty obligations for natural gas procurement and trading would arise if TEA did not make the contractually required payment for natural gas or transportation that was delivered or purchased or if TEA failed to deliver natural gas or transportation as required under a contract.

Upon JEA's making any payments under its electric guaranty, it has certain contribution rights with the other members of TEA in order that payments made under the TEA member guaranties would be equalized ratably, based upon each member's equity ownership interest in TEA. Upon JEA's making any payments under its natural gas guaranty, it has certain contribution rights with the other members of TEA in order that payments under the TEA member guaranties would be equalized ratably in proportion to their respective amounts of guaranties, as adjusted by the actual natural gas member volumes and prices for the calendar year. After such contributions have been effected, JEA would only have recourse against TEA to recover amounts paid under the guaranty.

The term of these guaranties is generally indefinite, but JEA has the ability to terminate its guaranty obligations by causing to be provided advance notice to the beneficiaries thereof. Such termination of its guaranty obligations only applies to TEA transactions not yet entered into at the time the termination takes effect. Such termination would be because of JEA's withdrawal from membership in TEA, or such termination could cause JEA's membership in TEA to be terminated.

Under a separate agreement, TEA contracted with Southern Power Company ("Southern"), on JEA's behalf, for the purchase and sale of capacity and energy from Southern's Wansley plant located in Heard County, GA, covering the term from January 1, 2018 to December 31, 2019. In turn, JEA has guaranteed the payment obligations in the agreement up to $9,000 as well as all reasonable fees and expenses of Southern's counsel in any way relating to the enforcement of Southern's rights under the agreement.

8. Long-Term Debt

The Electric System, Bulk Power Supply System, SJRPP System, Water and Sewer System, and DES revenue bonds (JEA Revenue Bonds) are each governed by one or more bond resolutions. The Electric System bonds are governed by both a senior and a subordinated bond resolution; the Bulk Power Supply System bonds are governed by a single bond resolution; the Water and Sewer System bonds are governed by both a senior and a subordinated bond resolution; the SJRPP System bonds are governed by the First and Second Power Park Resolutions; and the DES bonds are governed by a single bond resolution. In accordance with the bond resolutions of each system, principal and interest on the bonds are payable from and secured by a pledge of the net revenues of the respective system. In general, the bond resolutions require JEA to make monthly deposits into the separate debt service sinking funds for each System in an amount equal to approximately one-twelfth of the aggregate amount of principal and interest due and payable on the bonds within the bond year. Interest on the fixed rate bonds is payable semiannually on April 1 and October 1, and principal is payable on October 1.

In accordance with the requirements of the SJRPP First Power Park Resolution and the Agreement for Joint Ownership and Construction and Operation of SJRPP Coal Units #1 and #2 between JEA and FPL, FPL is responsible for paying its share of the debt service on bonds issued under the First Power Park Resolution. The various bond resolutions provide for certain other covenants, the most significant of which (1) requires JEA to establish rates for each system such that net revenues with respect to that system are sufficient to exceed (by a certain percentage) the debt service for that system during the fiscal year and any additional amount required to make all reserve or other payments required to be made in such fiscal year by the resolution of that system and (2) restricts JEA from issuing additional parity bonds unless certain conditions are met.

On January 5, 2018, JEA defeased all the SJRPP System Revenue Issue Two bonds in their entirety and on March 21, 2018, JEA satisfied and discharged the First Power Park Resolution.

(Dollars in Thousands)

8. Long-Term Debt (continued)

Below is the schedule of outstanding indebtedness for the fiscal years 2018 and 2017.

Long-Term Debt	Interest Rates[1]	Payment Dates	September 30 2018	September 30 2017
Electric System Senior Revenue Bonds:				
Series Three 2004A	5.000%	2039	**$ 5**	$ 5
Series Three 2005B	4.750%	2033	**100**	100
Series Three 2008A[2]	Variable	2027–2036	**51,680**	51,680
Series Three 2008B-1[3]	Variable	2018–2040	**60,020**	60,395
Series Three 2008B-2[2]	Variable	2025–2040	**41,900**	41,900
Series Three 2008B-3[2]	Variable	2024–2036	**37,000**	37,000
Series Three 2008B-4[3]	Variable	2018–2036	**49,410**	49,810
Series Three 2008C-1[2]	Variable	2024–2034	**44,145**	44,145
Series Three 2008C-2[2]	Variable	2024–2034	**43,900**	43,900
Series Three 2008C-3[2]	Variable	2030–2038	**25,000**	25,000
Series Three 2008D-1[3]	Variable	2018–2036	**108,900**	111,420
Series Three 2009C	N/A	N/A	**–**	3,355
Series Three 2009D[6]	6.056%	2033–2044	**45,955**	45,955
Series Three 2010A	4.000%	2018–2019	**10,065**	14,980
Series Three 2010C	4.125–4.500%	2026–2031	**1,950**	8,975
Series Three 2010D	4.250–5.000%	2018–2038	**7,210**	79,470
Series Three 2010E[6]	5.350–5.482%	2028–2040	**34,255**	34,255
Series Three 2012A	4.000–4.500%	2023–2033	**16,995**	60,750
Series Three 2012B	2.000–5.000%	2019–2039	**85,615**	128,250
Series Three 2013A	3.000–5.000%	2018–2026	**74,865**	93,815
Series Three 2013B	3.000–5.000%	2026–2038	**7,500**	7,500
Series Three 2013C	4.000–5.000%	2018–2030	**19,335**	28,685
Series Three 2014A	3.400–5.000%	2018–2034	**12,870**	32,305
Series Three 2015A	2.750–5.000%	2018–2041	**69,975**	79,495
Series Three 2015B	3.375–5.000%	2018–2031	**23,900**	36,005
Series Three 2017A	5.000%	2019	**18,670**	18,670
Series Three 2017B	3.375–5.000%	2026–2039	**198,095**	–
Total Electric System Senior Revenue Bonds			**1,089,315**	1,137,820

(Dollars in Thousands)

8. Long-Term Debt (continued)

Long-Term Debt	Interest Rates(1)	Payment Dates	September 30 2018	2017
Electric System Subordinated Revenue Bonds:				
2000 Series A(2)	Variable	2021-2035	**$ 30,965**	$ 30,965
2000 Series F-1(2)	Variable	2026-2030	**37,200**	37,200
2000 Series F-2(2)	Variable	2026-2030	**24,800**	24,800
2008 Series D(2)	Variable	2024-2038	**39,455**	39,455
2009 Series A	N/A	N/A	**–**	21,140
2009 Series D	5.000%	2018	**11,660**	23,925
2009 Series E	4.000%	2018	**295**	2,215
2009 Series F(6)	4.800-6.406%	2018-2034	**63,670**	64,670
2009 Series G	4.000-5.000%	2018-2019	**16,090**	16,090
2010 Series A	N/A	N/A	**–**	710
2010 Series B	4.000-5.000%	2018-2024	**4,605**	7,535
2010 Series C	N/A	N/A	**–**	4,385
2010 Series D(6)	4.000-5.582%	2018-2027	**44,125**	45,575
2012 Series A	3.250-5.000%	2018-2033	**62,440**	88,500
2012 Series B	3.250-5.000%	2018-2037	**52,995**	93,750
2013 Series A	3.000-5.000%	2018-2030	**44,585**	54,110
2013 Series B	3.000-5.000%	2018-2026	**21,275**	25,385
2013 Series C	1.375-5.000%	2018-2038	**78,330**	80,390
2013 Series D	4.000-5.250%	2018-2035	**88,660**	124,025
2014 Series A	4.000-5.000%	2018-2039	**121,320**	206,105
2017 Series A	3.000-5.000%	2018-2019	**31,790**	71,735
2017 Series B	3.375-5.000%	2018-2034	**185,745**	–
Total Electric System Subordinated Revenue Bonds			**960,005**	1,062,665

(Dollars in Thousands)

8. Long-Term Debt (continued)

Long-Term Debt	Interest Rates[1]	Payment Dates	September 30 2018	September 30 2017
Bulk Power Supply System Revenue Bonds:				
Series 2010A[6]	4.600–5.920%	2018–2030	**$ 37,400**	$ 39,875
Series 2014A	2.000–5.000%	2018–2038	**63,320**	66,050
Total Bulk Power System Revenue Bonds			**100,720**	105,925
SJRPP System Revenue Bonds:				
Issue Two, Series Seventeen	N/A	N/A	**–**	100
Issue Two, Series Eighteen	N/A	N/A	**–**	50
Issue Two, Series Nineteen	N/A	N/A	**–**	100
Issue Two, Series Twenty	N/A	N/A	**–**	100
Issue Two, Series Twenty-One	N/A	N/A	**–**	5
Issue Two, Series Twenty-Two	N/A	N/A	**–**	5
Issue Two, Series Twenty-Three	N/A	N/A	**–**	64,910
Issue Two, Series Twenty-Four	N/A	N/A	**–**	29,625
Issue Two, Series Twenty-Five	N/A	N/A	**–**	45
Issue Two, Series Twenty-Six	N/A	N/A	**–**	65,970
Issue Two, Series Twenty-Seven	N/A	N/A	**–**	7,025
Issue Three, Series One[5]	4.500%	2037	**100**	100
Issue Three, Series Two[5]	5.000%	2034–2037	**29,370**	29,370
Issue Three, Series Four[5][6]	4.500–5.450%	2018–2028	**22,410**	24,085
Issue Three, Series Six[5]	2.375–5.000%	2019–2037	**91,330**	91,330
Issue Three, Series Seven[5]	2.000–5.000%	2019–2033	**79,500**	79,500
Issue Three, Series Eight[5]	2.000–5.000%	2019–2039	**57,895**	57,895
Total SJRPP System Revenue Bonds			**280,605**	450,215

(Dollars in Thousands)

8. Long-Term Debt (continued)

Long-Term Debt	Interest Rates[1]	Payment Dates	September 30 2018	September 30 2017
Water and Sewer System Senior Revenue Bonds:				
2006 Series B[4]	Variable	2018-2022	**$ 30,370**	$ 34,625
2008 Series A-2[2]	Variable	2028-2042	**51,820**	51,820
2008 Series B[2]	Variable	2023-2041	**85,290**	85,290
2009 Series B	3.750-5.000%	2018-2019	**18,295**	25,565
2010 Series A[6]	6.210-6.310%	2026-2044	**83,115**	83,115
2010 Series B	4.700-5.700%	2018-2025	**13,840**	15,570
2010 Series C	5.000%	2020	**3,000**	9,545
2010 Series D	4.000-5.000%	2018-2039	**42,525**	101,850
2010 Series E	4.000-5.000%	2021-2039	**11,865**	60,990
2010 Series F[6]	3.750-5.887%	2018-2040	**44,275**	45,520
2012 Series A	3.000-5.000%	2019-2041	**162,430**	317,935
2012 Series B	2.000-5.000%	2018-2037	**76,380**	130,085
2013 Series A	4.500-5.000%	2018-2027	**63,660**	89,740
2013 Series B	N/A	N/A	**–**	3,830
2014 Series A	2.000-5.000%	2018-2040	**217,790**	284,595
2017 Series A	3.125-5.000%	2020-2041	**378,220**	–
Total Water and Sewer System Senior Revenue Bonds			**1,282,875**	1,340,075
Water and Sewer System Subordinated Revenue Bonds:				
Subordinated 2008 Series A-1[2]	Variable	2018–2038	**50,950**	52,950
Subordinated 2008 Series A-2[2]	Variable	2030–2038	**25,600**	25,600
Subordinated 2008 Series B-1[2]	Variable	2030–2036	**30,885**	30,885
Subordinated 2010 Series A	5.000%	2018–2022	**8,275**	13,150
Subordinated 2010 Series B	3.000–5.000%	2020–2025	**3,255**	12,770
Subordinated 2012 Series A	3.000%	2021	**1,440**	20,320
Subordinated 2012 Series B	3.250–5.000%	2030–2043	**29,685**	35,505
Subordinated 2013 Series A	2.125–5.000%	2018–2029	**37,435**	72,250
Subordinated 2017 Series A	2.750–5.000%	2021–2034	**58,940**	–
Total Water and Sewer System Subordinated Revenue Bonds			**246,465**	263,430

(Dollars in Thousands)

8. Long-Term Debt (continued)

Long-Term Debt	Interest Rates[1]	Payment Dates	September 30 2018	2017
Water and Sewer System Other Subordinated Debt:				
Revolving Credit Agreement[7]	Variable	2021	**$ 3,000**	$ 3,000
Total Water and Sewer System Other Subordinated Debt			**3,000**	3,000
District Energy System:				
2013 Series A	1.725–4.538%	2018–2034	**36,485**	38,125
Total District Energy System			**36,485**	38,125
Total Debt Principal Outstanding			**3,999,470**	4,401,255
Less: Debt Due Within One Year			**(185,790)**	(229,095)
Total Long-Term Debt			**$ 3,813,680**	$ 4,172,160

(1) Interest rates apply only to bonds outstanding at September 30, 2018. Interest on the outstanding variable rate debt is based on either the daily mode, weekly mode, or the flexible mode, which resets in time increments ranging from 1 to 270 days. In addition, JEA has executed fixed-payer weekly mode interest rate swaps to effectively fix a portion of its net payments relative to certain variable rate bonds. The terms of the interest rate swaps are approximately equal to that of the fixed-payer bonds. See the Debt Management Strategy section of this note for more information related to the interest rate swap agreements outstanding at September 30, 2018 and 2017.

(2) Variable rate demand obligations – interest rates ranged from 1.53% to 1.68% at September 30, 2018.

(3) Variable rate direct purchased bonds indexed to SIFMA – interest rates were 1.96% at September 30, 2018.

(4) Variable rate bonds indexed to the Consumer Price Index (CPI bonds) – interest rates ranged from 3.02% to 3.07% at September 30, 2018.

(5) SJRPP System Issue Three Bonds were issued under the Second Power Park Resolution, whereby JEA is responsible for 100% of the related debt service payments. Whereas the SJRPP System Issue Two Bonds issued under the First Power Park Resolution, JEA is responsible for approximately 62.5% of the related debt service payments and FPL the remainder. On January 5, 2018, JEA defeased all the SJRPP System Issue Two Bonds in their entirety and on March 21, 2018, JEA satisfied and discharged the First Power Park Resolution.

(6) Federally Taxable – Issuer Subsidy – Build America Bonds where JEA expects to receive a cash subsidy payment from the United States Department of the Treasury for an amount up to 35% of the related interest.

(7) Revolving Credit Agreement – interest rates were 3.39% at September 30, 2018.

(Dollars in Thousands)

8. Long-Term Debt (continued)

Long-term debt activity (excluding short-term bank borrowings) for the year ended September 30, 2018 was as follows:

System	Debt Payable September 30, 2017	Par Amount of Debt Issued	Par Amount of Debt Refunded or Defeased	Scheduled Debt Principal Payments	Debt Payable September 30, 2018	Current Portion of Debt Payable September 30, 2018
Electric	**$ 2,200,485**	**$ 383,840**	**$ (405,105)**	**$ (129,900)**	**$ 2,049,320**	**$ 124,980**
Bulk Power Supply	**105,925**	**–**	**–**	**(5,205)**	**100,720**	**5,710**
SJRPP	**450,215**	**–**	**(128,280)**	**(41,330)**	**280,605**	**1,720**
Water and Sewer	**1,603,505**	**437,160**	**(460,305)**	**(51,020)**	**1,529,340**	**51,720**
DES	**38,125**	**–**	**–**	**(1,640)**	**36,485**	**1,660**
Total	**$ 4,398,255**	**$ 821,000**	**$ (993,690)**	**$ (229,095)**	**$ 3,996,470**	**$ 185,790**

Long-term debt activity (excluding short-term bank borrowings) for the year ended September 30, 2017 was as follows:

System	Debt Payable September 30, 2016	Par Amount of Debt Issued	Par Amount of Debt Refunded or Defeased	Scheduled Debt Principal Payments	Debt Payable September 30, 2017	Current Portion of Debt Payable September 30, 2017
Electric	$ 2,359,485	$ 90,405	$ (153,210)	$ (96,195)	$ 2,200,485	$ 129,900
Bulk Power Supply	111,970	–	–	(6,045)	105,925	5,205
SJRPP	494,000	–	–	(43,785)	450,215	41,330
Water and Sewer	1,643,515	–	(6,135)	(33,875)	1,603,505	51,020
DES	39,750	–	–	(1,625)	38,125	1,640
Total	$ 4,648,720	$ 90,405	$ (159,345)	$ (181,525)	$ 4,398,255	$ 229,095

(Dollars in Thousands)

8. Long-Term Debt (continued)

The debt service to maturity on the outstanding debt (excluding short-term bank borrowings) as of September 30, 2018 is summarized as follows:

Fiscal Year Ending	Electric System		Bulk Power Supply System		SJRPP	
September 30	Principal	Interest	Principal	Interest	Principal	Interest
2018	$ 124,980	$ 34,676	$ 5,710	$ 2,116	$ 1,720	$ 5,603
2019	116,230	72,122	6,150	3,959	13,780	11,128
2020	60,790	66,757	6,975	3,716	13,340	10,444
2021	59,140	63,939	7,080	3,498	14,175	9,894
2022	58,135	61,381	7,270	3,274	15,285	9,310
2023–2027	412,705	267,922	24,955	12,689	85,040	37,109
2028–2032	527,685	180,414	22,750	6,749	77,645	21,324
2033–2037	535,695	86,762	15,305	2,895	52,060	8,990
2038–2042	144,750	14,698	4,525	187	7,560	456
2043–2047	9,210	842	–	–	–	–
Total	$ 2,049,320	$ 849,513	$ 100,720	$ 39,083	$ 280,605	$ 114,258

Fiscal Year Ending	Water and Sewer System		District Energy System		Total Debt
September 30	Principal	Interest	Principal	Interest	Service(1)(2)(3)
2018	$ 51,720	$ 29,521	$ 1,660	$ 680	$ 258,386
2019	54,705	59,741	1,690	1,330	340,835
2020	56,340	57,535	1,725	1,296	278,918
2021	58,950	55,404	1,770	1,254	275,104
2022	59,550	52,973	1,815	1,206	270,199
2023–2027	294,405	225,940	10,005	5,102	1,375,872
2028–2032	295,730	159,214	12,165	2,943	1,306,619
2033–2037	356,835	96,163	5,655	388	1,160,748
2038–2042	285,850	30,530	–	–	488,556
2043–2047	15,255	1,274	–	–	26,581
Total	$ 1,529,340	$ 768,295	$ 36,485	$ 14,199	$ 5,781,818

(1) Includes debt service accrued from October 1 through September 30 of the corresponding fiscal year, except for fiscal year 2018, which excludes payments made during the fiscal year.

(2) Interest requirement for the variable rate debt was determined by using the interest rates that were in effect at the financial statement date of September 30, 2018.

(3) Interest in the above table reflects total interest on the Federally Taxable – Issuer Subsidy – Build America Bonds and does not reflect the impact of the 35% cash subsidy payments that JEA expects to receive in the future from the United States Department of the Treasury.

(Dollars in Thousands)

8. Long-Term Debt (continued)

JEA, at its option, may redeem specific outstanding fixed rate JEA Revenue Bonds prior to maturity, as discussed in the official statements covering their issuance. A summary of the redemption provisions is as follows:

	Electric System	Bulk Power Supply System	SJRPP	Water and Sewer System	District Energy System
Earliest fiscal year for redemption	2019	2019	2019	2019	2023
Redemption price	100%	100%	100%	100%	100%

JEA debt issued during fiscal year 2018 is summarized as follows:

System	Debt Issued	Purpose	Priority of Lien	Month of Issue	Par Amount Issued	Par Amount Refunded	Accounting Gain/(Loss)
Electric	Series Three 2017B	Refunding[(1)]	Senior	Dec 2017	$ 198,095	$ 210,030	$ (6,413)
Electric	2017 Series B	Refunding[(2)]	Subordinated	Dec 2017	185,745	195,075	(8,407)
Water and Sewer	2017 Series A	Refunding[(3)]	Senior	Dec 2017	378,220	394,335	(11,076)
Water and Sewer	2017 Series A	Refunding[(4)]	Subordinated	Dec 2017	58,940	65,970	(1,915)
					$ 821,000	$ 865,410	$ (27,811)

(1) Fixed rate bonds issued to refund fixed rate bonds with new debt service of $324,904 compared to prior debt service of $346,747 and $17,425 of net present value economic savings.

(2) Fixed rate bonds issued to refund fixed rate bonds with new debt service of $291,178 compared to prior debt service of $304,128 and $12,314 of net present value economic savings.

(3) Fixed rate bonds issued to refund fixed rate bonds with new debt service of $588,806 compared to prior debt service of $635,880 and $33,648 of net present value economic savings.

(4) Fixed rate bonds issued to refund fixed rate bonds with new debt service of $86,518 compared to prior debt service of $93,337 and $5,283 of net present value economic savings.

The JEA Board has authorized the issuance of additional refunding bonds within certain parameters for the Electric System, SJRPP, and Water and Sewer System. The following table summarizes the maximum amounts that could be issued:

System	Authorization Senior	Authorization Subordinated	Expiration
Electric	$ 672,905	$ 447,255	December 31, 2018
SJRPP Issue Three	80,000	–	December 31, 2018
Water and Sewer	424,780	206,060	December 31, 2018

8. Long-Term Debt (continued)

Variable Rate Demand Obligations (VRDOs) – Liquidity Support

For the Electric System and the Water and Sewer System VRDOs appearing in the schedule of outstanding indebtedness, and except for the obligations noted in the following paragraphs, liquidity support is provided in connection with tenders for purchase with various liquidity providers pursuant to standby bond purchase agreements (SBPA) relating to that series of obligation. The purchase price of the obligations tendered or deemed tendered for purchase is payable from the proceeds of the remarketing thereof and moneys drawn under the applicable SBPA. At September 30, 2018, there were no outstanding draws under the SBPA. In the event of the expiration or termination of the SBPA that results in a mandatory tender of the VRDOs and the purchase of the obligations by the bank, then beginning on April 1 or October 1, whichever date is at least six months subsequent to the purchase of the obligations, JEA shall begin to make equal semiannual installments over an approximate five-year period. Commitment fees range from 0.38% to 0.42% with stated termination dates ranging from May 8, 2020 to August 22, 2022, unless otherwise extended. See note 18, Subsequent Events, for further details.

JEA entered into irrevocable direct-pay letter of credit and reimbursement agreement to support the payment of principal and interest on the Water and Sewer System 2008 Series A-2 VRDOs. The letter of credit agreement constitutes both a credit facility and a liquidity facility. As of September 30, 2018, there were no draws outstanding under the letter of credit agreement. Repayment of any draws outstanding at the expiration date are payable in equal semiannual installments over an approximate five-year period. The commitment fee is 0.48% with a stated expiration date of December 2, 2018, unless otherwise extended. Subsequent to the end of the fiscal year, the letter of credit and reimbursement agreement was renewed. See note 18, Subsequent Events, for further details.

JEA has entered into continuing covenant agreements for the Variable Rate Electric System Revenue Bonds, Series Three 2008B-1, Series Three 2008B-4 and Series Three 2008D-1 (collectively, the Direct Purchased Bonds). Except as described below, the bank does not have the option to tender the respective Direct Purchased Bonds for purchase for a period specified in the respective continuing covenant agreements, which period would be subject to renewal under certain conditions. Any Direct Purchased Bond that was not purchased from such bank on the scheduled mandatory tender date that occurred upon the expiration of such period would be required to be repaid as to principal in equal semiannual installments over a period of approximately five years from such scheduled mandatory tender date. Upon any such tender for payment, the Direct Purchased Bond so tendered would be due and payable immediately. The current expiration date of the continuing covenant agreements is December 12, 2018, unless otherwise extended. The interest rate is variable and set weekly based upon SIFMA plus 40 basis points. Subsequent to the end of the fiscal year, the continuing covenant agreements were renewed. See note 18, Subsequent Events, for further details.

8. Long-Term Debt (continued)

Short-Term Bank Borrowings

As of September 30, 2018, JEA has a revolving credit agreement with a commercial bank for an unsecured amount of $300,000. This agreement became effective on December 17, 2015, when JEA terminated the prior two revolving credit agreements with a total available amount of $300,000 with two commercial banks. The revolving credit agreement may be used with respect to the Electric System, the Bulk Power Supply System, the SJRPP System, the Water and Sewer System, or the DES, and for operating expenditures or for capital expenditures.

During fiscal year 2016, the revolving credit agreement was drawn upon by the Water and Sewer System for $3,000 and remains outstanding as of September 30, 2018, with $297,000 available to be drawn.

The revolving credit agreement is scheduled to expire on May 24, 2021. Subsequent to the end of the fiscal year, the revolving credit agreement was amended. See note 18, Subsequent Events, for further details.

Debt Management Strategy

JEA has entered into various interest rate swap agreements executed in conjunction with debt financings for initial terms up to 35 years (unless earlier terminated). JEA utilizes floating to fixed interest rate swaps as part of its debt management strategy. For purposes of this note, the term floating to fixed interest rate swaps refers to swaps in which JEA receives a floating rate and pays a fixed rate.

The fair value of the interest rate swap agreements and related hedging instruments is reported in the long-term debt section in the accompanying statements of net position; however, the notional amounts of the interest rate swaps are not reflected in the accompanying financial statements. JEA follows GASB Statement No. 53, *Accounting and Financial Reporting for Derivative Instruments*; therefore, hedge accounting is applied where fair market value changes are recorded in the accompanying statements of net position as either deferred outflow or deferred inflow resources.

The earnings from the debt management strategy interest rate swaps are recorded to interest on debt in the accompanying statements of revenues, expenses, and changes in net position.

(Dollars in Thousands)

8. Long-Term Debt (continued)

JEA entered into all outstanding floating to fixed interest rate swap agreements during prior fiscal years. The terms of the floating to fixed interest rate swap agreements outstanding at September 30, 2018, are as follows:

System	Hedged Bonds	Initial Notional Amount	Notional Amount Outstanding	Fixed Rate of Interest	Effective Date	Termination Date	Variable Rate Index
Electric	Series Three 2008C	**$ 174,000**	**$ 84,800**	3.7%	Sep 2003	Sep 2033	68% of one month LIBOR
Electric	Series Three 2008B	**117,825**	**82,575**	4.4%	Aug 2008	Oct 2039	SIFMA
Electric	Series Three 2008B	**116,425**	**85,600**	3.7%	Sep 2008	Oct 2035	68% of one month LIBOR
Electric	2008 Series D	**40,875**	**39,175**	3.7%	Mar 2009	Oct 2037	68% of one month LIBOR
Electric	Series Three 2008D-1	**98,375**	**62,980**	3.9%	May 2008	Oct 2031	SIFMA
Electric	Series Three 2008A	**100,000**	**51,680**	3.8%	Jan 2008	Oct 2036	SIFMA
Water and Sewer	2006 Series B	**38,730**	**30,370**	4.0-4.1%	Oct 2006	Oct 2018-2022	CPI
Water and Sewer	2008 Series B	**85,290**	**85,290**	3.9%	Mar 2007	Oct 2041	SIFMA
		$ 771,520	**$ 522,470**				

The terms of the floating to fixed interest rate swap agreements outstanding at September 30, 2017, are as follows:

System	Hedged Bonds	Initial Notional Amount	Notional Amount Outstanding	Fixed Rate of Interest	Effective Date	Termination Date	Variable Rate Index
Electric	Series Three 2008C	$ 174,000	$ 84,800	3.7%	Sep 2003	Sep 2033	68% of one month LIBOR
Electric	Series Three 2008B	117,825	82,575	4.4%	Aug 2008	Oct 2039	SIFMA
Electric	Series Three 2008B	116,425	86,000	3.7%	Sep 2008	Oct 2035	68% of one month LIBOR
Electric	2008 Series D	40,875	39,175	3.7%	Mar 2009	Oct 2037	68% of one month LIBOR
Electric	Series Three 2008D-1	98,375	62,980	3.9%	May 2008	Oct 2031	SIFMA
Electric	Series Three 2008A	100,000	51,680	3.8%	Jan 2008	Oct 2036	SIFMA
Water and Sewer	2006 Series B	38,730	34,625	3.9-4.1%	Oct 2006	Oct 2017-2022	CPI
Water and Sewer	2008 Series B	85,290	85,290	3.9%	Mar 2007	Oct 2041	SIFMA
		$ 771,520	$ 527,125				

(Dollars in Thousands)

8. Long-Term Debt (continued)

The following table includes fiscal year 2018 and 2017 summary information for JEA's effective cash flow hedges related to the outstanding floating to fixed interest rate swap agreements.

	Changes in Fair Value		Fair Value at September 30, 2018		
System	**Classification**	**Amount**	**Classification**	**Amount[(1)]**	**Notional**
Electric	Deferred outflows	**$ (31,247)**	Fair value of debt management strategy instruments	**$ (70,103)**	**$ 406,810**
Water and Sewer	Deferred outflows	**(7,666)**	Fair value of debt management strategy instruments	**(16,253)**	**115,660**
Total		**$ (38,913)**		**$ (86,356)**	**$ 522,470**

	Changes in Fair Value		Fair Value at September 30, 2017		
System	**Classification**	**Amount**	**Classification**	**Amount[(1)]**	**Notional**
Electric	Deferred outflows	$ (44,458)	Fair value of debt management strategy instruments	$ (101,350)	$ 407,210
Water and Sewer	Deferred outflows	(12,067)	Fair value of debt management strategy instruments	(23,919)	119,915
Total		$ (56,525)		$ (125,269)	$ 527,125

(1) Fair value amounts were calculated using market rates and standard cash flow present valuing techniques.

(Dollars in Thousands)

8. Long-Term Debt (continued)

For fiscal years ended September 30, 2018 and 2017, the weighted-average rates of interest for each index type of floating to fixed interest rate swap agreement and the total net swap earnings were as follows:

		2018		2017
68% of LIBOR Index:				
Notional amount outstanding	**$**	**209,575**	$	209,975
Variable rate received (weighted average)		**1.17%**		0.60%
Fixed rate paid (weighted average)		**3.69%**		3.70%
SIFMA Index (formerly BMA Index):				
Notional amount outstanding	**$**	**282,525**	$	282,525
Variable rate received (weighted average)		**1.27%**		0.80%
Fixed rate paid (weighted average)		**4.02%**		4.00%
CPI Index:				
Notional amount outstanding	**$**	**30,370**	$	34,625
Variable rate received (weighted average)		**2.87%**		2.60%
Fixed rate paid (weighted average)		**4.02%**		4.00%
Net debt management swap loss	**$**	**(13,395)**	$	(16,181)

(Dollars in Thousands)

8. Long-Term Debt (continued)

The following two tables summarize the anticipated net cash flows of JEA's outstanding hedged variable rate debt and related floating to fixed interest rate swap agreements at September 30, 2018:

Electric System(1)

Bond Year Ending October 1	Principal	Interest	Net Swap Interest	Total
2018	$ 400	$ 501	$ 820	$ 1,721
2019	425	6,031	9,794	16,250
2020	3,200	6,024	9,784	19,008
2021	3,275	5,970	9,713	18,958
2022	3,375	5,914	9,640	18,929
2023–2027	91,100	27,219	44,951	163,270
2028–2032	172,605	16,714	28,162	217,481
2033–2037	114,180	6,745	11,464	132,389
2038–2042	18,250	466	780	19,496
Total	$ 406,810	$ 75,584	$ 125,108	$ 607,502

Water and Sewer System(1)

Bond Year Ending October 1	Principal	Interest	Net Swap Interest	Total
2018	$ 5,520	$ 558	$ 320	$ 6,398
2019	5,740	2,036	2,278	10,054
2020	9,195	1,861	2,222	13,278
2021	4,860	1,581	2,132	8,573
2022	5,055	1,433	2,084	8,572
2023–2027	17,595	5,751	9,147	32,493
2028–2032	4,540	5,010	7,971	17,521
2033–2037	21,430	4,239	6,741	32,410
2038–2042	41,725	1,597	2,540	45,862
Total	$ 115,660	$ 24,066	$ 35,435	$ 175,161

(1) Interest requirement for the variable rate debt and the variable portion of the interest rate swaps was determined by using the interest rates that were in effect at the financial statement date of September 30, 2018. The fixed portion of the interest rate swaps was determined based on the actual fixed rates of the outstanding interest rate swaps at September 30, 2018.

(Dollars in Thousands)

8. Long-Term Debt (continued)

Credit Risk – JEA is exposed to credit risk on hedging derivative instruments that are in asset positions. To minimize its exposure to loss related to credit risk, the Board has established limits on the notional amount of JEA's interest rate swap transactions and standards for the qualification of financial institutions with which JEA may enter into interest rate swap transactions. The counterparties with which JEA may deal must be rated (i) "AAA" by one or more nationally recognized rating agencies at the time of execution, (ii) "AA/Aa3" or better by at least two of such credit rating agencies at the time of execution, or (iii) if such counterparty is not rated "AA/Aa3" or better at the time of execution, provide for a guarantee by an affiliate of such counterparty rated at least "A/A2" or better at the time of execution where such affiliate agrees to unconditionally guarantee the payment obligations of such counterparty under the swap agreement. In addition, each swap agreement will require the counterparty to enter into a collateral agreement to provide collateral when the ratings of such counterparty (or its guarantor) fall below "AA/Aa3" and a payment is owed to JEA. All outstanding interest rate swaps at September 30, 2018, were in a liability position. Therefore, if counterparties failed to perform as contracted, JEA would not be subject to any credit risk exposure at September 30, 2018.

JEA's floating to fixed interest rate swap counterparty credit ratings at September 30, 2018, are as follows:

Counterparty	Counterparty Credit Ratings S&P/Moody's/Fitch	Outstanding Notional Amount
Morgan Stanley Capital Service Inc.	BBB+/A3/A	$ 175,925
Goldman Sachs Mitsui Marine Derivative Products L.P.	AA-/Aa2/not rated	136,480
JPMorgan Chase Bank, N.A.	A+/Aa3/AA	124,775
Merrill Lynch Derivative Products AG	A-/A3/A+	85,290
Total		$ 522,470

Interest Rate Risk – JEA is exposed to interest rate risk where changes in interest rates could affect the related net cash flows and fair values of outstanding interest rate swaps. On a pay-fixed, receive-variable interest rate swap, as the floating swap index decreases, JEA's net payment on the swap increases, and as the fixed rate swap market declines as compared to the fixed rate on the swap, the fair value declines.

Basis Risk – JEA is exposed to basis risk on certain pay-fixed interest rate swap hedging derivative instruments because the variable-rate payments received on certain hedging derivative instruments are based on a rate or index other than interest rates that JEA pays on its hedged variable-rate debt, which is reset every one or seven days. As of September 30, 2018, the weighted-average interest rate on JEA's hedged variable-rate debt (excluding variable rate CPI bonds) is 1.71%, while the SIFMA swap index rate is 1.56% and 68% of LIBOR is 1.43%.

Termination Risk – JEA or its counterparties may terminate a derivative instrument if the other party fails to perform under the terms of the contract. If at the time of termination, a hedging derivative instrument were in a liability position, JEA would be liable to the counterparty for a payment equal to the liability.

(Dollars in Thousands)

8. Long-Term Debt (continued)

Market Access Risk – JEA is exposed to market access risk due to potential market disruptions in the municipal credit markets that could inhibit the issuing or remarketing of bonds and related hedging instruments. JEA maintains strong credit ratings (see Debt Administration section of the Management Discussion and Analysis) and, to date, has not encountered any barriers to the credit markets.

9. Transactions with City of Jacksonville

Utility and Administrative Services

JEA is a separately governed authority and considered a discretely presented component unit of the City. JEA provides electric, water, and sewer service to the City and its agencies and bills for such service using established rate schedules. JEA utilizes various services provided by departments of the City including insurance, legal, and motor pool. JEA is billed on a proportionate cost basis with other user departments and agencies. The revenues for services provided and expenses for services received by JEA for these related-party transactions with the City were as follows:

	2018	2017
Revenues	**$ 35,708**	$ 36,842
Expenses	**$ 6,031**	$ 5,433

City Contribution

On March 22, 2016, the City and JEA entered into a five-year agreement, which established the contribution formula for the fiscal years 2017 through 2021.

Although the calculation for the annual transfer of available revenue from JEA to the City is based upon formulas that are applied specifically to each utility system operated by JEA, JEA, at its sole discretion, may utilize any of its available revenues, regardless of source, to satisfy its total annual obligation to the City.

The contributions from the JEA Electric Enterprise Fund and JEA Water and Sewer Fund for fiscal years 2018 and 2017 were as follows:

	2018	2017
Electric	**$ 91,472**	$ 92,271
Water and Sewer	**$ 25,148**	$ 23,552

(Dollars in Thousands)

9. Transactions with City of Jacksonville (continued)

The JEA Electric Enterprise Fund is required to contribute annually to the General Fund of the City an amount equal to 7.468 mills per kilowatt hour delivered by JEA to retail users in JEA's service area and to wholesale customers under firm contracts having an original term of more than one year, other than sales of energy to FPL from JEA's SJRPP System. The JEA Water and Sewer Fund is required to contribute annually to the General Fund of the City an amount equal to 389.2 mills per thousand gallons of potable water and sewer service provided, excluding reclaimed water service. These calculations are subject to a minimum increase of 1% per year through 2021, using 2016 as the base year for the combined assessment for the Electric Enterprise Fund and Water and Sewer Fund. There is no maximum annual assessment.

Franchise Fees

In 2008, the City enacted a 3.0% franchise fee from designated revenues of the Electric and Water and Sewer systems. The ordinance authorizes JEA to pass through these fees to its electric and water and sewer funds. These amounts are included in operating revenues and expenses and were as follows:

	2018	2017
Electric	**$ 28,496**	$ 27,704
Water and Sewer	**$ 10,476**	$ 10,562

Insurance Risk Pool

JEA is exposed to various risks of loss related to torts, theft and destruction of assets, errors and omissions, and natural disasters. In addition, JEA is exposed to risks of loss due to injuries and illness of its employees. These risks are managed through the Risk Management Division of the City, which administers the public liability (general liability and automobile liability) and workers' compensation self-insurance program covering the activities of the City general government, JEA, Jacksonville Housing Authority, Jacksonville Port Authority, and the Jacksonville Aviation Authority. The general objectives are to formulate, develop, and administer, on behalf of the members, a program of insurance to obtain lower costs for that coverage and to develop a comprehensive loss control program.

(Dollars in Thousands)

9. Transactions with City of Jacksonville (continued)

JEA has excess coverage for individual workers' compensation claims above $1,200. Liability for claims incurred is the responsibility of, and is recorded in, the City's self-insurance plan. The premiums are calculated on a retrospective or prospective basis, depending on the claims experience of JEA and other participants in the City's self-insurance program. The liabilities are based on the estimated ultimate cost of settling the claim including the effects of inflation and other societal and economic factors. The JEA workers' compensation expense is the premium charged by the City's self-insurance plan. JEA is also a participant in the City's general liability insurance program. As part of JEA's risk management program, certain commercial insurance policies are purchased to cover designated exposures and potential loss programs. These amounts are included in operating expenses and were as follows:

	2018	2017
General liability	**$ 2,240**	$ 1,511
Workers' compensation	**$ 1,613**	$ 1,435

The following table shows the estimated workers' compensation and general liability loss accruals for the City and JEA's portion for the fiscal years ended September 30, 2018 and 2017. The amounts are recorded by the City at present value using a 4% discount rate for the fiscal years ended September 30, 2018 and September 30, 2017.

	Workers' Compensation		General Liability	
	City of Jacksonville	JEA Portion	City of Jacksonville	JEA Portion
Beginning balance	$ 94,300	$ 3,156	$ 15,531	$ 2,308
Change in provision	32,394	468	5,939	1,245
Payments	(23,052)	(1,032)	(6,170)	(997)
Ending balance	$ 103,642	$ 2,592	$ 15,300	$ 2,556

10. Fuel Purchase and Purchased Power Commitments

JEA has made purchase commitments for Scherer Unit 4 through calendar year 2022. Northside coal and petroleum coke commitments concluded at the end of September 2018. Contract terms specify minimum annual purchase commitments at fixed prices or at prices that are subject to market adjustments. JEA has remarketing rights under the coal contracts. The majority of JEA's coal and petroleum coke supply is purchased with transportation included.

In addition, JEA participates in Georgia Power agreements with rail carriers for the delivery of coal to Scherer Unit 4. Georgia Power Company, acting for itself and as agent for JEA and the other Scherer co-owners, has entered into an agreement with Burlington Northern Santa Fe Railway Company (BNSF) that extends the rail contract through calendar year 2028. Georgia Power has also entered into an agreement with the Norfolk Southern Railway Company (NS) that extends through December 31, 2019.

(Dollars in Thousands)

10. Fuel Purchase and Purchased Power Commitments (continued)

JEA has commitments to purchase natural gas delivered to Jacksonville under a long-term contract with Shell Energy North America L.P. (Shell Energy) that expire in 2021. Contract terms for the natural gas supply specify minimum annual purchase commitments at market prices. JEA has the option to remarket any excess natural gas purchases. In addition to the gas delivered by Shell Energy, JEA has long-term contracts with Peoples Gas system, Florida Gas Transmission, Southern Natural Gas and SeaCoast Gas Transmission for firm gas transportation to allow the delivery of natural gas through those pipeline systems. There is no purchase commitment of natural gas associated with those transportation contracts.

In the unlikely event that JEA would not be in a position to fulfill its obligations to receive fuel and purchased power under the terms of its existing fuel and purchased power contracts, JEA would nonetheless be obligated to make certain future payments. If the conditions necessitating the future payments occurred, JEA would mitigate the financial impact of those conditions by remarketing the fuel and purchased power at then-current market prices. The aggregate amount of future payments that JEA does not expect to be able to mitigate appears in the table below:

Fiscal Year Ending	Coal and Pet Coke Fuel	Natural Gas Transportation	Transmission	Total
2019	2,049	7,236	6,091	15,376
2020	1,165	7,256	7,212	15,633
2021	553	4,817	7,493	12,863
2022	247	–	7,776	8,023
2023	49	–	8,009	8,058
2024-2042	–	–	175,653	175,653

Vogtle Units Purchased Power Agreement

Overview

As a result of an earlier 2008 Board policy establishing a 10% of total energy from nuclear energy goal, JEA entered into a power purchase agreement (as amended, the Additional Vogtle Units PPA) with the Municipal Electric Authority of Georgia (MEAG) for 206 megawatts (MW) of capacity and related energy from MEAG's interest in two additional nuclear generating units (the Additional Vogtle Units or Plant Vogtle Units 3 and 4) under construction at the Alvin W. Vogtle Nuclear Plant in Burke County, Georgia. The owners of the Additional Vogtle Units include Georgia Power Company (Georgia Power), Oglethorpe Power Corporation (Oglethorpe), MEAG and the City of Dalton, Georgia (collectively, the Owners or Vogtle Co-Owners). The energy received under the Additional Vogtle Units PPA is projected to represent approximately 13% of JEA's total energy requirements in the year 2023.

10. Fuel Purchase and Purchased Power Commitments (continued)

The Additional Vogtle Units PPA requires JEA to pay MEAG for the capacity and energy at the full cost of production (including debt service on the bonds issued and to be issued by MEAG and on the loans made and to be made by the Project J Entity referred to below, in each case, to finance the portion of the capacity to be sold to JEA from the Additional Vogtle Units) plus a margin over the term of the Additional Vogtle Units PPA. Under the Additional Vogtle Units PPA, JEA is entitled to 103 MW of capacity and related energy from each of the Additional Vogtle Units for a 20-year term commencing on each Additional Vogtle Unit's commercial operation date and is required to pay for such capacity and energy on a "take-or-pay" basis (that is, whether or not either Additional Vogtle Unit is completed or is operating or operable, and whether or not its output is suspended, reduced or the like or terminated in whole or in part), except that JEA is not obligated to pay the "margin" referred to above during such periods in which the output of either Additional Vogtle Unit is suspended or terminated.

On September 11, 2018, MEAG filed a complaint in the United States District Court for the Northern District of Georgia seeking a declaratory judgement that the Additional Vogtle Units PPA is lawful and enforceable and ordering specific performance from JEA with the terms of the Additional Vogtle Units PPA. On the same day, JEA and the City, as co-plaintiffs, filed a complaint in the Fourth Judicial Circuit Court of Florida seeking a declaratory judgment that the Additional Vogtle Units PPA violates the Florida Constitution and laws and public policy of the state of Florida and is therefore ultra vires, void ab initio, and unenforceable. For additional information about such litigation, see the Litigation and Regulatory Proceedings section in this note.

Financing and In-Service Costs

MEAG created three separate "projects" (Vogtle Units 3 and 4 Project Entities) for the purpose of owning and financing its 22.7% undivided ownership interest in the Additional Vogtle Units (representing approximately 500.308 MW of capacity and related energy based upon the nominal rating of the Units). The project corresponding to the portion of MEAG's ownership interest, which will provide the capacity and energy to be purchased by JEA under the Additional Vogtle Units PPA, is referred to herein as "Project J." MEAG currently estimates that the total in-service cost for its entire undivided ownership interest in the Additional Vogtle Units will be approximately $6,485,000, including construction costs, financing costs through the estimated in-service dates, contingencies, initial fuel load costs, and switchyard and transmission costs. MEAG has additionally provided that its total financing needs for its share of the Additional Vogtle Units, including reserve funds and other fund deposits required under the financing documents, are approximately $6,975,000. Based on information provided by MEAG, (i) the portion of the total in-service cost for Plant Vogtle Units 3 and 4 allocable to Project J is approximately $2,715,000 and (ii) the portion of additional in-service costs relating to reserve funds and other fund deposits is approximately $203,000 resulting in total financing needs of approximately $2,918,000.

10. Fuel Purchase and Purchased Power Commitments (continued)

Financing for Project J – In order to finance a portion of its acquisition and construction of Project J and to refund bond anticipation notes previously issued by MEAG, MEAG issued approximately $1,248,435 of its Plant Vogtle Units 3 and 4 Project J Bonds (the 2010 PPA Bonds) on March 11, 2010. Of the total 2010 PPA Bonds, approximately $1,224,265 were issued as Federally Taxable – Issuer Subsidy – Build America Bonds where MEAG expects to receive a cash subsidy payment from the United States Treasury for 35% of the related interest, subject to reduction due to sequestration. At this time, a portion of the interest subsidy payments with respect to the Build America Bonds is not being paid as a result of the federal government sequestration process and the Bipartisan Budget Act of 2018 for the current fiscal year through fiscal year 2027. The exact amount of such reduction is determined on or about the beginning of the federal government's fiscal year, or October 1, and is subject to adjustment thereafter. The current reduction amount of 6.2% became effective on October 1, 2018. MEAG issued approximately $185,180 of additional Project J tax-exempt bonds on September 9, 2015.

On June 24, 2015, in order to obtain certain loan guarantees from the United States Department of Energy (DOE) for further funding of Plant Vogtle Units 3 and 4, MEAG divided its undivided ownership interest in Plant Vogtle Units 3 and 4 into three separate undivided interests and transferred such interests to the Vogtle Units 3 and 4 Project Entities. MEAG transferred approximately 41.175% of its ownership interest, representing 206 MW of nominally rated generating capacity (which is the portion of MEAG's ownership interest attributable to Project J), to MEAG Power SPVJ, LLC (the Project J Entity).

The Project J Entity entered into a loan guarantee agreement with the DOE in 2015, subsequently amended in 2016 and 2017, under which the Project J Entity is permitted to borrow from the Federal Financing Bank (FFB) an aggregate amount of approximately $577,743. To date, the Project J Entity has received proceeds from borrowings under the loan guarantee agreement in an aggregate principal amount of approximately $341,446. There is additional borrowing capacity of approximately $236,297 under the Project J Entity's existing DOE-guaranteed loan. On September 28, 2017, DOE, MEAG, and the Vogtle Units 3 and 4 Project Entities entered into a conditional commitment for additional DOE loan guarantees in the aggregate amount of $414,700. On September 17, 2018, the DOE extended the expiration date of such conditional commitment to March 31, 2019. Subject to satisfaction of the conditions contained in such conditional commitment, it is expected that the Project J Entity will obtain from FFB such additional lending commitment in the amount of $111,541. While MEAG expects that the total financing needs for Project J will exceed the aggregate of the Project J Entity's FFB lending commitments and the balance will be financed in the capital markets, in the event that the JEA litigation challenging its obligations under the Additional Vogtle Units PPA materially impedes access to capital markets for MEAG, Georgia Power has agreed to provide certain funding as described below under "Description of Construction Contracts and Status of Construction".

(Dollars in Thousands)

10. Fuel Purchase and Purchased Power Commitments (continued)

Summary of financing associated with Project J:

	Borrowings to Date	Additional Capacity	Total Projected Borrowings
2010A Build America Bonds	$ 1,224,265	$ –	$ 1,224,265
2010B tax-exempt bonds	24,170	–	24,170
2015A tax-exempt bonds	185,180	–	185,180
DOE loan guarantee	341,446	236,297	577,743
Additional conditional DOE loan guarantee	–	111,541	111,541
Additional public markets bonds	–	666,290	666,290
Other sources of funds	–	129,198	129,198
Total	$ 1,775,061	$ 1,143,326	$ 2,918,387

(Dollars in Thousands)

10. Fuel Purchase and Purchased Power Commitments (continued)

Based on information provided by MEAG, JEA's portion of the debt service on the outstanding Project J debt as of September 30, 2018 is summarized as follows:

Fiscal Year Ending September 30	Principal	Interest	Annual Debt Service	Build America Bonds Subsidy	Capitalized Interest	Net Debt Service
2019	$ 12,750	$ 98,800	$ 111,550	$ (27,612)	$ (71,188)	$ 12,750
2020	16,183	97,995	114,178	(27,392)	(70,603)	16,183
2021	19,952	97,058	117,010	(27,100)	(69,958)	19,952
2022	20,706	95,983	116,689	(26,790)	(33,262)	56,637
2023	22,100	94,842	116,942	(26,466)	(4,207)	86,269
2024	22,967	93,642	116,609	(26,129)	–	90,480
2025	23,819	92,385	116,204	(25,776)	–	90,428
2026	24,685	91,079	115,764	(25,409)	–	90,355
2027	25,570	89,721	115,291	(25,026)	–	90,265
2028	26,538	88,311	114,849	(24,626)	–	90,223
2029	27,511	86,844	114,355	(24,209)	–	90,146
2030	28,528	85,318	113,846	(23,774)	–	90,072
2031	29,586	83,733	113,319	(23,320)	–	89,999
2032	30,661	82,084	112,745	(22,847)	–	89,898
2033	31,842	80,370	112,212	(22,353)	–	89,859
2034	33,035	78,587	111,622	(21,838)	–	89,784
2035	34,272	76,733	111,005	(21,301)	–	89,704
2036	28,275	74,805	103,080	(20,740)	–	82,340
2037	16,223	72,799	89,022	(20,155)	–	68,867
2038	10,905	70,713	81,618	(19,545)	–	62,073
2039	6,973	68,543	75,516	(18,909)	–	56,607
2040	1,424	66,250	67,674	(18,246)	–	49,428
2041	–	63,866	63,866	(17,553)	–	46,313
2042	–	31,076	31,076	(9,217)	–	21,859
2043	–	4,058	4,058	(1,249)	–	2,809
Total	$ 494,505	$ 1,965,595	$ 2,460,100	$ (547,582)	$ (249,218)	$ 1,663,300

10. Fuel Purchase and Purchased Power Commitments (continued)

Description of Construction Contracts and Status of Construction

In 2008, Georgia Power, acting for itself and as agent for the other Vogtle Co-Owners, entered into a contract (EPC Contract) pursuant to which the Contractor agreed to design, engineer, procure, construct, and test the Additional Vogtle Units. The entities that constituted the Contractor prior to June 9, 2017 were Westinghouse Electric Company LLC (Westinghouse) and WECTEC Global Project Services Inc. (WECTEC, and together with Westinghouse, the Contractor).

On March 29, 2017, Westinghouse and WECTEC each filed for bankruptcy protection under Chapter 11 of the United States Bankruptcy Code.

On June 9, 2017, Georgia Power (for itself and as agent for the other Vogtle Co-Owners) and the Contractor entered into a services agreement (Services Agreement) for the Contractor to transition construction management of Plant Vogtle Units 3 and 4 to Southern Nuclear Operating Company, an affiliate of Georgia Power (SNC or Southern Nuclear), and to provide ongoing design, engineering, and procurement services to SNC. The Services Agreement has taken effect and provides that the Contractor will generally be compensated on a time and materials basis for services rendered. The Services Agreement will continue until the start-up and testing of Plant Vogtle Units 3 and 4 is complete and electricity is generated and sold from both units. Facility design and engineering remains the responsibility of Westinghouse under the Services Agreement. The Services Agreement is terminable by the Vogtle Co-Owners upon 30 days' written notice.

As a result of the Westinghouse and WECTEC bankruptcy, Georgia Power, along with SNC acting as the project manager, will manage the remaining bulk construction phase of the Additional Vogtle Units on behalf of the Owners pursuant to a revised Ownership Participation Agreement. Effective October 23, 2017, Bechtel Power Corporation (Bechtel) will serve as the prime construction contractor for the remaining construction activities for Plant Vogtle Units 3 and 4 under a Construction Agreement entered into between Bechtel and Georgia Power, acting for itself and as agent for the other Vogtle Co-Owners (Construction Agreement).

Unlike the EPC Contract, which required the Contractor to absorb most of the construction cost overruns for the Additional Vogtle Units, the Construction Agreement is a cost reimbursable plus fee arrangement, whereby Bechtel will be reimbursed by the Vogtle Co-Owners for actual costs plus a base fee and an at-risk fee, which is subject to adjustment based on Bechtel's performance against cost and schedule targets. Each Vogtle Co-Owner is severally (not jointly) liable for its proportionate share, based on its ownership interest, of all amounts owed to Bechtel under the Construction Agreement.

The Vogtle Co-Owners may terminate the Construction Agreement at any time for their convenience, provided that the Vogtle Co-Owners will be required to pay amounts related to work performed prior to the termination (including the applicable portion of the base fee), certain termination-related costs, and, at certain stages of the work, the at-risk fee. Bechtel may terminate the Construction Agreement under certain circumstances, including certain Vogtle Co-Owner suspensions of work, certain breaches of the Construction Agreement by the Vogtle Co-Owners, Vogtle Co-Owner insolvency, and certain other events.

10. Fuel Purchase and Purchased Power Commitments (continued)

Georgia Power recommended in the 17th Vogtle Construction Monitoring report (the VCM 17 Report, filed with the Georgia Public Service Commission ("GPSC") on August 31, 2017), that the construction of the Additional Vogtle Units be continued. The Vogtle Co-Owners recommended that the Additional Vogtle Units be completed on the condition that any of the Owners have the right to abandon the construction of the Plant Vogtle Units 3 and 4 if the revised cost estimate or the revised construction schedule is not approved by the GPSC or if there is a determination by the GPSC that any of Georgia Power's share of the total investment in Plant Vogtle Units 3 and 4 or Georgia Power's associated financing costs will not be recovered in Georgia Power's retail rates, because they are deemed by the GPSC to be unreasonable or imprudent.

The Vogtle Co-Owners entered into an amendment, dated as of November 2, 2017, to their joint ownership agreements for Plant Vogtle Units 3 and 4 (as amended, the "Joint Ownership Agreements") to provide for, among other conditions, additional Vogtle Co-Owner approval requirements. Pursuant to the Joint Ownership Agreements, the holders of at least 90% of the ownership interests in Plant Vogtle Units 3 and 4 must vote to continue construction if certain adverse events occur including: (1) termination or rejection in bankruptcy of certain agreements, including the Services Agreement or the Construction Agreement; (2) the GPSC or Georgia Power determines that any of Georgia Power's costs relating to the construction of Plant Vogtle Units 3 and 4 will not be recovered in retail rates because such costs are deemed unreasonable or imprudent; or (3) an increase in the construction budget contained in the Vogtle Construction Monitoring 17 Report of more than $1,000,000 or extension of the project schedule contained in the VCM 17 Report of more than one year. In addition, pursuant to the Joint Ownership Agreements, the required approval of holders of ownership interests in Plant Vogtle Units 3 and 4 is at least (1) 90% for a change of the primary construction contractor and (2) 67% for material amendments to the Services Agreement or agreements with Southern Nuclear or the primary construction contractor, including the Construction Agreement.

The Joint Ownership Agreements also provide that the Vogtle Co-Owners' sole recourse against Georgia Power or Southern Nuclear for any action or inaction in connection with their performance as agent for the Vogtle Co-Owners is limited to removal of Georgia Power and/or Southern Nuclear as agent, except in cases of willful misconduct.

On December 21, 2017, the GPSC took a series of actions related to the construction of Plant Vogtle Units 3 and 4 and issued its related order on January 11, 2018. Among other actions, the GPSC (i) accepted Georgia Power's recommendation to continue construction of Plant Vogtle Units 3 and 4, with Southern Nuclear serving as construction manager and Bechtel as primary contractor and (ii) approved the revised schedule placing Vogtle Unit 3 in service in November 2021 and Vogtle Unit 4 in service in November 2022. In its January 11, 2018 order, the GPSC stated if certain conditions change and assumptions upon which Georgia Power's VCM 17 Report are based do not materialize, the GPSC reserved the right to reconsider the decision to continue construction.

10. Fuel Purchase and Purchased Power Commitments (continued)

During the latter part of the second quarter through the early part of the third quarter of 2018, Georgia Power advised the other Vogtle co-owners that it had become aware that certain estimated future Vogtle project costs were projected to exceed the corresponding budgeted amounts. The base capital costs estimated to complete construction were expected to increase by approximately $1,400,000 (the aggregate 22.7% shares of the Vogtle Units 3 and 4 Project Entities were estimated at $317,800). Georgia Power stated that although it believed these increased costs to be reasonable and necessary to complete the project, Georgia Power did not intend to seek rate recovery for these cost increases included in the current base capital cost forecast (or any related financing costs). As a result of the increase in the total project capital cost forecast and Georgia Power's decision not to seek rate recovery of its allocation of the increase in the costs as described above, the holders of at least 90% of the ownership interests in Plant Vogtle Units 3 and 4 were required to vote to continue construction. MEAG, and the other Vogtle Co-Owners, are evaluating these increased capital costs along with a project-level contingency estimated by Georgia Power in a preliminary amount of $800,000 (the aggregate 22.7% shares of the Vogtle Units 3 & 4 Project Entities estimated at $182,000). In connection with future Vogtle Construction Monitoring filings, Georgia Power may request the GPSC to evaluate costs currently included in the construction contingency estimate for rate recovery as and when they are appropriately included in the base capital cost forecast.

On September 26, 2018, the co-owners received the required vote to continue construction of Plant Vogtle Units 3 and 4. In connection with the vote to continue construction, Georgia Power entered into (i) a binding term sheet (the Vogtle Owner Term Sheet) with the other co-owners to take certain actions which partially mitigate potential financial exposure for the other co-owners, including amendments to the Vogtle Joint Ownership Agreements and the purchase of production tax credits (PTCs) from the other co-owners, and (ii) a binding term sheet (the MEAG Term Sheet and, together with the Vogtle Owner Term Sheet, the "Term Sheets") with MEAG and the Project J Entity to provide funding with respect to the Project J Entity's ownership interest in Plant Vogtle Units 3 and 4 under certain circumstances.

Under the Vogtle Owner Term Sheet, among other amendments to the Vogtle Joint Ownership Agreements, provisions of the Vogtle Joint Ownership Agreements requiring that co-owners holding 90% of the ownership interests in Plant Vogtle Units 3 and 4 vote to continue construction following certain adverse events would be amended. In particular, an increase in the construction cost estimate for Plant Vogtle Units 3 and 4 would no longer constitute an adverse event and thus would no longer require a vote. In addition, the adverse event relating to disallowances of cost recovery by Georgia Power would be amended to exclude any additional amounts paid by Georgia Power on behalf of the other co-owners pursuant to certain Vogtle Owner Term Sheet provisions and the first 6% of costs during any six-month VCM reporting period that are disallowed by the GPSC for recovery, or for which Georgia Power elects not to seek cost recovery, through retail rates. In addition, the Vogtle Owner Term Sheet provides that the Vogtle Joint Ownership Agreements would be revised to provide that Georgia Power may cancel the project at any time in its sole discretion.

10. Fuel Purchase and Purchased Power Commitments (continued)

Pursuant to the MEAG Term Sheet[1], if the Project J Entity is unable to make its payments due under the Vogtle Joint Ownership Agreements solely because (i) the conduct of JEA, such as JEA's continuation of its litigation challenging its obligations under the Additional Vogtle Units PPA, materially impedes access to capital markets for MEAG for Project J, or (ii) the Additional Vogtle Units PPA is declared void by a court of competent jurisdiction or rejected by JEA under the applicable provisions of the United States Bankruptcy Code (each of (i) and (ii), a JEA Default), Georgia Power will purchase from the Project J Entity the rights to PTCs attributable to the Project J Entity's share of Plant Vogtle Units 3 and 4 (approximately 206 MW) at varying prices dependent upon the stage of construction of Plant Vogtle Units 3 and 4.

At the option of MEAG, as an alternative or supplement to Georgia Power's purchase of PTCs as described above, Georgia Power has agreed to provide up to $250,000 in funding to MEAG for Project J in the form of loans (either advances under the Vogtle Joint Ownership Agreements or the purchase of Project J Bonds), subject to any required approvals of the GPSC and the DOE.

In the event the Project J Entity certifies to Georgia Power that it is unable to fund its obligations under the Vogtle Joint Ownership Agreements as a result of a JEA Default and Georgia Power becomes obligated to provide funding as described above, MEAG is required to (i) assign to Georgia Power its right to vote on any future adverse event and (ii) diligently pursue JEA for its breach of the Project J PPA.

Under the terms of the MEAG Term Sheet, Georgia Power may decline to provide any funding in the form of loans, including in the event of a failure to receive any required GPSC or DOE approvals, and cancel the project in lieu of providing such loan funding.

Litigation and Regulatory Proceedings

Litigation – As noted in the Overview section, on September 11, 2018, both MEAG and JEA filed court actions seeking declaratory judgment on the enforceability of the Additional Vogtle Units PPA. MEAG filed its action in the United States District Court for the Northern District of Georgia, Civil Action No.: 1:18-CV-04295-MHC and JEA and the City filed their action in the Circuit Court, Fourth Judicial Circuit, Duval County, Florida, Case No.: 16-2018-CA-006197-XXXX-CV-G, removed to the United States District Court for the Middle District of Florida, Case No.: 3:18-cv-174-J-39JRK. Both cases are engaged in extensive procedural litigation over the forum in which the substantive issues will be tried. JEA will vigorously defend and prosecute these actions, but provides no assurances regarding the outcome or consequences of the litigation.

[1] Information provided regarding the MEAG Term Sheet is based on information filed by MEAG with the Municipal Securities Rulemaking Board (the "MSRB"), through the MSRB's Electronic Municipal Market Access ("EMMA") website currently located at http://emma.msrb.org. JEA has not been able to independently review the MEAG Term Sheet.

10. Fuel Purchase and Purchased Power Commitments (continued)

Regulatory Proceedings – On September 17, 2018, JEA filed a petition with the Federal Energy Regulatory Commission (FERC) seeking a determination that FERC has exclusive jurisdiction pursuant to the Federal Power Act (FPA) over the Additional Vogtle Units PPA (FERC Petition). If FERC grants jurisdiction over the Additional Vogtle Units PPA, FERC will determine the validity of the Additional Vogtle Units PPA terms and conditions under the "just and reasonable" standard set forth in the FPA. Numerous entities, including MEAG, public utilities, municipalities, and trade groups, have filed comments with FERC challenging the theories of law and arguments raised in the FERC Petition. There is no deadline for FERC to render a decision on the FERC Petition.

Option to Purchase Interest in Lee Nuclear Station

On February 1, 2011, JEA entered into an option agreement with Duke Energy Carolinas, LLC (Duke Carolinas), a wholly owned subsidiary of Duke Energy Corporation, pursuant to which JEA has the option (but not the obligation) to purchase an undivided ownership interest of not less than 5% and not more than 20% of the proposed two-unit nuclear station currently known as William States Lee III Nuclear Station, Units 1 and 2 to be constructed at a site in Cherokee County, South Carolina (the Lee Project). The Lee Project planned to have 2,234 MW of electric generating capacity with a projected on-line date of 2026 with respect to Unit 1 and 2028 with respect to Unit 2. The total cost of the option was $7,500, payment of which has been completed. JEA obtained this option in furtherance of its 2010 policy target to acquire up to 30% of JEA's energy requirements from nuclear sources by 2030.

The option agreement requires that JEA and Duke Carolinas complete negotiation of an ownership agreement and an operation and maintenance agreement for the Lee Project prior to JEA exercising the option. The option exercise period will be opened by Duke Carolinas after it (i) receives NRC approval of the COL for the Lee Project and (ii) executes an engineering, procurement, and construction agreement for the Lee Project. The Lee Project COL was received from the NRC in December 2016. In August 2017, Duke Carolinas filed with the North Carolina Utilities Commission and the South Carolina Public Service Commission to cancel the plant. This cancellation allows Duke Carolinas to seek cost recovery for the expenditures on licensing the plant, however, the NRC license remains active and the cancellation is not permanent. There is currently no schedule for negotiating an EPC agreement.

Once the exercise period is opened, JEA will have 90 days within which to exercise the option, and, if it does exercise the option, it must specify the percentage undivided ownership interest in the Lee Project that it will acquire.

After JEA exercises the option (should it elect to do so) and various regulatory approvals are obtained, JEA must pay Duke Carolinas the exercise price for the option. Such price is generally JEA's pro rata share, based on its percentage ownership interest in the Lee Project, of the development and pre construction cost for the Lee Project incurred by Duke Carolinas from the beginning of the Lee Project through the closing date of the option exercise. JEA is undecided as to the financing structure it would employ to finance its interest in the Lee Project, should it elect to exercise its option.

Under certain circumstances, should the Lee Project be terminated by Duke Carolinas, Duke may be obligated to provide JEA with options for alternative resources (but not necessarily from nuclear resources) to replace JEA's optionable portion of the projected Lee Project capacity.

10. Fuel Purchase and Purchased Power Commitments (continued)

Such alternative resources are to be available to JEA within two years of the projected online date for the Lee Project, once such date is set. No alternative resource for the Lee Project has yet been proposed by Duke Carolinas.

Solar Projects

In 2009, JEA entered into a 30-year purchased power agreement with Jacksonville Solar, LLC for the produced energy, as well as the associated environmental attributes from a solar farm, Jacksonville Solar, which has been constructed in JEA's service territory. The facility, which consists of 200,000 photovoltaic panels on a JEA-leased 100-acre site, is owned by PSEG Solar Source, LLC and generated approximately 18,391 MWh of electricity in 2018 and 20,074 MWh of electricity in 2017. JEA pays only for the energy produced. Purchases of energy were $3,592 for fiscal year 2018 and $3,819 in 2017.

As part of JEA's continued commitment to the environment, and to increase JEA's level of carbon-free renewable energy generation, in December 2014, the Board established a solar policy to add up to 38 MWac of solar photovoltaic capacity. To support this policy, JEA issued Requests for Proposals for Power Purchase Agreements (PPAs) in December 2014 and April 2015. Seven PPAs, representing 27 MWac, have been finalized. One other PPA, which had been finalized, was terminated due to the failure of the awardee (SunEdison) to establish site control within the time allowed by the contract. The solar PPAs are distributed around JEA's service territory.

The projects for this 2014 initiative are scheduled for completion in 2018. As of the end of fiscal year 2018, five of the seven projects had been completed: NW Jacksonville Solar, Old Plank Road Solar, Starratt Solar, Simmons Solar, and Blair Road Solar. JEA entered into 20-25 year purchased power agreements for the energy and the associate environmental attributes from each solar farm. The solar facilities generated approximately 36,755 MWh in 2018 and 5,394 MWh in 2017. JEA pays only for the energy produced. Purchases of energy were $2,703 for fiscal year 2018 and $354 in 2017.

The JEA Board approved a further solar expansion consisting of five 50 MWac solar facilities to be constructed on JEA owned property. These projects, totaling 250 MWac, will be structured as PPAs. EDF-DS was selected as the vendor for the sites and contract negotiations are currently underway. It is expected the facilities will be phased into service with all sites completed by 2022.

Trail Ridge Landfill

JEA purchases energy from two landfill gas-to-energy facilities through PPA agreements with Landfill Energy Systems (LES). Each agreement is for 9.6 MWs. Currently, JEA purchases 9.6 MW from Trail Ridge Landfill in Jacksonville, FL and 6.4 MW from Sarasota Landfill in Sarasota, FL. LES can supply the remaining 3.2 MW from Sarasota if it is expanded and becomes available. JEA pays only for the energy produced. LES pays all transmission and ancillary charges associated with transmitting the energy from Sarasota to Jacksonville, which came online in January 2015. Purchases of landfill energy were 76,821 MWh for $4,554 in fiscal year 2018 and 89,682 MWh for $3,671 in 2017.

11. Energy Market Risk Management Program

The energy market risk management program is intended to help manage the risk of changes in the market prices of fuel consumed by JEA for electric generation. In December 2017, JEA entered into a financial swap that locked in the monthly commodity price of natural gas for calendar year 2018 for approximately 40% of its expected annual natural gas requirements. In August and September 2018, JEA entered into financial swaps that locked in the monthly commodity price of natural gas for December 2019 through December 2021 for approximately 45% of its expected annual natural gas requirements in those years. There was no additional activity in the program during fiscal year 2017.

JEA executes over-the-counter forward purchase and sale contracts and swaps. For effective derivative transactions, hedge accounting is applied in accordance with GASB Statement No. 53 and the fair market value changes are recorded on the accompanying statements of net position as either a deferred charge or a deferred credit until such time that the transactions end. Deferred charges of $1,851 were included in deferred inflows of resources on the statements of net position at September 30, 2018 and $0 at 2017. The related settled gains and losses from these transactions are recognized as fuel expenses on the accompanying statements of revenues, expenses, and changes in net position. For the year ended September 30, 2018, there was a realized gain included in fuel expense of $4,191 and a realized loss of $323 in 2017.

12. Pension Plans

Substantially all employees of the Electric System and Water and Sewer System participate in and contribute to the City of Jacksonville General Employee Retirement Plan (GERP), as amended. The GERP is a cost-sharing, multiple-employer contributory defined benefit pension plan with a defined contribution alternative. GERP, based on laws outlined in the City of Jacksonville Ordinance Code and applicable Florida statutes, provides for retirement, survivor, death, and disability benefits. Its latest financial statements and required supplementary information are included in the 2017 Comprehensive Annual Financial Report of the City of Jacksonville, Florida. This report may be obtained at: http://www.coj.net/departments/finance/docs/accounting/city-of-jacksonville-2017-cafr-secure.aspx or by writing to the City of Jacksonville, Florida, Department of Administration and Finance, Room 300, City Hall, 117 West Duval Street, Jacksonville, Florida 32202-3418.

The first phase of pension reform was approved by the City of Jacksonville in April 2017. The reform provides for a dedicated funding source for the GERP, Corrections Officers Plan, and Police and Fire Pension Plan through the extension of the Better Jacksonville Plan half-cent sales tax. The surtax will remain in effect until the earlier of December 31, 2060 or when it is determined by the actuarial report to the Florida Department of Management Services that the funding level of each of the City's three defined benefit retirement plans, which are funded by surtax, is expected to reach or exceed 100%.

In order for the plan to benefit from the sales tax revenue, the GERP was closed to new members and employees as of September 30, 2017.

12. Pension Plans (continued)

Plan Benefits Provided – Participation in the GERP is mandatory for all full-time employees of JEA, Jacksonville Housing Authority, North Florida Transportation Planning Authority, and the City of Jacksonville, other than police officers and firefighters. Appointed officials and permanent employees not in the civil service system may opt to become members of GERP. Elected officials are members of the Florida Retirement System Elected Officer Class. Members of the GERP are eligible to retire with a normal pension benefit upon achieving one of the following: (a) completing 30 years of credited service, regardless of age; (b) attaining age 55 with 20 years of credited service; or (c) attaining age 65 with five years of credited service. There is no mandatory retirement age.

Upon reaching one of the three conditions for retirement described above, a member is entitled to a retirement benefit of 2.5% of final average compensation, multiplied by the number of years of credited service, up to a maximum benefit of 80% of final monthly compensation. A time service retirement benefit is payable bi-weekly, to commence upon the first payday coincident with or next payday following the member's actual retirement, and will continue until death.

Each member and survivor is entitled to a cost of living adjustment (COLA). The COLA consists of a 3% increase of the retiree's or survivor's pension benefits, which compounds annually. The COLA commences in the first full pay period of April occurring at least 4.5 years (and no more than 5.5 years) after retirement. In addition, there is a supplemental benefit. The supplemental benefit is equal to five dollars ($5) multiplied by the number of years of credited service. This benefit may not exceed $150 per month.

Contributions – Florida law requires plan contributions be made annually in amounts determined by an actuarial valuation in either dollars or as a percentage of payroll. The Florida Division of Retirement reviews and approves the City's actuarial report to ensure compliance with actuarial standards and appropriateness for funding purposes. In fiscal year 2018, JEA plan members were required to contribute 10% of their annual covered salary. In fiscal year 2017, JEA plan members were required to contribute 8% of their annual covered salary. JEA's contribution of the covered payroll for the JEA plan members was $35,459 (21.09%) in fiscal year 2018 and $48,942 (38.27%) in 2017. Contributions were made in accordance with contribution requirements determined through an actuarial valuation.

Defined Contribution Plan

The City has, by ordinance, a defined contribution (DC) plan within the Jacksonville Retirement System for GERP participants as an employee choice alternative to the defined benefit (DB) plans. Beginning in fiscal year 2011, employees had the option to participate in a DC plan. Employees vest in the employer contributions to the plan at 25% after two years, and 25% per year thereafter until fully vested after five years of service. Employees hired prior to September 30, 2017 can electively change from the DC plan to the DB plan, or vice versa, up to three times within their first five years of participation. All employees hired after September 30, 2017 now enter this plan.

In fiscal years 2018 and 2017, JEA plan members of the defined contribution plan were required to contribute 8% of their annual covered salary. JEA's contribution for the members of the defined contribution plan was $1,886 (11.31%) in fiscal year 2018 and $982 (8%) in 2017. Any contribution forfeitures were used to offset plan expenses.

12. Pension Plans (continued)

Disability Program Fund

All contributions for both the defined contribution and defined benefit plans of the City of Jacksonville were separated between the pension contribution and a disability program fund. Due to this change, a physical exam is not required to participate in the plans.

Pension Liabilities, Pension Expense, Deferred Outflows of Resources, and Deferred Inflow of Resources Related to Pensions

Net Pension Liability – JEA's net pension liability at September 30, 2018 and September 30, 2017 was measured based on an actuarial valuation as of September 30, 2017 and September 30, 2016, respectively. JEA's allocated share of the net pension liability is $527,680 (51.68%) as of September 30, 2018, based on an allocation proportional to the actual contributions paid during the year ended September 30, 2017. JEA's allocated share of the net pension liability as of September 30, 2017 was $541,025 (50.37%), based on an allocation proportional to the actual contributions paid during the year ended September 30, 2016.

For the year ended September 30, 2018 and 2017, JEA's recognized pension expense is $77,111 and $74,849, respectively. As JEA has implemented regulatory accounting for pensions, the difference between the recognized pension expense and the cash contributions paid has been deferred as a regulatory asset. See note 2, Regulatory Deferrals, for additional details.

(Dollars in Thousands)

12. Pension Plans (continued)

JEA reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

	September 30 2018	September 30 2017
Deferred outflows of resources		
Changes in assumptions	**$ 59,741**	$ 49,859
Contributions subsequent to the measurement date	**35,459**	48,942
Differences between expected and actual experience	**25,477**	24,354
Net difference between projected and actual earnings on pension investments	**–**	24,319
Changes in proportion	**16,452**	9,599
Total	**$ 137,129**	$ 157,073
Deferred inflows of resources		
Net difference between projected and actual earnings on pension investments	**$ (37,760)**	$ –
Changes in assumptions	**(3,730)**	(5,454)
Differences between expected and actual experience	**(1,543)**	(2,525)
Total	**$ (43,033)**	$ (7,979)

Contributions of $35,459 were reported as deferred outflows of resources related to pensions resulting from JEA contributions subsequent to the September 30, 2017 measurement date and will be recognized as a reduction of the net pension liability in the year ended September 30, 2019. Other amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows:

Year Ended September 30	**Recognition of Deferred Outflows (Inflows)**
2019	$ 28,251
2020	24,888
2021	8,622
2022	(3,124)
Total	$ 58,637

(Dollars in Thousands)

12. Pension Plans (continued)

Actuarial Assumptions – The total pension liability was determined by an actuarial valuation as of September 30, 2017, using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation	2.75%
Salary increases assumption	3.00%-6.00%, of which 2.75% is the Plan's long-term payroll inflation
Investment rate of return	7.20%, net of pension plan investment expense, including inflation
Healthy pre-retirement mortality rates	50% RP2000 Combined Healthy White Collar and 50% RP2000 Combined Healthy Blue Collar, set forward 2.5 years, projected generationally with Scale BB for males; RP2000 Combined Healthy White Collar, set forward 2.5 years, projected generationally with Scale BB for females.
Healthy post-retirement mortality rates	50% RP2000 White Collar Annuitant and 50% RP2000 Blue Collar Annuitant, set forward 2.5 years, projected generationally with Scale BB for males; RP2000 White Collar Annuitant, set forward 2.5 years, projected generationally with Scale BB for females.
Disabled mortality rates	RP-2000 Disabled Retiree Mortality Table, setback four years for males and set forward two years for females

The actuarial assumptions used in the valuations were based on the results of an experience study for the period October 1, 2007 to September 30, 2012. Data from the experience study is reviewed in conjunction with each annual valuation, and updates to the mortality improvement scale and discount rate have been made as of September 30, 2017.

(Dollars in Thousands)

12. Pension Plans (continued)

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentages and by adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in the pension plan's target asset allocation as of September 30, 2017, are summarized in the following table. The long-term expected real rates of return are based on 20-year projections of capital market assumptions provided by Segal Marco Advisors.

Asset Class	Target Allocation	Long-term Expected Real Rate of Return
Domestic equity	35%	6.40%
International equity	20%	7.40%
Real estate	25%	5.10%
Fixed income	19%	1.75%
Cash	1%	1.10%
Total	100%	

Discount Rate – The discount rate used to measure the total pension liability is 7.20%. The projection of cash flows used to determine the discount rate assumed plan member contributions would be made at their applicable contribution rates and that City contributions would be made at rates equal to the actuarially determined contribution rates. Based on these assumptions, the Plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on the Plan's investments was applied to all periods of projected benefit payments to determine the total pension liability. Cash flow projections were run for a 120-year period.

Sensitivity of the Net Pension Liability to Changes in the Discount Rate – The following presents the net pension liability of the Jacksonville GERP, calculated using the discount rate of 7.20% for 2018 and 7.40% for 2017, as well as what the Jacksonville GERP's net pension liability would be if it were calculated using a discount rate that is 1% lower or 1% higher than the discount rate used:

	Net Pension Liability	
	2018	**2017**
1% decrease	**$ 713,777**	$ 713,190
Current discount	**527,680**	541,025
1% increase	**372,518**	397,385

Pension Plan Fiduciary Net Position – Detailed information about the pension plan's fiduciary net position is included in the 2017 Comprehensive Annual Financial Report of the City of Jacksonville, Florida.

12. Pension Plans (continued)

St. Johns River Power Park Plan Description

Plan Description – The SJRPP Plan is a single employer contributory defined benefit plan that covers employees of SJRPP. The SJRPP Plan provides for pension, death, and disability benefits. Participation in the SJRPP Plan is required as a condition of employment. The SJRPP Plan is subject to provisions of Chapter 112 of the State of Florida Statutes and the oversight of the Florida Division of Retirement. The SJRPP Plan is governed by a five-member pension committee (Pension Committee). As part of the Asset Transfer Agreement with FPL related to the shutdown of SJRPP, JEA assumed all payment obligations and other liabilities related to separation benefits for the qualifying SJRPP employees and any amounts required to be deposited in SJRPP Pension Fund.

The SJRPP Plan periodically issues stand-alone financial statements, with the most recent report issued for the year ended September 30, 2017. This report may be obtained at https://www.jea.com/About/Investor_Relations/Financial_Reports/SJRPP_Pension.

Pursuant to the February 25, 2013 amendment, the SJRPP Plan consists of two tiers: Tier One is the Defined Benefits Tier and Tier Two is the Cash Balance Tier. Tier One participants will remain in the traditional defined benefit plan, and Tier Two employees (defined as employees with less than 20 years of experience) will participate in a modified defined benefit plan, or "cash balance" plan, with an employer match provided for any Tier Two employee who contributes to the 457 Plan. Participants hired after February 25, 2013 are only eligible to accrue Tier Two benefits.

Plan Benefits Provided – Members of the SJRPP Plan are eligible to retire with a normal pension benefit upon achieving one of the following: (a) completing 30 years of credited service, regardless of age; (b) attaining age 55 with 20 years of credited service; or (c) attaining age 65 with five years of credited service. There is no mandatory retirement age.

Upon reaching one of the three conditions for retirement described above, a member in Tier One is entitled to a retirement benefit of:

- 2.0% of final average earnings (FAE) multiplied by the number of years of credited service, not to exceed 15 years
- plus 2.4% of FAE multiplied by the number of years of credited service in excess of 15 years, but not to exceed 30 years
- plus .65% of the excess FAE over the Social Security Average Wages multiplied by years of credited service, not to exceed 35 years

FAE is the annual average of a participant's earnings over the highest 36 consecutive complete months out of the last 120 months of participation immediately preceding retirement or termination. Retirement benefits are payable bi-weekly beginning on the first day of the month following or coincident with the participant's Earliest Retirement Age.

(Dollars in Thousands)

12. Pension Plans (continued)

As of February 25, 2013, the accrued benefits in Tier One of newly classified Tier Two participants were frozen. Distribution of frozen Tier One Benefits is governed by the provisions applicable to Tier One. Tier Two Benefits employees receive annual pay credits to their Cash Balance accounts in the amount of 6.0% of earnings between February 25, 2013 and September 30, 2015 and 8.5% of earnings on or after October 1, 2015. Cash Balance Accounts are credited with interest at the rate of 4% per year. Benefits may be distributed as a lump sum, by rollover in accordance with the Internal Revenue Service Code or as an annuity, at the election of the participant.

For participants retired on or after October 1, 2003, each member and survivor of Tier One is entitled to a COLA. The COLA consists of a 1% increase of the retiree's or survivor's pension benefits, which compounds annually. The COLA commences each October 1 following the fifth anniversary of payment commencement.

Employees Covered by Benefit Terms – At September 30, 2018 and September 30, 2017, the following employees were covered by the benefit terms:

	2018	2017
Inactive Plan Members or Beneficiaries Currently Receiving Benefits	**309**	299
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	**54**	49
Active Plan Members	**159**	209
Total Plan Members	**522**	557

Contributions – The SJRPP Plan's funding policy provides for biweekly employer contributions at actuarially determined rates that, expressed as percentages of annual covered payroll, are sufficient to accumulate assets to pay benefits when due. In fiscal years 2018 and 2017, SJRPP plan members were required to contribute 4% of their annual covered salary, and SJRPP employer's contribution to the SJRPP Plan was $26,409 (454.62%) in 2018 and $8,039 (51.47%) in 2017.

Net Pension Liability – SJRPP's net pension liability at September 30, 2018 and September 30, 2017 was measured based on an actuarial valuation as of September 30, 2017 and September 30, 2016, respectively.

(Dollars in Thousands)

12. Pension Plans (continued)

Actuarial Assumptions –The total pension liability in the October 1, 2017 actuarial valuation was determined using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation	2.50%
Salary increases	2.5%–12.5% per year, including inflation
Investment rate of return	7.00%
Mortality rates	Mortality Rates used by the Florida Retirement System for classes other than Special Risk, described as follows: Healthy Mortality (Pre-Retirement and Post-Retirement) rates used: Females: RP2000 Healthy Annuitant rates with 100% White Collar adjustment, generationally projected from year 2000 using Scale BB. Males: RP2000 Healthy Annuitant rates with 50% White Collar/50% Blue Collar adjustment, generationally projected from year 2000 using Scale BB.

The actuarial assumptions used in the October 1, 2017 valuation were based on the demographic experience from 2004 through 2012 and economic forecasts available at the time the report was issued. Mortality rates were developed by the Florida Retirement System in a recent experience study and are mandated by the State Statutes for funding valuations.

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in the pension plan's target asset allocation at the measurement date of September 30, 2017, are summarized in the following table.

(Dollars in Thousands)

12. Pension Plans (continued)

The target allocation and the best estimates of the rate of return for each major asset class are summarized in the following table:

Asset Class	Target Allocation	Long-term Expected Real Rate of Return
Domestic equity	47%	6.56%
Fixed income	45%	2.20%
International equity	8%	5.50%
Total	100%	

Discount Rate – The discount rate used to measure the total pension liability is 7.0%. The projection of cash flows used to determine the discount rate assumed plan member contributions will be made at their applicable contribution rates and that the employer's contributions will be made at rates equal to the actuarially determined contribution rates. Based on these assumptions, the Plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on the Plan's investments was applied to all periods of projected benefit payments to determine the total pension liability.

Sensitivity of the Net Pension Liability to Changes in the Discount Rate – The following presents the net pension liability of SJRPP, calculated using a discount rate of 7.0%, as well as what the net pension liability would be if it were calculated using a discount rate that is 1% lower or 1% higher than the current rate:

	2018	2017
1% decrease	**$ 33,976**	$ 33,650
Current discount rate	**16,523**	16,640
1% increase	**1,896**	2,206

(Dollars in Thousands)

12. Pension Plans (continued)

Changes in the net pension liability are detailed below.

	2017	2016
Total pension liability		
Beginning balance	**$ 158,926**	$ 155,143
Service cost	**1,032**	1,210
Interest on the total pension liability	**10,768**	10,514
Changes in benefit terms	**–**	(59)
Difference between expected and actual experience	**10,826**	4,444
Changes in assumptions	**26**	–
Benefit payments	**(12,257)**	(12,326)
Ending balance	**169,321**	158,926
Plan fiduciary net postion		
Beginning balance	**142,286**	138,902
Employer contributions	**8,039**	2,142
Employee contributions	**625**	629
Pension plan net investment income (loss)	**14,571**	13,379
Benefit payments	**(12,257)**	(12,326)
Administrative expense	**(466)**	(440)
Ending balance	**152,798**	142,286
Net pension liability	**$ 16,523**	$ 16,640

Plan Assets – Cash balances are amounts on deposit with the SJRPP Plan's trust bank, as well as amounts held in various money market funds as authorized in the Investment Policy Statement (Policy). All investments shall comply with the Policy as approved by the Pension Committee, and with the fiduciary standards set forth by the Employee Retirement Income Security Act and requirements set forth by the Florida Statutes. The trust bank balances are collateralized and subject to the Florida Security for Public Deposits Act of Chapter 280, Florida Statutes.

The Plan follows GASB Statement No. 31, *Accounting and Financial Reporting for Certain Investments and for External Investment Pools*. Investments are presented at fair value, which is based on available or equivalent market values. The money market mutual fund is a 2a-7 fund registered with the SEC and, therefore is presented at actual pooled share price, which approximates fair value.

(Dollars in Thousands)

12. Pension Plans (continued)

At September 30, 2017, the SJRPP Plan's cash and cash equivalents consist of the following:

Cash on hand	$	1
Cash equivalents:		
Wells Fargo Treasury Plus Money Market Account		3,365
Total cash and cash equivalents	$	3,366

The Policy specifies investment objectives and guidelines for the SJRPP Plan's investment portfolio and provides asset allocation targets for various asset classes.

At September 30, 2017, investments controlled by the SJRPP Plan that represent 5% or more of the SJRPP Plan's net position were the Alliance Domestic Passive Collective Trust with a basis of $17,581 and a fair market value of $44,328. This investment represent 29% of the fiduciary net position available for benefits.

Risk

In accordance with GASB Statement No. 40, investments also require certain disclosures regarding policies and practices with respect to the risks associated with them (see discussion in the following paragraphs).

Interest Rate Risk

Interest rate risk is the risk that changes in the market interest rates will adversely affect the fair value of an investment. Generally speaking, the longer the maturity of an investment, the greater the sensitivity of its fair value to changes in market interest rates. As a means of limiting its exposure to interest rate risk, the SJRPP Plan's fixed income portfolio manager monitors the duration of the fixed maturity securities portfolio as part of the strategy to manage interest rate risk. As of September 30, 2017, the average modified duration of the managed fixed securities portfolio was 4.8 years.

Credit risk

Credit risk is the risk that a security or a portfolio will lose some or all of its value due to real or perceived changes in the ability of the issuer to repay its debt. The SJRPP Plan's rated debt instruments as of September 30, 2017 were rated by Standard & Poor's and/or an equivalent nationally recognized statistical rating organization.

The fixed income managers limit their investments to securities with an investment grade rating (BBB or equivalent) and the overall weighted average composite quality rating of the managed fixed income portfolio was Aa3.

(Dollars in Thousands)

12. Pension Plans (continued)

Custodial Credit Risk

Custodial credit risk is the risk that, in the event of the failure of the counterparty, the SJRPP Plan will not be able to recover the value of its investments or collateral securities that are in the possession of an outside party. All the SJRPP Plan's investments are held by the SJRPP Plan's directed trustee and custodian in the SJRPP Plan's name, or by an agent in the SJRPP Plan's name.

Concentration of Credit Risk

Concentration of credit risk is the risk of loss attributed to the magnitude of a government's investments in a single issuer. The Policy specifies an overall target allocation of 55% equities and 45% fixed income, including cash. The Policy further specifies target allocations for the equity investments among several asset classes.

The fair value of the asset classes and portfolio as of September 30, 2017, and specific target allocations are as follows:

	Fair Value	Actual Percent	Target Percent
U.S. Government Securities and Agencies	$ 28,258	19%	N/A
Corporate bonds – non-convertible	30,658	20%	N/A
Money Market/Cash	3,366	2%	N/A
Total fixed income	62,282	41%	45%
S&P 500 Index Fund	44,328	29%	28%
S&P 400 Mid-Cap Index Fund	18,428	12%	15%
Small and Mid-Cap Value Fund	13,652	9%	4%
International equities	13,920	9%	8%
Total equities	$ 90,328	59%	55%
Total	$ 152,610		

The Policy allows the percentage allocation to each asset class to vary by plus or minus 5% depending upon market conditions.

For the year ended September 30, 2017, the annual money-weighted rate of return on pension plan investments was 10.39%. This reflects the changing amounts actually invested.

(Dollars in Thousands)

12. Pension Plans (continued)

Foreign Currency Risk

Foreign currency risk is the risk that changes in the exchange rates will adversely affect the fair market value of the investment or a deposit. The Plan is exposed to foreign currency risk through its investments in an international equity mutual fund. Investments in international equities are limited by the Policy's target asset allocation for that asset class. The target for international equities is 8% of the total portfolio. The international fund comprised 9% of total investments as of September 30, 2017.

Fair Value Disclosures

GASB Statement No. 72, *Fair Value Measurement and Application*, addresses accounting and financial reporting issues related to fair value measurements. It provides guidance for applying fair value to certain investments and disclosures related to all fair value measurements.

The SJRPP Plan categorizes its fair value measurements within the fair value hierarchy established by generally accepted accounting principles. The hierarchy is based on the valuation inputs used to measure the fair value of the asset or liability.

- Level 1 – quoted prices (unadjusted) for identical assets or liabilities in active markets that are accessible at the measurement date
- Level 2 – Inputs – other than quoted prices included within Level 1 – that are observable for an asset or liability, either directly or indirectly
- Level 3 – unobservable inputs for an asset or liability

The table below summarizes the SJRPP Plan's investments. Level 1 investments are valued using prices quoted in active markets for those securities. Level 2 investments are valued using direct market observations combined with quantitative pricing models to generate prices.

	Level 1	Level 2	Total
U.S. Government Securities and Agencies	$ 16,662	$ 11,596	$ 28,258
Corporate bonds - non-convertible	–	30,658	30,658
Money Market/Cash	3,366	–	3,366
Total fixed income	20,028	42,254	62,282
S&P 500 Index Fund	44,328	–	44,328
S&P 400 Mid-Cap Index Fund	17,852	576	18,428
Small and Mid-Cap Value Fund	12,430	1,222	13,652
International equities	–	13,920	13,920
Total equities	74,610	15,718	90,328
Total	$ 94,638	$ 57,972	$ 152,610

(Dollars in Thousands)

12. Pension Plans (continued)

Pension Plan Fiduciary Net Position – Detailed information about the pension plan's fiduciary net position is available in the separately issued SJRPP Pension Plan financial report.

Pension Liabilities, Pension Expense, Deferred Outflows of Resources, and Deferred Inflows of Resources Related to the Pension

Net Pension Liability – SJRPP's net pension liability at September 30, 2018 and September 30, 2017 was measured based on an actuarial valuation as of September 30, 2017 and September 30, 2016, respectively. SJRPP's net pension liability is $16,523 as of September 30, 2018 and $16,640 as of September 30, 2017. As discussed in note 3, St. Johns River Power Park, during fiscal year 2018, JEA assumed FPL's portion of the pension obligation in accordance with the shutdown agreement.

For the year ended September 30, 2018 and 2017, SJRPP recognized pension expense is $14,408 and $4,785, respectively. As JEA has implemented regulatory accounting for pensions, the difference between the recognized pension expense and the cash contributions paid has been deferred as a regulatory asset. See note 2, Regulatory Deferrals, for additional details.

SJRPP Plan reported deferred outflows of resources and deferred inflows of resources related to pension from the following sources:

	September 30	
	2018	**2017**
Deferred outflows of resources		
Contributions subsequent to the measurement date	**$ 26,641**	$ 8,664
Net difference between projected and actual earnings on pension plan investments	**4,091**	6,136
Differences between expected and actual experience	**2,451**	4,022
Changes in assumptions	**1,055**	1,809
Total	**$ 34,238**	$ 20,631
Deferred inflows of resources		
Net difference between projected and actual earnings on pension plan investments	**$ (7,091)**	$ (4,976)
Total	**$ (7,091)**	$ (4,976)

(Dollars in Thousands)

12. Pension Plans (continued)

Contributions of $26,641 were reported as deferred outflows of resources related to pensions resulting from contributions subsequent to the September 30, 2017 measurement date and will be recognized as a reduction of the net pension liability in the year ended September 30, 2019. Other amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows:

Year Ended September 30	**Recognition of Deferred Outflows (Inflows)**
2019	$ 1,421
2020	1,679
2021	(1,643)
2022	(951)
Total	$ 506

13. Other Postemployment Benefits

Plan Description

Plan administration – JEA maintains a medical benefits plan (OPEB Plan) that it makes available to its retirees. The medical plan is a single-employer, experience rated insurance contract plan that provides medical benefits to employees and eligible retirees and their beneficiaries.

JEA currently determines the eligibility, benefit provisions, and changes to those provisions applicable to eligible retirees. The OPEB Plan does not issue separate financial statements.

Plan membership – As of September 30, 2017 (the actuarial valuation date), the OPEB Plan membership consisted of the following:

Inactive plan members or beneficiaries currently receiving benefit payments	502
Active plan members	2,041
Total	2,543

(Dollars in Thousands)

13. Other Postemployment Benefits (continued)

Benefits provided – The postretirement benefit portion of the benefits plan (OPEB Plan) refers to the benefits applicable to current and future retirees and their beneficiaries. In addition, retirees are eligible to continue life insurance coverage through the plan sponsored by JEA. Premiums for the first $5,000 of coverage are being subsidized by the employer and, as such, are considered as other postemployment benefits for purposes of GASB Statement No. 75. As of January 1, 2017, the PPO plan out of pocket maximums increased to $5,000/$10,000, the deductible increased to $500 per year, the coinsurance changed to 80%/50%, and the specialist copay increased to $60. The HRA out of pocket maximum increased to $5,000/$10,000. The HSA deductible was set to $1,500 for in network and $2,500 for out of network. The copays for prescription drug benefits under all plan options increased to $10/$40/$60 and copays for specialty drugs increased to $250. Under the HSA Plan, the deductible must be satisfied before the prescription co-pay requirements. The table below outlines other key components of the OPEB plan.

	PPO		HRA		HSA	
	In-Network	Out-of-Network	In-Network	Out-of-Network	In-Network	Out-of-Network
Annual deductible	$ 500	$ 1,000	$ 1,500	$ 3,000	$ 1,500	$ 2,500
Primary Care Physician co-pay	$ 25	40%	$ 25	40%	20%*	40%*
Specialist co-pay	$ 60	40%	$ 60	40%	20%*	40%*
Co-insurance	20%	40%	20%	40%	20%*	40%*

*After the annual deductible is met

Contributions – Retired members pay the full premium associated with the health coverage elected. There is no direct JEA subsidy currently applicable; however, there is an implicit cost. Spouses and other dependents are also eligible for coverage and the member is responsible for payment of the applicable premiums.

Florida law prohibits JEA from separately rating retirees and active employees. Therefore, JEA assigns to both groups blended-rate premiums.

In 2008, JEA began to advance-fund the OPEB obligation. This was accomplished by establishing a separate trust into which JEA makes periodic deposits and withdrawals to reimburse operations for costs incurred on a pay-as-you-go basis.

(Dollars in Thousands)

13. Other Postemployment Benefits (continued)

Actuarial assumptions – The total OPEB liability in the October 1, 2017 and October 1, 2016 actuarial valuation was determined using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation	2.50%
Salary increases	2.5%–12.5%, including inflation; varies by years of service
Investment rate of return	7.00%
Healthcare cost trend rates	Based on the Getzen Model, with trend starting at 7.00% and gradually decreasing to an ultimate trend rate of 4.57% as of October 1, 2017 and 4.59% as of October 1, 2016 (including the impact of the excise tax).
Mortality rates	Mortality tables used for Regular Class members in the July 1, 2016 actuarial valuation of the Florida Retirement System. They are based on the results of a state wide experience study covering the period 2008 through 2013.

The long-term expected rate of return on OPEB plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of OPEB plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in the OPEB plan's target asset allocation at the measurement date of September 30, 2017 and September 30, 2016, are summarized in the following table.

The target allocation and the best estimates of the rate of return for each major asset class are summarized in the following table:

	2017		2016	
Asset Class	**Target Allocation**	**Long-term Expected Nominal Rate of Return**	**Target Allocation**	**Long-term Expected Nominal Rate of Return**
Large cap domestic equity	**34%**	**8.0%**	39%	9.0%
Global fixed income	**18%**	**4.6%**	24%	4.0%
International equity	**15%**	**8.5%**	10%	9.8%
Domestic fixed income	**12%**	**4.3%**	16%	3.5%
Small cap domestic equity	**11%**	**8.5%**	11%	9.8%
Real estate	**10%**	**7.4%**	0%	N/A
Total	**100%**		100%	

(Dollars in Thousands)

13. Other Postemployment Benefits (continued)

Discount Rate – GASB Statement No. 75 includes a specific requirement for the discount rate that is used for the purpose of the measurement of the Total OPEB Liability. This rate considers the ability of the fund to meet benefit obligations in the future. To make this determination, employer contributions, employee contributions, benefit payments, expenses and investment returns are projected into the future. The Plan Net Position (assets) in future years can then be determined and compared to its obligation to make benefit payments in those years. As the assets are projected to be sufficient to meet benefit payments, the assumed valuation discount rate of 7.00% was used.

Sensitivity of the Net OPEB Liability to Changes in the Discount Rate – The following presents the net OPEB liability, calculated using a discount rate of 7.0%, as well as what the net OPEB liability would be if it were calculated using a rate that is 1% lower or 1% higher than the current rate:

	2018	2017
1% decrease	**$ 23,779**	$ 46,273
Current discount rate	**18,835**	39,508
1% increase	**14,662**	33,799

Healthcare Cost Trend Rate – JEA followed the Getzen model with trend rates for costs and premiums declining over a 22-year period from 7.00% assumed for the year 2018 to the ultimate level of 4.57%.

Sensitivity of the Net OPEB Liability to Changes in the Healthcare Cost Trend Rate – The following presents the net OPEB liability, calculated using a healthcare cost trend rate of 7.0% down to 4.57%, as well as what the net OPEB liability would be if it were calculated using a trend rate that is 1% lower or 1% higher than the current trend rate:

	2018	2017
1% decrease	**$ 14,401**	$ 33,442
Current healthcare cost trend rate	**18,835**	39,508
1% increase	**24,098**	46,709

(Dollars in Thousands)

13. Other Postemployment Benefits (continued)

Changes in the net OPEB liability are detailed below.

	2018	2017
Total OPEB liability		
Beginning balance	**$ 60,949**	$ 62,554
Service cost	**811**	781
Interest on the total OPEB liability	**4,253**	4,203
Changes in benefit terms	**(11,556)**	–
Difference between expected and actual experience	**(7,891)**	–
Benefit payments	**(2,019)**	(6,589)
Ending balance	**44,547**	60,949
Plan fiduciary net postion		
Beginning balance	**21,441**	18,156
Employer contributions	**5,240**	5,061
Net investment income	**2,942**	2,135
Reimbursements to employer	**(3,911)**	(3,911)
Ending balance	**25,712**	21,441
Net OPEB liability	**$ 18,835**	$ 39,508
Plan fiduciary net position as a percentage of the total OPEB liability	**57.72%**	35.18%
Covered payroll	**$155,326**	$150,073
Net OPEB liability as a percentage of covered payroll	**12.13%**	26.33%

Plan Assets – The assets of the plan consist of shares held in the Florida Municipal Investment Trust (FMIT), which is administered by the Florida League of Cities. The FMIT is an interlocal governmental entity created under the laws of the State of Florida and an Authorized Investment under Sec. 163.01 Florida Statutes. It is considered an external investment pool for reporting purposes. JEA owns shares in the OPEB Fund A as directed in the Master Trust Agreement. OPEB Fund A target asset allocation is 60% equities and 40% fixed income.

At September 30, 2017 and September 30, 2016, the OPEB Plan's cash and money market balance within the OPEB Fund A was $309 and $322, respectively.

Risk

In accordance with GASB Statement No. 40, investments also require certain disclosures regarding policies and practices with respect to the risks associated with them (see discussion in the following paragraphs).

(Dollars in Thousands)

13. Other Postemployment Benefits (continued)

Interest Rate Risk

Interest rate risk is the risk that changes in the market interest rates will adversely affect the fair value of an investment. Generally speaking, the longer the maturity of an investment, the greater the sensitivity of its fair value to changes in market interest rates. The table below details the interest rate risk in years for investments in the trust.

	September 30, 2017		September 30, 2016	
Fixed Income Fund	Modified Duration	Weighted Average Maturity	Modified Duration	Weighted Average Maturity
FMIT Broad Market High Quality Bond Fund	**4.74**	**6.10**	4.45	5.90
FMIT Core Plus Fixed Income Fund	**2.24**	**7.40**	2.04	6.84

Credit risk

Credit risk is the risk that a security or a portfolio will lose some or all of its value due to real or perceived changes in the ability of the issuer to repay its debt. The FMIT Broad Market High Quality Bond Fund was rated by Fitch as AAf/S4 as of September 30, 2017 and September 30, 2016. The remaining funds of the trust are unrated.

Money-Weighted rates of return

The money-weighted rates of return for the fiscal years ended September 30, 2017 and September 30, 2016 are listed below.

Year Ended	Return
2016	7.90%
2017	13.35%

(Dollars in Thousands)

13. Other Postemployment Benefits (continued)

Fair Value Disclosures

The table below summarizes the OPEB Plan's investments. Level 1 investments are valued using prices quoted in active markets for those securities. Level 2 investments are valued using direct market observations combined with quantitative pricing models to generate prices. JEA's investment is in shares of the FMIT OPEB Fund A. The disclosure below is based on the asset allocation provided by the FMIT of those investments held by OPEB Fund A.

	September 30, 2017			September 30, 2016		
	Level 2	Level 3	Total	Level 2	Level 3	Total
FMIT Broad Market High Quality Bond Fund	$ 3,831	$ –	$ 3,831	$ 3,280	$ –	$ 3,280
FMIT Core Plus Fixed Income Fund	–	5,785	5,785	–	4,996	4,996
Total fixed income	3,831	5,785	9,616	3,280	4,996	8,276
FMIT High Quality Growth Portfolio	2,057	–	2,057	1,630	–	1,630
FMIT Large Cap Diversified Value Portfolio	2,160	–	2,160	1,758	–	1,758
FMIT Russell 1000 Enhanced Index Portfolio	5,991	–	5,991	4,803	–	4,803
FMIT Diversified Small to Mid Cap Equity Portfolio	2,905	–	2,905	2,444	–	2,444
FMIT International Equity Portfolio	2,674	–	2,674	2,208	–	2,208
Total equities	15,787	–	15,787	12,843	–	12,843
Total	$ 19,618	$ 5,785	$ 25,403	$ 16,123	$ 4,996	$ 21,119

OPEB Liabilities, OPEB Expense, Deferred Outflows of Resources, and Deferred Inflows of Resources Related to the OPEB

Net OPEB Liability – JEA's net OPEB liability at September 30, 2018 and September 30, 2017 was measured based on an actuarial valuation as of and with the measurement dates of September 30, 2017 and September 30, 2016, respectively. JEA's net OPEB liability is $18,835 as of September 30, 2018 and $39,508 as of September 30, 2017.

For the year ended September 30, 2018 and 2017, JEA recognized OPEB expense is ($9,272) and $3,508, respectively. As JEA has implemented regulatory accounting for OPEB, the difference between the recognized OPEB expense and the cash contributions paid has been deferred as a regulatory asset. See note 2, Regulatory Deferrals, for additional details.

(Dollars in Thousands)

13. Other Postemployment Benefits (continued)

The JEA Plan recorded deferred outflows of resources and deferred inflows of resources related to OPEB as detailed in the table below.

	September 30 2018	September 30 2017
Deferred outflows of resources		
Contributions subsequent to the measurement date	**$ 4,078**	$ 5,240
Total	**$ 4,078**	$ 5,240
Deferred inflows of resources		
Differences between expected and actual experience	**$ (7,102)**	$ –
Net difference between projected and actual earnings on pension plan investments	**(1,610)**	(659)
Total	**$ (8,712)**	$ (659)

Contributions of $4,078 were reported as deferred outflows of resources related to OPEB resulting from contributions subsequent to the September 30, 2017 measurement date and will be recognized as a reduction of the net OPEB liability in the year ended September 30, 2019. Other amounts reported as deferred outflows of resources and deferred inflows of resources related to OPEB will be recognized in OPEB expense as follows:

Year Ended September 30	Recognition of Deferred Outflows (Inflows)
2019	$ (1,233)
2020	(1,233)
2021	(1,233)
2022	(1,068)
2023	(789)
Thereafter	(3,156)
Total	$ (8,712)

(Dollars in Thousands)

14. Fair Value Measurements

GASB Statement No. 72, *Fair Value Measurement and Application*, addresses accounting and financial reporting issues related to fair value measurements. It provides guidance for applying fair value to certain investments and disclosures related to all fair value measurements. For JEA, this statement applies to certain investments, interest rate swap agreements, and natural gas cash flow hedges.

JEA categorizes its fair value measurements within the fair value hierarchy established by GAAP. The hierarchy is based on the valuation inputs used to measure the fair value of the asset or liability.

- Level 1 – quoted prices (unadjusted) for identical assets or liabilities in active markets that a government can access at the measurement date
- Level 2 – Inputs – other than quoted prices included within Level 1 – that are observable for an asset or liability, either directly or indirectly
- Level 3 – unobservable inputs for an asset or liability

Investments

JEA's investments are summarized in the table below. Level 1 investments are valued using prices quoted in active markets for those securities. Level 2 investments are valued using direct market observations combined with quantitative pricing models to generate prices. Money market mutual funds are managed to meet the requirements of Rule 2a-7 under the Investment Company Act of 1940, as amended, and are recorded at net asset value (NAV). The local government investment pools transact with participants at a stable NAV and are recorded at NAV. Certain U.S. Treasury and government agency securities and commercial paper are measured at cost.

	2018			
	Total	Level 1	Level 2	Level 3
Investments by fair value level				
U.S. Treasury and government agency securities	$ 453,060	$ 453,060	$ –	$ –
State and local government securities	223,845	–	223,845	–
Total investments by fair value level	$ 676,905	$ 453,060	$ 223,845	$ –
Investments measured at NAV				
Local government investment pools	194,786			
Money market mutual funds	23,208			
Total investments measured at fair value	894,899			
Investments measured at cost				
Commercial paper	133,074			
U.S. Treasury and government agency securities	9,837			
Total investments by cost	142,911			
Total investments per statement of net position	$ 1,037,810			

(Dollars in Thousands)

14. Fair Value Measurements (continued)

	2017			
	Total	Level 1	Level 2	Level 3
Investments by fair value level				
U.S. Treasury and government agency securities	$ 420,524	$ 420,524	$ –	$ –
State and local government securities	323,507	54,923	268,584	–
Total investments by fair value level	$ 744,031	$ 475,447	$ 268,584	$ –
Investments measured at NAV				
Local government investment pools	138,207			
Money market mutual funds	51,460			
Total investments measured at fair value	933,698			
Investments measured at cost				
Commercial paper	170,829			
U.S. Treasury and government agency securities	118,363			
Total investments by cost	289,192			
Total investments per statement of net position	$ 1,222,890			

Interest Rate Swap Agreements

JEA's interest rate swap agreements are valued using market rates as of September 30, 2018 and 2017 and standard cash flow present valuing techniques, which places them at Level 2 in the fair value hierarchy. The agreements are recorded at fair value as part of long-term debt in the statements of net position. The fair value of the interest rate swap agreements is detailed below.

	2018	2017
Electric	**$ (70,103)**	$ (101,350)
Water and Sewer	**(16,253)**	(23,919)
Total	**$ (86,356)**	$ (125,269)

Natural Gas Cash Flow Hedges

JEA's natural gas cash flow hedges consisted of swap agreements for either a 3-month or 12-month period, covering calendar year 2018 and December 2019 through December 2021. These hedges were valued using prices observed on commodities exchanges and/or using industry-standard valuation techniques, such as option modeling or discounted cash flows techniques, incorporating both observable and unobservable valuation inputs, which placed them at Level 3 in the fair value hierarchy. The fair market value changes in the hedges were recorded on a net basis in the statements of net position as either a deferred charge or a deferred credit until such time that the transactions end. At September 30, 2018 and 2017, deferred credits of $2,536 and $0 were included in deferred inflows of resources on the statements of net position, respectively.

15. Commitments and Contingent Liabilities

Grants

JEA participates in various federal and state assisted grant programs that are subject to review and audit by the grantor agencies. Entitlements to these resources are generally conditional upon compliance with the terms and conditions of grant agreements and applicable federal and state regulations, including the expenditure of resources for allowable purposes. Any disallowance resulting from a federal or state audit may become a liability of JEA. It is management's opinion that the results of these audits will have no material adverse effect on JEA's financial position or results of operations.

Regulatory Initiatives

The electric industry and water and wastewater industry have been and will continue to be affected by a number of legislative and regulatory initiatives. The following summarizes the key regulations affecting JEA:

Electric Enterprise System – On August 3, 2015, the Environmental Protection Agency (EPA) issued concurrently three separate rules pertaining to emissions of carbon dioxide (CO2) fossil fuel-fired electric generating units (EGUs):

- The Final Clean Power Plan (CPP), applicable to existing fossil fuel-fired electric EGUs.
- The Final Carbon Pollution Standards Rule (CPS), applicable to new, modified and reconstructed fossil fuel-fired EGUs.
- The Proposed Federal Plan applicable to states that fail to submit an approvable plan that achieves CPP goals.

On February 9, 2016, the United States Supreme Court (SCOTUS) issued an order staying implementation of the CPP. The SCOTUS granted the applications of numerous parties to stay the CPP pending judicial review of the rule. On March 28, 2017, President Trump issued an Executive Order establishing a national policy "in favor of energy independence, economic growth, and the rule of law". The President has directed agencies to review existing regulations that potentially burden the development of domestic energy resources, and appropriately suspend, revise, or rescind regulations that unduly burden the development of U.S. energy resources beyond what is necessary to protect the public interest or otherwise comply with the law. The Executive Order specifically directed EPA to review and, if appropriate, initiate reconsideration proceedings to suspend, revise or rescind the new EPA Final Rules pertaining to CO^2 emissions. EPA initially obtained temporary court orders to hold the court challenge of the CPP and the CPS in abeyance, pending the completion of EPA's review of the rules. EPA subsequently petitioned the court to pause the litigation indefinitely while EPA promulgates new rules.

15. Commitments and Contingent Liabilities (continued)

On August 30, 2018, EPA a proposed rule to replace the CPP. The proposed rule is titled the Affordable and Clean Energy (ACE) Rule. ACE proposes new Existing Source Performance Standards (ESPS) to regulate CO2 emissions from fossil-fueled boilers. The ACE standards are significantly less stringent than the CPP standards. ACE also proposes to simplify and remove considerable ambiguity from EPA's New Source Review (NSR) rules applicable to major improvements to generating units. EPA has also promulgated but not issued proposed New Source Performance Standards (NSPS) for fossil-fueled units. Provisions of ACE are anticipated to be complied with without significant capital expenditure and do not represent significant cost exposure for JEA. Similarly, since JEA is not presently anticipating construction of any electric generation units that would be impacted by a new NSPS, the pending rule likewise does not represent significant cost exposure for JEA. Because these rules are either proposed or pending issuance, it is difficult to know when or if the rules will become "final" and enforceable. For this reason, JEA is unable, at this time, to definitively ascertain the impact to JEA to come from prospective regulation of CO2 emissions.

On July 6, 2011, the EPA released the Cross-State Air Pollution Rule (CSAPR), which is intended as a substitute for the invalidated Clean Air Interstate Rule (CAIR). In the CSAPR, the EPA determined that 27 states in the eastern United States are in violation of the Clean Air Act, because they significantly contribute to nonattainment or interference with the maintenance of attainment of three National Ambient Air Quality Standards (NAAQS) in one or more downwind states. The three air quality standards addressed in the CSAPR are the 1997 and 2006 fine particulate matter ($PM_{2.5}$), NAAQS, and the 1997 ozone NAAQS. To address these violations, the CSAPR imposes Federal Implementation Plans (FIPs) that establish state budgets for SO2 and NOx emissions from EGUs. The EPA targeted these two pollutants, because they are precursors to the formation of $PM_{2.5}$ and ozone in the atmosphere. The budgets are allocated to individual EGUs in the form of allowances and the CSAPR permits limited interstate emissions trading and unlimited intrastate emissions trading as a means of compliance. States became subject to the emission budgets in 2012 with more stringent limits taking effect in 2014. In April 2014, the SCOTUS upheld the rule, but remanded back certain legal issues to the DCA to address. On July 28, 2015, the DCA issued an order and opinion remanding, without vacatur, certain state budgets under the CSAPR for reconsideration by the EPA, including the ozone-season NOx emissions budget for Florida. On September 7, 2016, the EPA issued a final updated CSAPR rule that removed Florida and two other eastern states from the rule. However, the EPA has made known that it is in the early stages of developing a supplemental rule (CSAPR Update II) to address the 2015 ozone and $PM_{2.5}$ NAAQS. It is possible that the CSAPR Update II may mandate deeper emission reductions and an expansion of the geographic area for regulation, possibly to again include Florida. The EPA has not established a rulemaking schedule for the CSAPR Update II. Consequently, JEA is not able to estimate any impacts from the CSAPR Update II.

On December 21, 2011, the EPA issued its Mercury and Air Toxics Standards (MATS) rule, setting forth maximum achievable control technology (MACT) standards for coal and oil generating stations. The new standards regulate four categories of hazardous air pollutants (HAPS) emitted by coal- or oil-fired EGUs, namely mercury, HAP metals, acid gases, and organic HAP.

The compliance deadline for affected sources to have all necessary pollution controls installed was April 2015. JEA's units that are regulated under MATS comply with all rule requirements.

15. Commitments and Contingent Liabilities (continued)

In April 2015, the EPA finalized rules to regulate the disposal and management of coal combustion residuals (CCRs), meaning fly ash, bottom ash, boiler slag, and flue gas desulfurization materials, destined for disposal from coal-fired power plants. The new rule became effective on October 19, 2015 and established technical requirements for surface impoundments and landfills. The rule requires protective controls, such as liners and groundwater monitoring, at landfills and surface impoundments that store CCRs. The rule, as adopted by the EPA, is enforced only by citizen-initiated lawsuits, rather than by the EPA. However, with passage of the WIIN Act in 2016, the rule can now be reformed to provide the following: 1) conversion from a “self-implementing” program to a permit program the states or EPA would have primary responsibility to administer and enforce; and, 2) flexibility for state programs to adjust and tailor federal CCR requirements to meet local, case-specific situations, so long as they are adequately protective of federal CCR requirements.

The rule applies to CCR management practices at SJRPP and Scherer. The rule does not apply to management of CCRs at Northside Generating Station (NGS) as long as it continues to burn a fuel mix with less than 50% coal. The currently operating cell within Area B of SJRPP does not have to be lined, but must comply with the operating and monitoring requirements of the rule even after the plant was decommissioned in 2018. SJRPP’s two closed byproduct storage areas (Areas I and II) are not affected by this rule. SJRPP has no regulated surface impoundments. Existing surface impoundments, like that at Scherer, are required to meet increased and more restrictive technical and operating criteria or close. Georgia Power has decided to close the surface impoundment at Scherer instead of pursuing a retrofit and the timeline for closure activities is currently projected to run through 2030.

The EPA left in place the Bevill exemption for beneficial uses of CCRs in which CCRs are recycled as components of products instead of placed in impoundments or landfills. Large quantities of CCRs are used today in concrete, cement, wallboard, and other contained applications that should not involve any exposure by the public to unsafe contaminants.

On November 22, 2010, the EPA entered into a settlement agreement with Riverkeeper, Inc. regarding rule-making dates for the EPA to set technology standards for cooling water intake systems for existing facilities under Section 316(b) of the Federal Clean Water Act. Section 316(b) requires that standards for the location, design, construction and capacity of cooling water intake systems reflect the best technology available for minimizing adverse environmental impacts. The EPA announced proposed standards for cooling water intake systems on March 28, 2011. Under the proposal, existing facilities are required to conduct studies to help their respective permitting authorities determine whether and what site-specific controls, if any, would be required to reduce the number of aquatic organisms that are captured in cooling water intake systems.

15. Commitments and Contingent Liabilities (continued)

With few changes to the proposed rule, the EPA published the final rule in the Federal Register in August 2015. The new standards will not affect any JEA facilities other than NGS. NGS is one of more than 1,260 existing facilities that use large volumes of cooling water from lakes, rivers, estuaries, or oceans to cool their plants. The new standards will likely require upgrades to the system, varying from establishment of existing facilities as the Best Technology Available (BTA) to improvements to the existing screening facilities or installation of cooling towers. A full two-year biological study is required to evaluate site-specific conditions and form a basis for assessing BTA and was initiated in 2018. Estimated final compliance deadlines are not expected until after 2024 and will depend on the level of upgrade ultimately required. Accordingly, costs of compliance have not been determined for NGS and are not included in JEA's capital program for the Electric System.

On September 30, 2016, the EPA issued the Effluent Limitation Guidelines for Steam Electric Power Plants. In setting the new and more stringent standards, the EPA evaluated the technologies and costs to remove metals and other parameters from individual wastewater streams generated by steam electric power plants and identify the BAT to affect their control. The new requirements for existing power plants must be phased in as soon as possible on or after November 1, 2018, but no later than December 31, 2023. The costs of compliance at NGS and Scherer have been evaluated and are anticipated in operating budgets and in JEA's five-year capital program for the Electric System.

Water Supply System Regulatory Initiatives – JEA was issued a 20-year Consumptive Use Permit (CUP) in May 2011 from the St. Johns River Water Management District (SJRWMD), which allows for aquifer withdrawals sufficient to completely satisfy customer demands until 2031 if certain permit conditions are met. JEA evaluates its total water management plan annually to continuously understand changes in demand and how to balance investments in a three-part program: (1) continued expansion of the reuse system, (2) measured conservation program and (3) water transfers from areas with a higher supply on JEA's north grid to areas with a lower supply on JEA's south grid via river-crossing pipelines. In North Florida, the Suwannee River Water Management District (SRWMD), Florida Department of Environmental Protection (FDEP), and the SJRWMD have set or are setting/revising Minimum Flows and Levels (MFLs) for water bodies in the region. MFLs are intended to assess the potential for ecological resource risks from water withdrawals and ensure sustainable supplies. In 2015, MFLs were adopted in the SRWMD and a determination required a recovery strategy. By permit, JEA will participate to the extent of its proportionate impact in prevention and recovery strategies that may be developed to ensure the groundwater resource remains sustainable.

15. Commitments and Contingent Liabilities (continued)

Wastewater Treatment System Regulatory Initiatives – The Sewer System is regulated by the EPA under provisions of the Federal Clean Water Act and the Federal Water Pollution Act. In Florida, the EPA has delegated the wastewater regulatory program to FDEP. The FDEP has implemented a Total Maximum Daily Load regulation (TMDL) defining the mass of nitrogen and phosphorus that can be assimilated by the St. Johns River, to which 8 of JEA's 11 wastewater treatment plants discharge. This state rule limits the amount of nitrogen and phosphorus that these eight wastewater treatment facilities are allowed to discharge by permit. JEA is meeting these limits as the result of past capital improvements to its wastewater facilities, expansion of the reclaimed water system, and phase-out of smaller old technology wastewater facilities. By virtue of exceeding its own regulatory obligation, JEA has generated nutrient reduction credits and has assisted the City in meeting a portion of their Municipal Separate Storm System nutrient requirements by transferring 33.44 short tons per year. This was recognized in JEA's annual contribution agreement negotiated in 2016. In 2013, both the FDEP and EPA reaffirmed the site-specific nutrient standard that is codified in the Lower St. Johns River TMDL.

Pollution Remediation Obligations

JEA is subject to numerous federal, state, and local environmental regulations resulting in environmental liabilities due to compliance costs associated with new regulatory initiatives, enforcement actions, legal actions, and contaminated site assessment and remediation. Based on an analysis of the cost of cleanup and other identified environmental contingencies, JEA has accrued a liability associated with the remediation efforts. In accordance with GASB No. 49, *Accounting and Financial Reporting for Pollution Remediation Obligations*, based on project estimates and probabilities, the liability is estimated to be $20,726 at September 30, 2018. The accrual is related to the following environmental matters: Kennedy Generating Station RCRA Corrective Action for former wood preserving site; Sans Souci Substation remedial activities; Pearl Street Electric Shop remedial activities; WSSC PCB Issue, Northside Generating Station RCRA Corrective Action program; and remediation at a number of miscellaneous petroleum sites. Of the $20,726 that JEA has accrued as environmental liabilities, approximately $15,795 is associated with the expected cost of remediating the former wood preserving facility at the Kennedy Generating Facility. Following are other environmental matters that could have an impact on JEA; however, the resolution of these matters is uncertain and no accurate prediction of range of loss is possible at this time: Pickettville Road Landfill CERCLA site post-closure activities and the Ellis Road CERCLA site. Although uncertainties associated with these recognized environmental liabilities remain, JEA believes that the current provision for such costs is adequate and additional costs, if any, will not have a material adverse effect upon its financial position, results of operations, or liquidity. Costs associated with these obligations that were expensed prior to the approval of regulatory accounting for environmental projects are recorded in other noncurrent liabilities and total $16,818. The remaining liability is recognized as part of revenues to be used for future costs.

15. Commitments and Contingent Liabilities (continued)

Northside Generating Station Byproduct

JEA Northside Generating Station (NGS) Units 1 and 2 produce byproducts that consist of fly ash and bed ash. JEA has obtained a permit from FDEP to beneficially use the processed byproduct material in the State of Florida, subject to certain restrictions. These ash products are processed into materials marketed as EZBase and EZSorb. The expansion of rail capacity, the ability to load rail cars directly from the storage silos, and direct leasing of railcars has enabled JEA to become a full-service marketer, delivering products by truck or rail. EZSorb is currently being transported by truck and rail to leachate solidification and environmental remediation/stabilization projects in several southeastern states.

The Byproducts Storage Area is an FDEP permitted, Class I lined storage facility at NGS. JEA received a new 20-year permit effective May 4, 2015.

A case is pending in the Second Judicial Circuit in Harrison County, Mississippi. Plaintiff is suing multiple defendants seeking damages allegedly resulting from construction defects at The Promenade, a retail shopping mall in D'Iberville, Mississippi. Plaintiff amended the complaint in April 2010 to add JEA as a defendant on various product liability theories, claiming that JEA's ash byproduct was allegedly incorporated as a component of the product of another party defendant and used by other party defendants at the subject project. Plaintiff seeks injunctive relief, to remediate the site, and damages. Multiple third party claims and cross claims were raised and remain pending. JEA believes it has good and meritorious defenses in this action and will vigorously defend the case. The plaintiff is seeking approximately $75,000; however, the trial court ruled that JEA is entitled to a sovereign immunity cap of $500. Plaintiff has appealed this ruling and the pre-trial rulings are currently being heard by the Mississippi Supreme Court.

General Litigation

JEA is party to various pending or threatened legal actions in connection with its normal operations. In the opinion of management, any ultimate liabilities that may arise from these actions are not expected to materially affect JEA's financial position, results of operations, or liquidity.

16. Storm Costs

Hurricane Matthew tracked parallel along the coast of Florida on October 7, 2016 and Hurricane Irma passed to the west of Jacksonville as a tropical storm on September 11, 2017, causing extensive damage within the JEA service territory. Damage to JEA property was primarily to the transmission and distribution systems. Because of the extensive damage, Jacksonville was declared a federal major disaster area, making JEA eligible to receive reimbursement from FEMA. Requests for Public Assistance for both declared disasters were filed and accepted.

(Dollars in Thousands)

16. Storm Costs (continued)

JEA is in the midst of the cost reimbursement process through FEMA, which allows cost share of 87.5% of eligible cost (75.0% from FEMA and 12.5% from the State of Florida) of those costs not covered by insurance. As a result, $27,999 of the eligible costs were deferred as costs to be recovered from future revenues in the statement of net position with the 12.5%, or $4,000, being recognized in the maintenance and other operating expenses financial statement line item in the statement of revenues, expenses and changes in net position in fiscal year 2017. Through September 30, 2018, JEA has received $9,033, which reduced the deferred costs to be recovered from future revenues. Of the $9,033 received, $6,970 was from insurance and $2,063 from FEMA. JEA believes it is probable that reimbursement from either insurance or FEMA will be received for the eligible cost incurred that is remaining.

17. Segment Information

The financial statements of JEA contain four segments, as the Electric System and Bulk Power Supply System, the SJRPP System, the Water and Sewer System, and DES represent separate identifiable activities. These systems have debt outstanding with a revenue stream pledged in support of the debt. In addition, the activities are required to be accounted for separately. JEA's Electric System and Bulk Power Supply System segment consists of an electric utility engaged in the generation, purchase, transmission, distribution, and sale of electricity primarily in Northeast Florida. JEA's SJRPP System segment consists of a generation facility that is 80% owned by JEA, which is currently in the process of being decommissioned as discussed in note 2, St. Johns River Power Park. JEA's Water and Sewer System segment consists of water collection, distribution, and wastewater treatment in Northeast Florida. The DES consists of chilled water activities.

Intercompany billing is employed between the Electric System, the Water and Sewer System, and DES and includes purchases of electricity, water, sewer, and chilled water services and the rental of inventory and buildings. The utility charges between entities are based on a commercial customer rate. All intercompany billings are eliminated in the financial statements. See intercompany charges detailed below.

	2018			2017		
	Electric	W&S	DES	Electric	W&S	DES
Electricity services	N/A	$ 13,422	$ 3,282	N/A	$ 13,324	$ 3,351
Water and sewer services	505	N/A	136	147	N/A	144
Chilled water services	–	408	N/A	–	507	N/A

The Electric System shares certain administrative functions with the Water and Sewer System. Generally, these costs are charged to the Electric System and the costs of these functions are allocated to the Water and Sewer System based on the benefits provided. Operating expense allocated to the Water and Sewer System was $45,869 for fiscal year 2018 and $43,327 for 2017.

17. Segment Information (continued)

In September 1999, the Water and Sewer System purchased the inventory owned by the Electric System for $32,929. This was initiated to increase the utilization of its assets between the Electric System and the Water and Sewer System. A monthly inventory carrying charge is paid by the Electric System based on the value of the inventory multiplied by one-twelfth of the prior year's Water and Sewer average cost of debt. Inventory carrying charges were $784 for fiscal year 2018 and $280 for 2017.

In July 1999 and July 2004, the Electric System transferred several buildings to the Water and Sewer System in the amounts of $22,940 and $6,284, respectively, an amount equal to the net book value of the assets. Monthly, the Electric System reimburses the Water and Sewer System for their equitable allocation. Annual rent paid by the Electric System to the Water and Sewer System for use of these buildings was $2,030 for fiscal year 2018 and $1,999 for 2017.

To utilize the efficiencies in the Customer Account Information billing system and reduce the administrative efforts in recording deposits, customer deposits are recorded to one Service Agreement per account. Deposits are allocated to the Electric System or Water and Sewer System based on revenues. When the deposits are credited to customer accounts, they are allocated between the service agreements.

(Dollars in Thousands)

17. Segment Information (continued)

Segment information for these activities for the fiscal years ended September 30, 2018 and 2017 was as follows:

	Electric System and Bulk Power Supply System		SJRPP System		Water and Sewer		DES	
	2018	**2017**	**2018**	**2017**	**2018**	**2017**	**2018**	**2017**
Condensed statements of net position								
Total current assets	**$ 603,965**	$ 604,305	**$ 70,352**	$ 117,017	**$ 196,938**	$ 204,171	**$ 4,396**	$ 4,355
Total noncurrent assets	**740,394**	754,337	**358,767**	276,865	**574,441**	589,523	**3,445**	3,257
Net capital assets	**2,652,224**	2,687,232	**10,144**	474,437	**2,682,864**	2,615,950	**35,027**	36,180
Deferred outflows of resources	**241,405**	278,864	**67,596**	27,339	**125,501**	131,037	**194**	203
Total assets and deferred outflows of resources	**$ 4,237,988**	$ 4,324,738	**$ 506,859**	$ 895,658	**$ 3,579,744**	$ 3,540,681	**$ 43,062**	$ 43,995
Total current liabilities	**$ 163,168**	$ 145,154	**$ 7,668**	$ 11,722	**$ 37,101**	$ 35,426	**$ 103**	$ 89
Total current liabilities payable from restricted assets	**184,899**	191,785	**63,435**	157,877	**117,447**	120,756	**2,601**	2,445
Total noncurrent liabilities	**373,718**	393,733	**39,049**	14,865	**221,990**	235,258	**34**	11
Total long-term debt	**2,166,201**	2,328,211	**281,359**	420,060	**1,570,576**	1,625,187	**34,791**	36,446
Total liabilities	**2,887,986**	3,058,883	**391,511**	604,524	**1,947,114**	2,016,627	**37,529**	38,991
Deferred inflows of resources	**283,185**	282,821	**17,715**	151,613	**47,304**	22,791	**–**	–
Net investment in (divestment of) capital assets	**530,479**	425,023	**2,138**	(3,751)	**1,325,600**	1,202,706	**(1,492)**	(1,818)
Restricted net position	**316,700**	336,210	**26,164**	39,530	**195,319**	211,166	**2,738**	2,539
Unrestricted net position	**219,638**	221,801	**69,331**	103,742	**64,407**	87,391	**4,287**	4,283
Total net position	**1,066,817**	983,034	**97,633**	139,521	**1,585,326**	1,501,263	**5,533**	5,004
Total liabilities, deferred inflows of resources, and net position	**$ 4,237,988**	$ 4,324,738	**$ 506,859**	$ 895,658	**$ 3,579,744**	$ 3,540,681	**$ 43,062**	$ 43,995
Condensed statements of revenues, expenses, and changes in net position information								
Total operating revenues	**$ 1,275,255**	$ 1,299,592	**$ 147,838**	$ 268,899	**$ 435,682**	$ 457,908	**$ 8,756**	$ 8,692
Depreciation	**203,075**	199,743	**10,987**	42,754	**144,144**	141,838	**2,403**	2,364
Other operating expenses	**829,441**	782,778	**115,612**	203,273	**166,291**	163,293	**4,603**	4,570
Operating income	**242,739**	317,071	**21,239**	22,872	**125,247**	152,777	**1,750**	1,758
Total nonoperating expenses, net	**(67,484)**	(72,558)	**(18,028)**	(22,153)	**(44,079)**	(52,807)	**(1,221)**	(1,322)
Total contributions, net	**(91,472)**	(92,271)	**–**	–	**2,895**	1,254	**–**	–
Total special items	**–**	–	**(45,099)**	–	**–**	–	**–**	–
Changes in net position	**83,783**	152,242	**(41,888)**	719	**84,063**	101,224	**529**	436
Net position, beginning of year	**983,034**	832,508	**139,521**	138,802	**1,501,263**	1,401,047	**5,004**	4,568
Effect of adoption of GASB Statement No. 75	**–**	(1,716)	**–**	–	**–**	(1,008)	**–**	–
Net position, beginning of year, restated	**983,034**	830,792	**139,521**	138,802	**1,501,263**	1,400,039	**5,004**	4,568
Net position, end of year	**$ 1,066,817**	$ 983,034	**$ 97,633**	$ 139,521	**$ 1,585,326**	$ 1,501,263	**$ 5,533**	$ 5,004
Condensed statements of cash flow information								
Net cash provided by operating activities	**$ 457,242**	$ 447,104	**$ 38,185**	$ 37,578	**$ 276,662**	$ 287,362	**$ 3,880**	$ 3,588
Net cash used in noncapital and related financing activities	**(91,538)**	(92,225)	**–**	–	**(25,031)**	(23,469)	**–**	–
Net cash used in capital and related financing activities	**(389,543)**	(396,544)	**(193,269)**	(63,622)	**(291,095)**	(259,443)	**(4,064)**	(5,139)
Net cash provided by (used in) investing activities	**(30,410)**	86,505	**174,010**	17,053	**16,616**	(21,679)	**103**	45
Net change in cash and cash equivalents	**(54,249)**	44,840	**18,926**	(8,991)	**(22,848)**	(17,229)	**(81)**	(1,506)
Cash and cash equivalents at beginning of year	**340,063**	295,223	**121,027**	130,018	**145,909**	163,138	**7,035**	8,541
Cash and cash equivalents at end of year	**$ 285,814**	$ 340,063	**$ 139,953**	$ 121,027	**$ 123,061**	$ 145,909	**$ 6,954**	$ 7,035

18. Subsequent Events

On October 11, 2018, Moody's Investors Service lowered its ratings with respect to the Bonds of JEA as follows:

(a) with respect to Electric System Revenue Bonds, Bulk Power Supply System Revenue Bonds, and SJRPP System Revenue Bonds, the long-term debt ratings were lowered from "Aa2" to "A2";

(b) with respect to Electric System Subordinated Revenue Bonds, the long-term ratings were lowered from "Aa3" to "A3";

(c) with respect to Water and Sewer Revenue Bonds and Water and Sewer Subordinated Revenue Bonds, the long-term ratings were lowered from "Aa2" to "A2"; and

(d) with respect to DES Revenue Bonds, the long-term ratings were lowered from "Aa3" to "A3".

As a result of the ratings change above, commitment fees related to Electric System VRDOs changed from a range of 0.38% to 0.40% to a range of 0.48% to 0.55% and commitment fees related to Water and Sewer System VRDOs remained unchanged within a range of 0.38% to 0.42%.

On November 1, 2018, as a result of the ratings change, the interest rate related to the Direct Purchased Bonds changed from SIFMA plus 40 basis points to SIFMA plus 55 basis points.

On November 1, 2018, JEA amended the revolving credit agreement to increase the maximum principal amount of the credit facility available for the Electric System by $200,000, for a total unsecured amount of $500,000.

On November 2, 2018, the revolving credit agreement was drawn upon by the Water and Sewer System for $2,000, with $495,000 available to be drawn.

On November 7, 2018, JEA extended the existing irrevocable direct-pay letter of credit and reimbursement agreement related to the Water and Sewer System 2008 Series A-2 VRDO to a stated expiration date of December 1, 2023. The new commitment fee is 0.42%.

REQUIRED SUPPLEMENTARY INFORMATION

(Dollars in Thousands)

Schedules of Required Supplementary Information

Schedule of JEA's Proportionate Share of the Net Pension Liability

City of Jacksonville General Employees Retirement Plan

Last Five Fiscal Years*

	2018	2017	2016	2015	2014
Proportional share percentage	**51.68%**	50.37%	49.15%	48.85%	48.85%
Net pension liability	**$ 527,680**	$ 541,025	$ 480,353	$ 404,466	$ 386,789
Covered payroll	**$ 134,443**	$ 126,808	$ 127,440	$ 128,084	$ 129,922
Net pension liability as a percentage of covered payroll	**392.49%**	426.65%	376.92%	315.78%	297.71%
Plan fiduciary net pension as a percentage of the total pension liability	**63.71%**	63.00%	64.03%	69.06%	68.64%

Schedule of JEA Contributions

City of Jacksonville General Employees Retirement Plan

Last Ten Fiscal Years*

Fiscal Year Ending September 30,	Actuarially Determined Contribution	Actual Contribution	Contribution Deficiency (Excess)	Covered Payroll*	Actual Contribution as a % of Covered Payroll
2009	$ 13,280	$ 13,280	$ –	$ 120,727	11.00%
2010	16,257	16,257	–	125,054	13.00%
2011	17,195	17,195	–	132,269	13.00%
2012	22,301	22,301	–	127,434	17.50%
2013	27,038	27,038	–	129,990	20.80%
2014	34,149	34,149	–	129,922	26.28%
2015	40,179	40,179	–	128,084	31.37%
2016	43,156	43,156	–	127,440	33.86%
2017	48,942	48,942	–	126,808	38.60%
2018	35,459	35,459	–	134,443	26.37%

* All information is on measurement year basis.

(Dollars in Thousands)

Notes to Schedule of Contributions

Valuation date:	October 1, 2017

Methods and Assumptions Used to Determine Contribution Rates:

Actuarial cost method	Entry Age Normal Cost Method
Amortization method	Level Percent of Payroll, using 1.14% Annual Increases*
Remaining amortization period	All new bases are amortized over 30 years.
Asset valuation method	Market value of assets less unrecognized returns in each of the last five years. Unrecognized return is equal to the difference between the actual market return and the expected return on the market value and is recognized over a five-year period, further adjusted, if necessary, to be within 20% of the market value.

Actual assumptions:

Investment rate of return	7.50%, including inflation, net of pension plan investment expense
Inflation rate	2.75%*
Projected salary increases	3.00% – 6.00%, of which 2.75% is the Plan's long-term payroll inflation assumption
Cost-of-living adjustments	The Plan provision contains a 3.00% COLA.

* The Fund's payroll inflation assumption is 2.75%. However, based on Part VII, Chapter 112.64(5)(a) of *Florida Statutes*, an assumption of 1.14% was used for amortization purposes in the valuation.

Required Supplementary Information – Pension (continued)
(Dollars in Thousands)

SJRPP Plan – Schedule of Changes in Net Pension Liability and Related Ratios*

	2017	2016	2015	2014
Total Pension Liability				
Beginning balance	**$ 158,926**	$ 155,143	$ 150,629	$ 146,521
Service cost	**1,032**	1,210	1,275	1,470
Interest	**10,768**	10,514	10,271	10,026
Changes in benefit terms	**–**	(59)	–	–
Difference between actual and expected experience	**10,826**	714	3,316	2,121
Changes in assumptions	**26**	3,730	–	–
Benefit payments	**(12,257)**	(12,326)	(10,348)	(9,509)
Total pension liability – ending	**$ 169,321**	$ 158,926	$ 155,143	$ 150,629
Plan Fiduciary Net Position				
Beginning balance	**$ 142,286**	$ 138,902	$ 145,425	$ 135,019
Contributions – employer	**8,039**	2,142	3,509	5,559
Contributions – employee	**625**	629	648	655
Net investment income	**14,571**	13,379	(266)	13,763
Benefit payments	**(12,257)**	(12,326)	(10,348)	(9,509)
Administrative expense	**(466)**	(440)	(66)	(62)
Plan fiduciary net position – ending	**$ 152,798**	$ 142,286	$ 138,902	$ 145,425
Net Pension Liability – Ending	**$ 16,523**	$ 16,640	$ 16,241	$ 5,204
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	**90.24%**	89.53%	89.53%	96.55%
Covered Payroll	**$ 15,621**	$ 15,730	$ 16,665	$ 21,304
Net Pension Liability as a Percentage of Covered Payroll	**105.78%**	105.79%	97.46%	24.43%

* These schedules are presented to illustrate the requirement to share information for ten years. However, until a full ten-year trend is compiled, only available information is shown. All information is on a measurement year basis.

SJRPP Plan – Investment Returns

Year Ended	Return
2008	-12.67%
2009	7.60%
2010	10.14%
2011	0.41%
2012	17.17%
2013	12.64%
2014	10.32%
2015	-0.19%
2016	9.99%
2017	10.39%

Required Supplementary Information – Pension (continued)
(Dollars in Thousands)

SJRPP Plan – Schedule of Contributions

Fiscal Year Ending September 30,	Actuarially Determined Contribution	Actual Contribution	Contribution Deficiency (Excess)	Covered Payroll	Actual Contribution as a % of Covered Payroll
2009	10,239	10,398	(159)	21,327	48.76%
2010	13,453	13,565	(112)	19,431	69.81%
2011	8,919	9,028	(109)	19,895	45.38%
2012	7,995	8,005	(10)	19,318	41.44%
2013	11,845	11,885	(40)	17,761	66.92%
2014	5,397	5,559	(162)	21,304	26.09%
2015	3,414	3,509	(95)	16,665	21.06%
2016	2,050	2,142	(92)	15,730	13.62%
2017	7,967	8,039	(72)	15,621	51.46%
2018	7,727	26,409	(18,682)	5,809	454.62%

Required Supplementary Information – Pension (continued)
(Dollars in Thousands)

Notes to Schedule of Contributions

Valuation date:	October 1, 2017
Methods and Assumptions Used to Determine Contribution Rates:	
Actuarial cost method	Entry Age Normal
Amortization method	Level Dollar, Closed
Remaining amortization period	2 years
Asset valuation method	Market value of assets
Actual assumptions:	
Investment rate of return	7.00% per year, compounded annually, net of investment expenses
Inflation rate	2.5%
Projected salary increases	2.5% – 12.5%, per year, including inflation
Retirement age	Experience-based table of rates based on year of eligibility.
Mortality	Mortality tables used for Regular Class and Special Risk Class members in the July 1, 2016 actuarial valuation of the Florida Retirement System. They are based on the results of a statewide experience study covering the period 2008 through 2013.

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Required Supplementary Information – OPEB
(Dollars in Thousands)

September 30, 2018

OPEB Plan – Schedule of Changes in Net OPEB Liability and Related Ratios*

	2017	2016
Total OPEB Liability		
Beginning balance	**$ 60,949**	$ 62,554
Service cost	**811**	781
Interest on the total OPEB liability	**4,253**	4,203
Changes in benefit terms	**(11,556)**	–
Difference between actual and expected experience	**(7,891)**	–
Benefit payments	**(2,019)**	(6,589)
Total OPEB liability – ending	**$ 44,547**	$ 60,949
Plan Fiduciary Net Position		
Beginning balance	**$ 21,441**	$ 18,156
Employer contributions	**5,240**	5,061
Net investment income	**2,942**	2,135
Reimbursements to employer	**(3,911)**	(3,911)
Plan fiduciary net position – ending	**$ 25,712**	$ 21,441
Net OPEB Liability – Ending	**$ 18,835**	$ 39,508
Plan Fiduciary Net Position as a Percentage of Total OPEB Liability	**57.72%**	35.18%
Covered Payroll	**$ 155,326**	$ 150,073
Net OPEB Liability as a Percentage of Covered Payroll	**12.13%**	26.33%

* This schedule is presented to illustrate the requirement to share information for ten years. However, until a full ten-year trend is compiled, only available information is shown. All information is on a measurement year basis.

OPEB Plan – Investment Returns

All information is on a measurement year basis

Year Ended	Return
2008	0.03%
2009	1.44%
2010	6.74%
2011	-1.41%
2012	15.84%
2013	11.93%
2014	8.22%
2015	-0.46%
2016	7.90%
2017	13.35%

Required Supplementary Information – OPEB (continued)
(Dollars in Thousands)

OPEB Plan – Schedule of Contributions*

Fiscal Year Ending September 30,	Actuarially Determined Contribution	Actual Contribution	Contribution Deficiency (Excess)	Covered Payroll	Actual Contribution as a % of Covered Payroll
2009	$ 5,779	$ 4,023	$ 1,756	N/A	N/A
2010	5,126	5,236	(110)	138,093	3.79%
2011	5,344	6,601	(1,257)	N/A	N/A
2012	5,211	5,423	(212)	150,714	3.60%
2013	5,433	6,185	(752)	N/A	N/A
2014	4,819	4,382	437	148,617	2.95%
2015	5,011	7,255	(2,244)	N/A	N/A
2016	5,061	7,739	(2,678)	150,073	5.16%
2017	4,138	5,240	(1,102)	155,326	3.37%
2018	3,885	4,078	(193)	161,602	2.52%

* This schedule is presented to illustrate the requirement to share information for ten years. However, until a full ten-year trend is compiled, only available information is shown.

Required Supplementary Information – OPEB
(Dollars in Thousands)

Notes to Schedule of Contributions

Actuarial valuations are performed as of the beginning of the fiscal year and assumptions below pertain to all years presented unless otherwise noted.

Methods and Assumptions Used to Determine Contribution Rates:

Actuarial cost method	Entry Age Normal
Inflation	2.50%
Discount rate	7.00%
Salary increases	2.5% – 12.5% per year, including inflation; varies by years of service
Retirement age	Experience-based table of rates that are specific to the type of eligibility condition
Mortality	Mortality tables used for Regular Class members in the July 1, 2016 actuarial valuation of the Florida Retirement System. They are based on the results of a statewide experience study covering the period 2008 through 2013.
Healthcare cost trend rates	Based on the Getzen Model, with trend starting at 7.00% and gradually decreasing to an ultimate trend rate of 4.57% as of October 1, 2017 and 4.59% as of October 1, 2016 (including the impact of the excise tax). The decrease is a result of the decrease in the load for excise tax.
Aging factors	Based on the 2013 SOA Study "Health Care Costs – From Birth to Death".
Expenses	Investment returns are net of the investment expenses; and, administrative expenses related to operation of the health plan are included in the premium costs.

Other information:

Notes	Health-related assumptions are based on experience over the plan year ending December 31, 2017.

JEA

Combining Statement of Net Position

(In Thousands)

September 30, 2018

	Electric System and Bulk Power Supply System	SJRPP System	Elimination of intercompany transactions	Total Electric Enterprise Fund	Water and Sewer Enterprise Fund	District Energy System Fund	Total JEA
Assets							
Current assets:							
Cash and cash equivalents	$ 285,611	$ 65,840	$ –	$ 351,451	$ 86,219	$ 3,536	$ 441,206
Investments	83,268	2,042	–	85,310	–	–	85,310
Accounts and interest receivable, net of allowance of $1,830	197,041	790	(1,912)	195,919	54,369	860	251,148
Inventories:							
Fuel	35,856	1,015	–	36,871	–	–	36,871
Materials and supplies	2,189	665	–	2,854	56,350	–	59,204
Total current assets	603,965	70,352	(1,912)	672,405	196,938	4,396	873,739
Noncurrent assets:							
Restricted assets:							
Cash and cash equivalents	203	74,113	–	74,316	36,842	3,418	114,576
Investments	419,536	23,330	–	442,866	288,761	–	731,627
Accounts and interest receivable	7	47	–	54	8	–	62
Total restricted assets	419,746	97,490	–	517,236	325,611	3,418	846,265
Costs to be recovered from future revenues	301,805	261,277	–	563,082	244,987	27	808,096
Investment in The Energy Authority	6,811	–	–	6,811	–	–	6,811
Other assets	12,032	–	–	12,032	3,843	–	15,875
Total noncurrent assets	740,394	358,767	–	1,099,161	574,441	3,445	1,677,047
Net capital assets	2,652,224	10,144	–	2,662,368	2,682,864	35,027	5,380,259
Total assets	3,996,583	439,263	(1,912)	4,433,934	3,454,243	42,868	7,931,045
Deferred outflows of resources							
Unrealized pension contributions and losses	83,649	34,238	–	117,887	53,480	–	171,367
Unamortized deferred losses on refundings	85,165	4,185	–	89,350	54,178	194	143,722
Accumulated decrease in fair value of hedging derivatives	70,103	–	–	70,103	16,253	–	86,356
Unrealized asset retirement obligation	–	29,173	–	29,173	–	–	29,173
Unrealized OPEB contributions and losses	2,488	–	–	2,488	1,590	–	4,078
Total deferred outflows of resources	241,405	67,596	–	309,001	125,501	194	434,696
Total assets and deferred outflows of resources	$ 4,237,988	$ 506,859	$ (1,912)	$ 4,742,935	$ 3,579,744	$ 43,062	$ 8,365,741
Liabilities							
Current liabilities:							
Accounts and accrued expenses payable	$ 118,901	$ 7,668	$ (796)	$ 125,773	$ 21,485	$ 103	$ 147,361
Customer deposits	44,267	–	–	44,267	15,616	–	59,883
Total current liabilities	163,168	7,668	(796)	170,040	37,101	103	207,244
Current liabilities payable from restricted assets:							
Debt due within one year	130,690	1,720	–	132,410	51,720	1,660	185,790
Renewal and replacement reserve	–	54,370	–	54,370	–	–	54,370
Interest payable	37,613	5,603	–	43,216	29,841	680	73,737
Construction contracts and accounts payable	16,596	1,742	(1,116)	17,222	35,886	261	53,369
Total current liabilities payable from restricted assets	184,899	63,435	(1,116)	247,218	117,447	2,601	367,266
Noncurrent liabilities:							
Net pension liability	321,885	16,523	–	338,408	205,795	–	544,203
Asset retirement obligation	–	22,526	–	22,526	–	–	22,526
Net OPEB liability	11,489	–	–	11,489	7,346	–	18,835
Other liabilities	40,344	–	–	40,344	8,849	34	49,227
Total noncurrent liabilities	373,718	39,049	–	412,767	221,990	34	634,791
Long-term debt:							
Debt payable, less current portion	2,019,350	278,885	–	2,298,235	1,480,620	34,825	3,813,680
Unamortized premium (discount), net	76,748	2,474	–	79,222	73,703	(34)	152,891
Fair value of debt management strategy instruments	70,103	–	–	70,103	16,253	–	86,356
Total long-term debt	2,166,201	281,359	–	2,447,560	1,570,576	34,791	4,052,927
Total liabilities	2,887,986	391,511	(1,912)	3,277,585	1,947,114	37,529	5,262,228
Deferred inflows of resources							
Revenues to be used for future costs	249,085	10,624	–	259,709	27,123	–	286,832
Unrealized pension gains	26,250	7,091	–	33,341	16,783	–	50,124
Unrealized OPEB gains	5,314	–	–	5,314	3,398	–	8,712
Accumulated increase in fair value of hedging derivatives	2,536	–	–	2,536	–	–	2,536
Total deferred inflows of resources	283,185	17,715	–	300,900	47,304	–	348,204
Net position							
Net investment in (divestment of) capital assets	530,479	2,138	–	532,617	1,325,600	(1,492)	1,856,725
Restricted							
Debt service	130,072	1,843		131,915	53,799	1,660	187,374
Other purposes	186,628	24,321	1,116	212,065	141,520	1,078	354,663
Unrestricted	219,638	69,331	(1,116)	287,853	64,407	4,287	356,547
Total net position	1,066,817	97,633	–	1,164,450	1,585,326	5,533	2,755,309
Total liabilities, deferred inflows of resources, and net position	$ 4,237,988	$ 506,859	$ (1,912)	$ 4,742,935	$ 3,579,744	$ 43,062	$ 8,365,741

JEA

Combining Statement of Net Position

(In Thousands)

September 30, 2017

	Electric System and Bulk Power Supply System	SJRPP System	Elimination of intercompany transactions	Total Electric Enterprise Fund	Water and Sewer Enterprise Fund	District Energy System Fund	Total JEA
Assets							
Current assets:							
Cash and cash equivalents	$ 340,063	$ 41,950	$ –	$ 382,013	$ 103,741	$ 3,805	$ 489,559
Investments	20,629	4,493	–	25,122	–	–	25,122
Accounts and interest receivable, net of allowance of $2,101	203,433	16,597	(27,230)	192,800	52,094	550	245,444
Inventories:							
Fuel	38,044	34,728	–	72,772	–	–	72,772
Materials and supplies	2,136	19,249	–	21,385	48,336	–	69,721
Total current assets	604,305	117,017	(27,230)	694,092	204,171	4,355	902,618
Noncurrent assets:							
Restricted assets:							
Cash and cash equivalents	–	79,077	–	79,077	42,168	3,230	124,475
Investments	442,080	192,794	–	634,874	301,834	–	936,708
Accounts and interest receivable	20	952	–	972	12	–	984
Total restricted assets	442,100	272,823	–	714,923	344,014	3,230	1,062,167
Costs to be recovered from future revenues	297,241	4,042	–	301,283	239,711	27	541,021
Investment in The Energy Authority	6,283	–	–	6,283	–	–	6,283
Other assets	8,713	–	–	8,713	5,798	–	14,511
Total noncurrent assets	754,337	276,865	–	1,031,202	589,523	3,257	1,623,982
Net capital assets	2,687,232	474,437	–	3,161,669	2,615,950	36,180	5,813,799
Total assets	4,045,874	868,319	(27,230)	4,886,963	3,409,644	43,792	8,340,399
Deferred outflows of resources							
Unrealized pension contributions and losses	95,814	16,505	–	112,319	61,259	–	173,578
Unamortized deferred losses on refundings	78,503	10,834	–	89,337	43,816	203	133,356
Accumulated decrease in fair value of hedging derivatives	101,350	–	–	101,350	23,919	–	125,269
Unrealized OPEB contributions and losses	3,197	–	–	3,197	2,043	–	5,240
Total deferred outflows of resources	278,864	27,339	–	306,203	131,037	203	437,443
Total assets and deferred outflows of resources	$ 4,324,738	$ 895,658	$ (27,230)	$ 5,193,166	$ 3,540,681	$ 43,995	$ 8,777,842
Liabilities							
Current liabilities:							
Accounts and accrued expenses payable	$ 102,962	$ 11,722	$ (3,221)	$ 111,463	$ 20,340	$ 89	$ 131,892
Customer deposits	42,192	–	–	42,192	15,086	–	57,278
Total current liabilities	145,154	11,722	(3,221)	153,655	35,426	89	189,170
Current liabilities payable from restricted assets:							
Debt due within one year	135,105	41,330	–	176,435	51,020	1,640	229,095
Renewal and replacement reserve	–	82,577	–	82,577	–	–	82,577
Interest payable	40,458	9,571	–	50,029	31,501	691	82,221
Construction contracts and accounts payable	16,222	24,399	(24,009)	16,612	38,235	114	54,961
Total current liabilities payable from restricted assets	191,785	157,877	(24,009)	325,653	120,756	2,445	448,854
Noncurrent liabilities:							
Net pension liability	330,025	13,312	–	343,337	211,000	–	554,337
Net OPEB liability	24,100	–	–	24,100	15,408	–	39,508
Other liabilities	39,608	1,553	–	41,161	8,850	11	50,022
Total noncurrent liabilities	393,733	14,865	–	408,598	235,258	11	643,867
Long-term debt:							
Debt payable, less current portion	2,171,305	408,885	–	2,580,190	1,555,485	36,485	4,172,160
Unamortized premium (discount), net	55,556	11,175	–	66,731	45,783	(39)	112,475
Fair value of debt management strategy instruments	101,350	–	–	101,350	23,919	–	125,269
Total long-term debt	2,328,211	420,060	–	2,748,271	1,625,187	36,446	4,409,904
Total liabilities	3,058,883	604,524	(27,230)	3,636,177	2,016,627	38,991	5,691,795
Deferred inflows of resources							
Revenues to be used for future costs	277,552	147,632	–	425,184	19,422	–	444,606
Unrealized pension gains	4,867	3,981	–	8,848	3,112	–	11,960
Unrealized OPEB gains	402	–	–	402	257	–	659
Total deferred inflows of resources	282,821	151,613	–	434,434	22,791	–	457,225
Net position							
Net investment in (divestment of) capital assets	425,023	(3,751)	–	421,272	1,202,706	(1,818)	1,622,160
Restricted							
Debt service	134,071	41,709	–	175,780	56,848	1,640	234,268
Other purposes	202,139	(2,179)	24,009	223,969	154,318	899	379,186
Unrestricted	221,801	103,742	(24,009)	301,534	87,391	4,283	393,208
Total net position	983,034	139,521	–	1,122,555	1,501,263	5,004	2,628,822
Total liabilities, deferred inflows of resources, and net position	$ 4,324,738	$ 895,658	$ (27,230)	$ 5,193,166	$ 3,540,681	$ 43,995	$ 8,777,842

JEA

Combining Statement of Revenues, Expenses, and Changes in Net Position

(In Thousands)

Year Ended September 30, 2018

	Electric System and Bulk Power Supply System	SJRPP System	Elimination of intercompany transactions	Total Electric Enterprise Fund	Water and Sewer Enterprise Fund	District Energy System Fund	Eliminations	Total JEA
Operating revenues								
Electric	$ 1,253,139	$ 87,749	$ (56,982)	$ 1,283,906	$ –	$ –	$ (16,704)	$ 1,267,202
Water and sewer	–	–	–	–	424,121	–	(641)	423,480
District energy system	–	–	–	–	–	8,756	(408)	8,348
Other	22,116	60,089	–	82,205	11,561	–	(2,814)	90,952
Total operating revenues	1,275,255	147,838	(56,982)	1,366,111	435,682	8,756	(20,567)	1,789,982
Operating expenses								
Operations and maintenance:								
Fuel	356,877	64,175	–	421,052	–	–	–	421,052
Purchased power	166,176	–	(56,982)	109,194	–	–	–	109,194
Maintenance and other operating expenses	244,011	52,296	–	296,307	149,646	4,603	(20,567)	429,989
Depreciation	203,075	10,987	–	214,062	144,144	2,403	–	360,609
State utility and franchise taxes	60,831	–	–	60,831	10,476	–	–	71,307
Recognition of deferred costs and revenues, net	1,546	(859)	–	687	6,169	–	–	6,856
Total operating expenses	1,032,516	126,599	(56,982)	1,102,133	310,435	7,006	(20,567)	1,399,007
Operating income	242,739	21,239	–	263,978	125,247	1,750	–	390,975
Nonoperating revenues (expenses)								
Interest on debt	(86,808)	(20,292)	–	(107,100)	(58,034)	(1,374)	–	(166,508)
Investment income	6,910	1,196	–	8,106	3,617	103	–	11,826
Allowance for funds used during construction	3,912	–	–	3,912	7,802	50	–	11,764
Other nonoperating income, net	6,025	1,068	–	7,093	2,764	–	–	9,857
Earnings from The Energy Authority	4,074	–	–	4,074	–	–	–	4,074
Other interest, net	(1,597)	–	–	(1,597)	(228)	–	–	(1,825)
Total nonoperating expenses, net	(67,484)	(18,028)	–	(85,512)	(44,079)	(1,221)	–	(130,812)
Income before contributions	175,255	3,211	–	178,466	81,168	529	–	260,163
Contributions (to) from								
General Fund, City of Jacksonville, Florida	(91,472)	–	–	(91,472)	(25,148)	–	–	(116,620)
Developers and other	1,597	–	–	1,597	80,560	–	–	82,157
Reduction of plant cost through contributions	(1,597)	–	–	(1,597)	(52,517)	–	–	(54,114)
Total contributions, net	(91,472)	–	–	(91,472)	2,895	–	–	(88,577)
Special items								
SJRPP deferred revenues, net	–	451,037	–	451,037	–	–	–	451,037
SJRPP impairment loss	–	(496,136)	–	(496,136)	–	–	–	(496,136)
Total special items	–	(45,099)	–	(45,099)	–	–	–	(45,099)
Change in net position	83,783	(41,888)	–	41,895	84,063	529	–	126,487
Net position, beginning of year	983,034	139,521	–	1,122,555	1,501,263	5,004	–	2,628,822
Net position, end of year	1,066,817	97,633	–	1,164,450	1,585,326	5,533	–	2,755,309

JEA

Combining Statement of Revenues, Expenses, and Changes in Net Position

(In Thousands)

Year Ended September 30, 2017

	Electric System and Bulk Power Supply System	SJRPP System	Elimination of intercompany transactions	Total Electric Enterprise Fund	Water and Sewer Enterprise Fund	District Energy System Fund	Eliminations	Total JEA
Operating revenues								
Electric	$ 1,270,144	$ 268,899	$ (140,162)	$ 1,398,881	$ –	$ –	$ (16,675)	$ 1,382,206
Water and sewer	–	–	–	–	448,348	–	(291)	448,057
District energy system	–	–	–	–	–	8,692	(507)	8,185
Other	29,448	–	–	29,448	9,560	–	(2,279)	36,729
Total operating revenues	1,299,592	268,899	(140,162)	1,428,329	457,908	8,692	(19,752)	1,875,177
Operating expenses								
Operations and maintenance:								
Fuel	289,949	168,845	–	458,794	–	–	–	458,794
Purchased power	217,618	–	(140,162)	77,456	–	–	–	77,456
Maintenance and other operating expenses	219,434	46,445	–	265,879	141,445	4,570	(19,752)	392,142
Depreciation	199,743	42,754	–	242,497	141,838	2,364	–	386,699
State utility and franchise taxes	59,121	–	–	59,121	10,562	–	–	69,683
Recognition of deferred costs and revenues, net	(3,344)	(12,017)	–	(15,361)	11,286	–	–	(4,075)
Total operating expenses	982,521	246,027	(140,162)	1,088,386	305,131	6,934	(19,752)	1,380,699
Operating income	317,071	22,872	–	339,943	152,777	1,758	–	494,478
Nonoperating revenues (expenses)								
Interest on debt	(94,350)	(24,064)	–	(118,414)	(63,183)	(1,395)	–	(182,992)
Investment income	5,177	1,522	–	6,699	3,832	45	–	10,576
Allowance for funds used during construction	6,102	–	–	6,102	5,644	28	–	11,774
Other nonoperating income, net	4,595	389	–	4,984	934	–	–	5,918
Earnings from The Energy Authority	6,335	–	–	6,335	–	–	–	6,335
Other interest, net	(417)	–	–	(417)	(34)	–	–	(451)
Total nonoperating expenses, net	(72,558)	(22,153)	–	(94,711)	(52,807)	(1,322)	–	(148,840)
Income before contributions	244,513	719	–	245,232	99,970	436	–	345,638
Contributions (to) from								
General Fund, City of Jacksonville, Florida	(92,271)	–	–	(92,271)	(23,552)	–	–	(115,823)
Developers and other	906	–	–	906	65,969	–	–	66,875
Reduction of plant cost through contributions	(906)	–	–	(906)	(41,163)	–	–	(42,069)
Total contributions, net	(92,271)	–	–	(92,271)	1,254	–	–	(91,017)
Change in net position	152,242	719	–	152,961	101,224	436	–	254,621
Net position, beginning of year	832,508	138,802	–	971,310	1,401,047	4,568	–	2,376,925
Effect of adoption of GASB Statement No. 75	(1,716)	–	–	(1,716)	(1,008)	–	–	(2,724)
Net position, beginning of year, as restated	830,792	138,802	–	969,594	1,400,039	4,568	–	2,374,201
Net position, end of year	983,034	139,521	–	1,122,555	1,501,263	5,004	–	2,628,822

JEA

Combining Statement of Cash Flows
(In Thousands)

Year Ended September 30, 2018

	Electric System and Bulk Power Supply System	SJRPP System	Elimination of intercompany transactions	Total Electric Enterprise Fund	Water and Sewer Enterprise Fund	District Energy System Fund	Elimination of intercompany transactions	Total JEA
Operating activities								
Receipts from customers	$ 1,249,048	$ 104,261	$ (34,089)	$ 1,319,220	$ 430,685	$ 8,446	$ (17,753)	$ 1,740,598
Payments to suppliers	(655,986)	(81,496)	34,089	(703,393)	(104,124)	(4,012)	20,567	(790,962)
Payments to employees	(160,943)	(44,669)	–	(205,612)	(61,403)	(554)	–	(267,569)
Other operating activities	25,123	60,089	–	85,212	11,504	–	(2,814)	93,902
Net cash provided by operating activities	457,242	38,185	–	495,427	276,662	3,880	–	775,969
Noncapital and related financing activities								
Contribution to General Fund, City of Jacksonville, Florida	(91,538)	–	–	(91,538)	(25,031)	–	–	(116,569)
Net cash used in noncapital and related financing activities	(91,538)	–	–	(91,538)	(25,031)	–	–	(116,569)
Capital and related financing activities								
Defeasance of debt	(405,105)	(128,280)	–	(533,385)	(460,305)	–	–	(993,690)
Proceeds from issuance of debt, net	383,840	–	–	383,840	437,160	–	–	821,000
Acquisition and construction of capital assets	(180,050)	–	–	(180,050)	(203,474)	(1,053)	–	(384,577)
Repayment of debt principal	(135,105)	(41,330)	–	(176,435)	(51,020)	(1,640)	–	(229,095)
Interest paid on debt	(97,134)	(16,685)	–	(113,819)	(67,659)	(1,371)	–	(182,849)
Capital contributions	–	–	–	–	28,043	–	–	28,043
Other capital financing activities	44,011	(6,974)	–	37,037	26,160	–	–	63,197
Net cash used in capital and related financing activities	(389,543)	(193,269)	–	(582,812)	(291,095)	(4,064)	–	(877,971)
Investing activities								
Purchase of investments	(506,359)	(252,593)	–	(758,952)	(279,014)	–	–	(1,037,966)
Proceeds from sale and maturity of investments	462,211	428,653	–	890,864	288,607	–	–	1,179,471
Investment income	10,225	(2,050)	–	8,175	7,023	103	–	15,301
Distributions from The Energy Authority	3,513	–	–	3,513	–	–	–	3,513
Net cash provided by (used in) investing activities	(30,410)	174,010	–	143,600	16,616	103	–	160,319
Net change in cash and cash equivalents	(54,249)	18,926	–	(35,323)	(22,848)	(81)	–	(58,252)
Cash and cash equivalents at beginning of year	340,063	121,027	–	461,090	145,909	7,035	–	614,034
Cash and cash equivalents at end of year	$ 285,814	$ 139,953	$ –	$ 425,767	$ 123,061	$ 6,954	$ –	$ 555,782
Reconciliation of operating income to net cash provided by operating activities								
Operating income	$ 242,739	$ 21,239	$ –	$ 263,978	$ 125,247	$ 1,750	$ –	$ 390,975
Adjustments:								
Depreciation and amortization	203,075	10,987	–	214,062	145,424	2,403	–	361,889
Recognition of deferred costs and revenues, net	1,546	(859)	–	687	6,169	–	–	6,856
Other nonoperating income, net	103	700	–	803	270	–	–	1,073
Changes in noncash assets and noncash liabilities:								
Accounts receivable	13,184	15,812	–	28,996	(2,200)	(310)	–	26,486
Accounts receivable, restricted	13	–	–	13	3	–	–	16
Inventories	2,136	52,297	–	54,433	(8,014)	–	–	46,419
Other assets	5,688	–	–	5,688	733	–	–	6,421
Accounts and accrued expenses payable	10,076	(10,441)	–	(365)	1,330	14	–	979
Current liabilities payable from restricted liabilities	–	(49,998)	–	(49,998)	–	–	–	(49,998)
Other noncurrent liabilities and deferred inflows	(21,318)	(1,552)	–	(22,870)	7,700	23	–	(15,147)
Net cash provided by operating activities	$ 457,242	$ 38,185	$ –	$ 495,427	$ 276,662	$ 3,880	$ –	$ 775,969
Non-cash activity								
Contribution of capital assets from developers	$ 1,597	$ –	$ –	$ 1,597	$ 52,517	$ –	$ –	$ 54,114
Unrealized gains (losses) on fair value of investments	$ (4,052)	$ 4,146	$ –	$ 94	$ (3,480)	$ –	$ –	$ (3,386)

JEA

Combining Statement of Cash Flows
(In Thousands)

Year Ended September 30, 2017

	Electric System and Bulk Power Supply System	SJRPP System	Elimination of intercompany transactions	Total Electric Enterprise Fund	Water and Sewer Enterprise Fund	District Energy System Fund	Elimination of intercompany transactions	Total JEA
Operating activities								
Receipts from customers	$ 1,207,855	$ 269,957	$ (143,764)	$ 1,334,048	$ 433,658	$ 8,282	$ (17,473)	$ 1,758,515
Payments to suppliers	(605,225)	(201,043)	143,764	(662,504)	(91,308)	(4,171)	19,752	(738,231)
Payments to employees	(159,127)	(31,336)	–	(190,463)	(58,234)	(496)	–	(249,193)
Other operating activities	3,601	–	–	3,601	3,246	(27)	(2,279)	4,541
Net cash provided by operating activities	447,104	37,578	–	484,682	287,362	3,588	–	775,632
Noncapital and related financing activities								
Contribution to General Fund, City of Jacksonville, Florida	(92,225)	–	–	(92,225)	(23,469)	–	–	(115,694)
Net cash used in noncapital and related financing activities	(92,225)	–	–	(92,225)	(23,469)	–	–	(115,694)
Capital and related financing activities								
Defeasance of debt	(153,210)	–	–	(153,210)	(6,135)	–	–	(159,345)
Proceeds from issuance of debt, net	90,405	–	–	90,405	–	–	–	90,405
Acquisition and construction of capital assets	(128,665)	–	–	(128,665)	(177,345)	(2,123)	–	(308,133)
Repayment of debt principal	(102,240)	(43,785)	–	(146,025)	(33,875)	(1,625)	–	(181,525)
Interest paid on debt	(102,667)	(20,226)	–	(122,893)	(69,199)	(1,391)	–	(193,483)
Capital contributions	–	–	–	–	24,805	–	–	24,805
Other capital financing activities	(167)	389	–	222	2,306	–	–	2,528
Net cash used in capital and related financing activities	(396,544)	(63,622)	–	(460,166)	(259,443)	(5,139)	–	(724,748)
Investing activities								
Purchase of investments	(641,438)	(572,124)	–	(1,213,562)	(589,885)	–	–	(1,803,447)
Proceeds from sale and maturity of investments	714,603	585,322	–	1,299,925	561,671	–	–	1,861,596
Investment income	7,158	3,855	–	11,013	6,535	45	–	17,593
Distributions from The Energy Authority	6,182	–	–	6,182	–	–	–	6,182
Net cash provided by (used in) investing activities	86,505	17,053	–	103,558	(21,679)	45	–	81,924
Net change in cash and cash equivalents	44,840	(8,991)	–	35,849	(17,229)	(1,506)	–	17,114
Cash and cash equivalents at beginning of year	295,223	130,018	–	425,241	163,138	8,541	–	596,920
Cash and cash equivalents at end of year	$ 340,063	$ 121,027	$ –	$ 461,090	$ 145,909	$ 7,035	$ –	$ 614,034
Reconciliation of operating income to net cash provided by operating activities								
Operating income	$ 317,071	$ 22,872	$ –	$ 339,943	$ 152,777	$ 1,758	$ –	$ 494,478
Adjustments:								
Depreciation and amortization	199,743	42,754	–	242,497	143,179	2,364	–	388,040
Recognition of deferred costs and revenues, net	(3,344)	(12,017)	–	(15,361)	11,286	–	–	(4,075)
Other nonoperating income, net	45	–	–	45	(1,117)	–	–	(1,072)
Changes in noncash assets and noncash liabilities:								
Accounts receivable	(2,083)	1,058	–	(1,025)	(12,751)	(409)	–	(14,185)
Accounts receivable, restricted	28	–	–	28	4	–	–	32
Inventories	(1,582)	(19,603)	–	(21,185)	(3,507)	–	–	(24,692)
Other assets	(23,056)	–	–	(23,056)	(4,542)	(27)	–	(27,625)
Accounts and accrued expenses payable	21,878	(2,327)	–	19,551	3,780	(69)	–	23,262
Current liabilities payable from restricted liabilities	–	4,409	–	4,409	–	–	–	4,409
Other noncurrent liabilities and deferred inflows	(61,596)	432	–	(61,164)	(1,747)	(29)	–	(62,940)
Net cash provided by operating activities	$ 447,104	$ 37,578	$ –	$ 484,682	$ 287,362	$ 3,588	$ –	$ 775,632
Non-cash activity								
Contribution of capital assets from developers	$ 906	$ –	$ –	$ 906	$ 41,163	$ –	$ –	$ 42,069
Unrealized losses on fair value of investments	$ (2,193)	$ (2,556)	$ –	$ (4,749)	$ (2,961)	$ –	$ –	$ (7,710)

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Report of Independent Auditors on Internal Control Over Financial Reporting and on Compliance and Other Matters Based on an Audit of Financial Statements Performed in Accordance with *Government Auditing Standards*

The Board of Directors
JEA
Jacksonville, Florida

We have audited, in accordance with auditing standards generally accepted in the United States and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States, the financial statements of JEA, which comprise the statement of net position as of September 30, 2018, and the related statements of revenues, expenses and changes in net position and cash flows for the year then ended, and the related notes to the financial statements, and have issued our report thereon dated December 3, 2018.

Internal Control Over Financial Reporting

In planning and performing our audit of the financial statements, we considered JEA's internal control over financial reporting (internal control) to determine the audit procedures that are appropriate in the circumstances for the purpose of expressing our opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of JEA's internal control. Accordingly, we do not express an opinion on the effectiveness of JEA's internal control.

A *deficiency in internal control* exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct misstatements on a timely basis. A *material weakness* is a deficiency, or combination of deficiencies, in internal control, such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected on a timely basis. A *significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

Compliance and Other Matters

As part of obtaining reasonable assurance about whether JEA's financial statements are free of material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts and grant agreements, noncompliance with which could have a direct and material effect on the determination of financial statement amounts. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

Purpose of this Report

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the result of that testing, and not to provide an opinion on the effectiveness of the entity's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the entity's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

Ernst & Young LLP

December 3, 2018

BOND COMPLIANCE INFORMATION

Building a better
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Report of Independent Auditors on Schedules of Debt Service Coverage

The Board of Directors
JEA
Jacksonville, Florida

We have audited, in accordance with auditing standards generally accepted in the United States, the accompanying schedules of debt service coverage (as specified in the respective JEA Bond Resolutions) of the JEA Electric System, the JEA Bulk Power Supply System, the JEA St. Johns River Power Park System, the JEA Water and Sewer System and the JEA District Energy System for the years ended September 30, 2018 and 2017, based on the financial statements referred to in the Report on Financial Statements as of September 30, 2018 and 2017 paragraph below.

Management's Responsibility for the Schedules

Management is responsible for the preparation and fair presentation of the schedules of debt service coverage in conformity with the respective JEA Bond Resolutions. Management also is responsible for the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of the schedules of debt service coverage that are free of material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on the schedules of debt service coverage based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the schedules of debt service coverage are free of material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the schedules of debt service coverage. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the schedules of debt service coverage, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the schedules of debt service coverage in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the schedules of debt service coverage.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the schedules referred to above present fairly, in all material respects, the debt service coverage of the JEA Electric System, the JEA Bulk Power Supply System, the JEA St. Johns River Power Park System, the JEA Water and Sewer System, and the JEA District Energy System for the years ended September 30, 2018 and 2017, in conformity with the basis specified in the respective JEA Bond Resolutions.

Contractual Basis of Accounting

The method of calculating the schedules of debt service coverage is prescribed by the applicable JEA Bond Resolutions, which require the maintenance of certain minimum debt service coverage ratios. Our opinion is not modified with respect to this matter.

Report on Financial Statements as of September 30, 2018 and 2017

We have audited, in accordance with auditing standards generally accepted in the United States, the basic financial statements of JEA as of and for the years ended September 30, 2018 and 2017, and have issued our report, with an unmodified opinion thereon, dated December 3, 2018.

Restrictions on Use

This report is intended solely for the information and use of management and the board of directors of JEA, and the bond trustees and is not intended to be and should not be used by anyone other than these specified parties.

Ernst & Young LLP

December 3, 2018

JEA Electric System

Schedule of Debt Service Coverage

(In Thousands)

	Year Ended September 30	
	2018	2017
Revenues		
Electric	**$ 1,229,625**	$ 1,206,919
Investment income (1)	**9,525**	5,939
Earnings from The Energy Authority	**4,074**	6,335
Other, net (2)	**22,216**	29,490
Plus: amounts paid from the rate stabilization fund into the revenue fund	**88,415**	79,216
Less: amounts paid from the revenue fund into the rate stabilization fund	**(64,901)**	(15,991)
Total revenues	**1,288,954**	1,311,908
Operating expenses (3)		
Fuel	**328,160**	253,204
Purchased power (4)	**244,478**	284,436
Other operations and maintenance	**204,982**	199,511
State utility taxes and franchise fees	**59,551**	57,951
Total operating expenses	**837,171**	795,102
Net revenues	**$ 451,783**	$ 516,806
Debt service	**$ 71,890**	$ 71,557
Less: investment income on sinking fund	**(1,436)**	(1,431)
Less: Build America Bonds subsidy	**(1,521)**	(1,516)
Debt service requirement	**$ 68,933**	$ 68,610
Senior debt service coverage (5), (min 1.20x)	**6.55 x**	7.53 x
Net revenues (from above)	**$ 451,783**	$ 516,806
Debt service requirement (from above)	**$ 68,933**	$ 68,610
Plus: aggregate subordinated debt service on outstanding subordinated bonds	**129,469**	137,892
Less: Build America Bonds subsidy	**(2,045)**	(2,070)
Total debt service requirement and aggregate subordinated debt service	**$ 196,357**	$ 204,432
Senior and subordinated debt service coverage (6), (min 1.15x)	**2.30 x**	2.53 x

(1) Excludes investment income on sinking funds.
(2) Excludes the Build America Bonds subsidy.
(3) Excludes depreciation and recognition of deferred costs and revenues, net.
(4) In accordance with the requirements of the Electric System Resolution, all the contract debt payments from the Electric System to the SJRPP and Bulk Power Supply System with respect to the use by the Electric System of the capacity and output of the SJRPP and Bulk Power Systems are reflected as a purchased power expense on these schedules. These schedules do not include revenues of the SJRPP and Bulk Power Supply System, except that the purchased power expense is net of interest income on funds maintained under the SJRPP and Bulk Power Supply System resolutions.
(5) Net revenues divided by debt service requirement. Minimum annual coverage is 1.20x.
(6) Net revenues divided by total debt service requirement and aggregate subordinated debt service. Minimum annual coverage is 1.15x

JEA Bulk Power Supply System

Schedule of Debt Service Coverage
(In Thousands)

	Year ended September 30			
		2018		2017
Revenues				
Operating	$	78,302	$	66,818
Investment income		162		150
Total revenues		78,464		66,968
Operating expenses (1)				
Fuel		28,717		36,745
Other operations and maintenance		17,545		14,522
Total operating expenses		46,262		51,267
Net revenues	$	32,202	$	15,701
Aggregate debt service	$	9,943	$	9,679
Less: Build America Bonds subsidy		(667)		(699)
Aggregate debt service	$	9,276	$	8,980
Debt service coverage (2)		3.47 x		1.75 x

(1) Excludes depreciation and recognition of deferred costs and revenues, net.

(2) Net revenues divided by aggregate debt service. Minimum annual coverage is 1.15x.

JEA St. Johns River Power Park System, Second Resolution

Schedule of Debt Service Coverage
(In Thousands)

	Year Ended September 30			
		2018		2017
Revenues				
Operating	$	34,196	$	14,572
Investment income		1,339		250
Total revenues		35,535		14,822
Operating expenses (1)		15,389		–
Net revenues	$	20,146	$	14,822
Aggregate debt service	$	12,925	$	12,950
Less: Build America Bonds subsidy		(367)		(389)
Aggregate debt service	$	12,558	$	12,561
Debt service coverage (2)		1.60 x		1.18 x

(1) Excludes depreciation and recognition of deferred costs and revenues, net.

(2) Net revenues divided by aggregate debt service. Minimum annual coverage is 1.15x.

JEA Water and Sewer System

Schedule of Debt Service Coverage

(In Thousands)

	Year Ended September 30					
		2018			**2017**	
Revenues						
Water	**$**	**171,216**		$	181,313	
Water capacity fees		**9,730**			8,859	
Sewer		**260,606**			264,469	
Sewer capacity fees		**18,268**			15,916	
Investment income		**7,097**			6,793	
Other (1)		**11,831**			9,560	
Plus: amounts paid from the rate stabilization fund into the revenue fund		**16,128**			26,842	
Less: amounts paid from the revenue fund into the rate stabilization fund		**(23,829)**			(24,276)	
Total revenues		**471,047**			489,476	
Operating expenses						
Operations and maintenance (2)		**160,122**			152,007	
Total operating expenses		**160,122**			152,007	
Net revenues	**$**	**310,925**		$	337,469	
Aggregate debt service	**$**	**95,818**		$	97,699	
Less: Build America Bonds subsidy		**(2,495)**			(2,500)	
Aggregate debt service	**$**	**93,323**		$	95,199	
Senior debt service coverage (3), (min 1.25x)		**3.33**	**x**		3.54	x
Net revenues (from above)	**$**	**310,925**		$	337,469	
Aggregate debt service (from above)	**$**	**93,323**		$	95,199	
Plus: aggregate subordinated debt service on outstanding subordinated debt		**18,084**			17,592	
Total aggregate debt service and aggregate subordinated debt service	**$**	**111,407**		$	112,791	
Senior and subordinated debt service coverage excluding capacity fees (4)		**2.54**	**x**		2.77	x
Senior and subordinated debt service coverage including capacity fees (4)		**2.79**	**x**		2.99	x

(1) Excludes the Build America Bonds subsidy.
(2) Excludes depreciation and recognition of deferred costs and revenues, net.
(3) Net revenues divided by aggregate debt service. Minimum annual coverage is 1.25x.
(4) Net revenues divided by total aggregate debt service and aggregate subordinated debt service. Minimum annual coverage is either 1.00x aggregate debt service and aggregate subordinated debt service (excluding capacity charges) or the sum of 1.00x aggregate debt service and 1.20x aggregate subordinated debt service (including capacity charges).

JEA District Energy System

Schedule of Debt Service Coverage

(In Thousands)

	Year Ended September 30	
	2018	2017
Revenues		
Service revenues	**$ 8,756**	$ 8,692
Investment income	**103**	45
Total revenues	**8,859**	8,737
Operating expenses (1)		
Operations and maintenance	**4,603**	4,570
Total operating expenses	**4,603**	4,570
Net revenues	**$ 4,256**	$ 4,167
Aggregate debt service (2)	**$ 3,019**	$ 3,022
Debt service coverage (3), (min 1.15x)	**1.41 x**	1.38 x

(1) Excludes depreciation.

(2) On June 19, 2013, the closing date of the District Energy System Refunding Revenue Bonds, 2013 Series A, the JEA covenanted to deposit into the 2013 Series A Bonds Subaccount from Available Water and Sewer System Revenues an amount equal to the Aggregate DES Debt Service Deficiency that exists with respect to the 2013 Series A Bonds, in the event that the amount on deposit in the Debt Service Account in the Debt Service Fund in accordance with the District Energy System Resolution is less than Accrued Aggregate Debt Service as of the last business day of the then current month.

(3) Net revenues divided by aggregate debt service. Minimum annual coverage is 1.15x.

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APPENDIX B

SUMMARY OF CERTAIN PROVISIONS OF THE WATER AND SEWER SYSTEM RESOLUTION

The following is a summary of certain provisions of the Water and Sewer System Resolution. Summaries of certain definitions contained in the Water and Sewer System Resolution are set forth below. Other terms defined in the Water and Sewer System Resolution for which summary definitions are not set forth are indicated by capitalization. The summary does not purport to be a complete description of the terms of the Water and Sewer System Resolution and, accordingly, is qualified by reference thereto and is subject to the full text thereof. In June 2013, JEA adopted Resolution No. 2013-10 ("Resolution 2013-10") which, upon the consent thereto of the holders of a majority in principal amount of Water and Sewer System Bonds Outstanding, provides for (a) the amendment of certain provisions of the Water and Sewer System Resolution to allow for the more efficient and advantageous investment of certain funds held under the Water and Sewer System Resolution, and (b) the amendment of the First Supplemental Water and Sewer System Revenue Bond Resolution, adopted by JEA on August 19, 1997 (the "First Supplemental Resolution") to revise certain provisions related to the use of reserve fund credit instruments. The amendments (the "Resolution Amendments") described in this paragraph have become effective, and apply to all of the outstanding Water and Sewer System Bonds.

The Resolution Amendments became effective on May 2, 2018 following the issuance of the JEA Water and Sewer System Revenue Bonds, 2017 Series A on December 21, 2017, the mailing of notice to bondholders and satisfaction of the requirements of the Water and Sewer System Resolution and the First Supplemental Resolution. Certain of the Resolution Amendments are also included in this summary.

The Water and Sewer System Resolution, as heretofore amended, is available for viewing and downloading on JEA's website at https://www.jea.com/About/Investor_Relations/Bonds/. Copies of the Water and Sewer System Resolution (as so amended), the First Supplemental Resolution and Resolution 2013-10 may be obtained from JEA; provided that a reasonable charge may be imposed for the cost of reproduction. The term "Water and Sewer System Bonds" as used in this summary has the same meaning as the term "Water and Sewer System Bonds" as used in the Annual Disclosure Report to which this summary is attached.

Definition of Terms

The following are summaries of certain definitions in the Water and Sewer System Resolution:

Accreted Value means, as of any date of computation with respect to any Water and Sewer System Capital Appreciation Bond, an amount equal to the principal amount of such Bond plus the interest accrued on such Bond from the date of original issuance of such Bond to the periodic date specified in the Supplemental Resolution authorizing such Water and Sewer System Capital Appreciation Bond on which interest on such Bond is to be compounded (hereinafter, a "Periodic Compounding Date") next preceding the date of computation or the date of computation if a Periodic Compounding Date, such interest to accrue at the interest rate per annum of the Water and Sewer System Capital Appreciation Bonds set forth in the Supplemental Resolution authorizing such Bonds, compounded periodically on each Periodic Compounding Date, plus, if such date of computation shall not be a Periodic Compounding Date, a portion of the difference between the Accreted Value as of the immediately preceding Periodic Compounding Date (or the date of original issuance if the date of computation is prior to the first Periodic Compounding Date succeeding the date of original issuance) and the Accreted Value as of the immediately succeeding Periodic Compounding Date, calculated based upon an assumption that, unless otherwise provided in the Supplemental Resolution authorizing such Water and Sewer System Capital Appreciation Bonds, Accreted Value accrues in equal daily amounts on the basis of a year consisting of twelve 30-day months.

Accrued Aggregate Debt Service means, as of any date of calculation, an amount equal to the sum of the amounts of accrued Debt Service with respect to all Series, calculating the accrued Debt Service with respect to each Series at an amount equal to the sum of (i) interest on the Water and Sewer System Bonds of such Series accrued and unpaid and to accrue to the end of the then current calendar month, and (ii) Principal Installments due and unpaid and that portion of the Principal Installments for such Series next due which would have accrued (if deemed to accrue in the manner set forth in the definition of Debt Service) to the end of such calendar month; *provided*, *however*, that (i) there shall be excluded from the calculation of Accrued Aggregate Debt Service any Principal Installments which are Refundable Principal Installments, (ii) the principal and interest portions of the Accreted Value of Water and Sewer System Capital Appreciation Bonds or the Appreciated Value of Water and Sewer System Deferred Income Bonds shall be included in the calculation of Accrued Aggregate Debt Service at the times and in the manner provided in the Water and Sewer System Resolution and (iii) if the calculation of the Debt Service Reserve Requirement for any separate subaccount in the Debt Service Reserve Account takes into account Accrued Aggregate Debt Service, then, for purposes of such calculation, Accrued Aggregate Debt Service shall be calculated only with respect to the Water and Sewer System Bonds of the Series secured thereby.

Additionally Secured Series means a Series of Water and Sewer System Bonds for which the payment of the principal or sinking fund Redemption Price, if any, of, and interest on, all or a portion of the Water and Sewer System Bonds of which shall be secured, in addition to the pledge of the Trust Estate created pursuant to the Water and Sewer System Resolution, by amounts on deposit in a separate subaccount to be designated therefor in the Debt Service Reserve Account. For all purposes of the Water and Sewer System Resolution relating to the separate subaccount in the Debt Service Reserve Account in the Debt Service Fund established with respect to all or any portion of the Water and Sewer System Bonds of any such Additionally Secured Series, any reference to such Additionally Secured Series shall be deemed to refer only to the Water and Sewer System Bonds of such maturities (or interest rate(s) within a maturity) of such series that are so secured by amounts on deposit in such separate subaccount.

Adjusted Aggregate Debt Service for any period means, as of any date of calculation, the Aggregate Debt Service for such period except that (a) if any Refundable Principal Installment for any Series of Water and Sewer System Bonds is included in Aggregate Debt Service for such period, Adjusted Aggregate Debt Service shall mean Aggregate Debt Service determined as if each such Refundable Principal Installment had been payable, over a period extending from the due date of such Principal Installment through the later of (x) the 30th anniversary of the issuance of such Series of Water and Sewer System Bonds or (y) the 10th anniversary of the due date of such Refundable Principal Installment, in installments which would have required equal annual payments of principal and interest over such period and (b) the principal and interest portions of the Accreted Value of Water and Sewer System Capital Appreciation Bonds or the Appreciated Value of Water and Sewer System Deferred Income Bonds shall be included in the calculation of Adjusted Aggregate Debt Service at the times and in the manner provided in the Water and Sewer System Resolution. Interest deemed payable in any Fiscal Year after the actual due date of any Refundable Principal Installment of any Series of Water and Sewer System Bonds shall be calculated at such rate of interest as JEA, or a banking or financial institution selected by JEA, determines would be a reasonable estimate of the rate of interest that would be borne on Water and Sewer System Bonds maturing at the times determined in accordance with the provisions of the preceding sentence.

Aggregate Debt Service for any period means, as of any date of calculation, the sum of the amounts of Debt Service for such period with respect to all Series; *provided*, *however*, that (a) for purposes of estimating Aggregate Debt Service for any future period (i) any Water and Sewer System Variable Rate Bonds Outstanding during such period shall be assumed to bear interest during such period at the greater of (X) the actual rate of interest then borne by such Water and Sewer System Variable Rate Bonds or (Y) the Certified Interest Rate applicable thereto and (ii) any Water and Sewer System Option Bonds Outstanding during such period shall be assumed to mature on the stated maturity date thereof and (b) the principal and interest portions of the Accreted Value of Water and Sewer System Capital Appreciation Bonds or the Appreciated Value of Water and Sewer System Deferred Income Bonds shall be included in the calculation of Aggregate Debt Service at the times and in the manner provided in the Water and Sewer System Resolution; and *provided*, *further*, that if the calculation of the Debt Service Reserve Requirement for any separate subaccount in the Debt Service Reserve Account takes into account Aggregate Debt Service, then, for purposes of such calculation, Aggregate Debt Service shall be calculated only with respect to the Water and Sewer System Bonds of the Series secured thereby.

Alternate Variable Rate Taxable Index means such index as, at the time, is in general use as a proxy for short-term interest rates on debt obligations of state and local governments the interest on which is not excluded from gross income for federal income tax purposes, as determined by an Authorized Officer of JEA.

Alternate Variable Rate Tax-Exempt Index means such index as, at the time, is in general use as a proxy for short-term interest rates on debt obligations of state and local governments the interest on which is excluded from gross income for federal income tax purposes, as determined by an Authorized Officer of JEA.

Annual Net Revenues means, with respect to any Fiscal Year, the Revenues during such Fiscal Year, determined on an accrual basis, minus the sum of (a) Operation and Maintenance Expenses during such Fiscal Year, determined on an accrual basis, to the extent paid or to be paid from Revenues, (b) the Aggregate Debt Service with respect to such Fiscal Year and (c) debt service payable during such Fiscal Year with respect to all other obligations issued by JEA (including, without limitation, Subordinated Indebtedness) in connection with the System, determined on an accrual basis.

Appreciated Value means, with respect to any Water and Sewer System Deferred Income Bond, (i) as of any date of computation prior to the Current Interest Commencement Date with respect to such Water and Sewer System Deferred Income Bond, an amount equal to the principal amount of such Bond plus the interest accrued on such Bond from the date of original issuance of such Bond to the periodic date specified in the Supplemental Resolution authorizing such Water and Sewer System Deferred Income Bond on which interest on such Bond is to be compounded (hereinafter, a "Periodic Compounding Date") next preceding the date of computation or the date of computation if a Periodic Compounding Date, such interest to accrue at the interest rate per annum of the Water and Sewer System Deferred Income Bonds set forth in the Supplemental Resolution authorizing such Bonds, compounded periodically on each Periodic Compounding Date, plus, if such date of computation shall not be a Periodic Compounding Date, a portion of the difference between the Appreciated Value as of the immediately preceding Periodic Compounding Date (or the date of original issuance if the date of computation is prior to the first Periodic Compounding Date succeeding the date of original issuance) and the Appreciated Value as of the immediately succeeding Periodic Compounding Date, calculated based upon an assumption that, unless otherwise provided in the Supplemental Resolution authorizing such Deferred Income Bonds, Appreciated Value accrues in equal daily amounts on the basis of a year consisting of twelve 30-day months and (ii) as of any date of computation on and after the Current Interest Commencement Date, the Appreciated Value on the Current Interest Commencement Date.

BMA Municipal Swap Index means the rate determined on the basis of an index based upon the weekly interest rates of tax-exempt variable rate issues included in a database maintained by Municipal Market Data or any successor indexing agent which meets specific criteria established by The Bond Market Association.

Bond Anticipation Notes means notes or other evidences of indebtedness from time to time issued in anticipation of the issuance of Water and Sewer System Bonds, the proceeds of which have been or are required to be applied to one or more of the purposes for which Water and Sewer System Bonds may be issued, the payment of which notes is to be made from the proceeds of the Water and Sewer System Bonds in anticipation of the issuance of which said notes are issued.

Bond Year means the 12 month period commencing on October 1 in any year and ending on September 30 of the following year.

Build America Bonds shall mean any Bonds with respect to which JEA has irrevocably elected, pursuant to Section 54AA(g) of the Code or any similar federal program creating subsidies for municipal borrowers for which JEA qualifies, to receive cash subsidy payments from the U.S. Treasury equal to a portion of the interest payable on such Bonds.

Capacity Charges shall mean water and sewer capacity charges imposed by JEA with respect to the System.

Certified Interest Rate means, as of any date of determination:

(i) with respect to any Water and Sewer System Variable Rate Bonds maturing on a particular date that were, at the date of the original issuance thereof, the subject of a Counsel's Opinion to the effect that the interest thereon is excluded from gross income for federal income tax purposes pursuant to Section 103 of the Code, a rate of interest equal to the lesser of (1) the average of the Variable Rate Tax-Exempt Index for the five years preceding such date of determination and (2) the average rate of interest borne by Water and Sewer System Variable Rate Bonds for the 12 months preceding such date of determination; *provided*, *however*, if such Water and Sewer System Variable Rate Bonds are then being issued or shall not have been Outstanding for 12 months, then the rate of interest determined pursuant to this clause (i) shall be the rate determined pursuant to the foregoing subclause (1);

(ii) with respect to any Water and Sewer System Variable Rate Bonds maturing on a particular date that were not, at the date of the original issuance thereof, the subject of a Counsel's Opinion to the effect that the interest thereon is excluded from gross income for federal income tax purposes pursuant to Section 103 of the Code, a rate of interest equal to the lesser of (a) the average of the Variable Rate Taxable Index for the five years preceding such date of determination and (b) the average rate of interest borne by such Water and Sewer System Variable Rate Bonds, for the 12 months preceding such date of determination; *provided*, *however*, if such Water and Sewer System Variable Rate Bonds are then being issued or shall not have been Outstanding for 12 months, then the rate of interest determined pursuant to this clause (ii) shall be the rate determined pursuant to the foregoing subclause (a); and

(iii) for purposes of calculating the Debt Service Reserve Requirement for any particular subaccount in the Debt Service Reserve Account in the Debt Service Fund and with respect to any Water and Sewer System Variable Rate Bonds maturing on a particular date, the interest rate set forth in a certificate of an Authorized Officer of JEA executed on or prior to the date of the initial issuance of such Water and Sewer System Variable Rate Bonds as determined as follows: a Certified Interest Rate shall be that rate of interest determined by JEA, or a banking or financial institution or financial advisory firm selected by JEA, as the rate of interest such Water and Sewer System Variable Rate Bonds would bear if, assuming the same maturity date, terms and provisions (other than interest rate) as such proposed Water and Sewer System Variable Rate Bonds, and on the basis of JEA's credit ratings with respect to the Water and Sewer System Bonds (other than Bonds for which credit enhancement is provided by a third party), such proposed Water and Sewer System Variable Rate Bonds were issued at a fixed interest rate.

Code means the Internal Revenue Code of 1986, or any successor, and the applicable regulations (including final, temporary and proposed) promulgated by the United States Department of the Treasury thereunder, including Treasury Regulations issued pursuant to Sections 103 and 141 through 150, inclusive, of said Internal Revenue Code of 1986.

Contract Debts means any obligations of JEA under a contract, lease, installment sale agreement, bulk purchase agreement or otherwise to make payments out of Revenues for property, services or commodities whether or not the same are made available, furnished or received.

Costs means the costs, expenses and liabilities paid or incurred or to be paid or incurred by JEA in connection with the planning, engineering, designing, acquiring, constructing, installing, financing, repairing, extending, improving, reconstructing, retiring and disposing of the System or any part thereof and the obtaining of all governmental approvals, certificates, permits and licenses with respect thereto (including, for this purpose, any acquisition by JEA of an interest in an existing facility).

Credit Enhancement means, with respect to the Water and Sewer System Bonds of a Series, a maturity within a Series or an interest rate within a maturity, the issuance of an insurance policy, letter of credit, surety bond or any other similar obligation, whereby the issuer thereof becomes unconditionally obligated to pay when due, to the extent not paid by JEA or otherwise, the principal of and interest on such Water and Sewer System Bonds.

Credit Enhancer means any person or entity which, pursuant to a Supplemental Resolution, is designated as a Credit Enhancer and which provides Credit Enhancement for any Water and Sewer System Bonds.

Current Interest Commencement Date means, with respect to any particular Water and Sewer System Deferred Income Bonds, the date specified in the Supplemental Resolution authorizing such Water and Sewer System Deferred Income Bonds (which date must be prior to the maturity date for such Water and Sewer System Deferred Income Bonds) after which interest accruing on such Water and Sewer System Deferred Income Bonds shall be payable periodically on dates specified in such Supplemental Resolution, with the first such payment date being the first such periodic date immediately succeeding such Current Interest Commencement Date.

Debt Service for any period means, as of any date of calculation and with respect to any Series, an amount equal to the sum of:

(i) interest accruing during such period on Water and Sewer System Bonds of such Series, except to the extent that such interest is to be paid from deposits into the Debt Service Account made from the proceeds of Water and Sewer System Bonds, Subordinated Indebtedness or other evidences of the indebtedness of JEA; provided, that in the event that the Bonds of any Series (or any portion thereof) shall constitute Build America Bonds, then in respect of the interest payable on such Bonds, for purposes of the definition, the interest on the Bonds of such Series shall be calculated net of the amount of the cash subsidy payments due from the U.S. Treasury. If for whatever reason, JEA no longer receives cash subsidy payments from the U.S. Treasury in respect of the interest payable on such Bonds (other than as a result of the U.S. Treasury reducing a particular payment by offsetting an amount due from JEA to it), for purposes of this definition, the interest on the Bonds of such Series shall be calculated without regard to such subsidy, and

(ii) that portion of each Principal Installment for such Series which would accrue during such period if such Principal Installment were deemed to accrue daily in equal amounts from the next preceding Principal Installment due date for such Series (or, (x) in the case of Water and Sewer System Bonds other than Reimbursement Obligations, if (1) there shall be no such preceding Principal Installment due date or (2) such preceding Principal Installment due date is more than one year prior to the due date of such Principal Installment, then, from a date one year preceding the due date of such Principal Installment or from the Date of Issuance of the Water and Sewer System Bonds of such Series, whichever date is later, and (y) in the case of Reimbursement Obligations, in accordance with the terms thereof and the Supplemental Resolution authorizing such Reimbursement Obligations), except to the extent that such Principal Installment is paid or to be paid from the proceeds of Water and Sewer System Bonds, Subordinated Indebtedness or other evidences of indebtedness of JEA.

Such interest and Principal Installments for such Series shall be calculated on the assumption that (x) no Water and Sewer System Bonds (except for Water and Sewer System Option Bonds actually tendered for payment prior to the stated maturity thereof and paid, or to be paid, from Revenues) of such Series Outstanding at the date of calculation will cease to be Outstanding except by reason of the payment of each Principal Installment on the due date thereof, (y) the principal amount of Water and Sewer System Option Bonds tendered for payment before the stated maturity thereof and paid, or to be paid, from Revenues, shall be deemed to accrue on the date required to be paid pursuant to such tender and (z) the principal and interest portions of the Accreted Value of Water and Sewer System Capital Appreciation Bonds or the Appreciated Value of Water and Sewer System Deferred Income Bonds shall be included in the calculation of Debt Service at the times and in the manner provided in the Water and Sewer System Resolution; *provided, however,* that if the calculation of the Debt Service Reserve Requirement for any separate subaccount in the Debt Service Reserve Account takes into account Debt Service, then, for purposes of such calculation, Debt Service shall be calculated only with respect to the Water and Sewer System Bonds of the Series secured thereby.

Notwithstanding anything to the contrary contained in the Water and Sewer System Resolution, (a) if JEA has in connection with any Water and Sewer System Bonds entered into a Designated Swap Obligation which provides that, in respect of a notional amount equal to the Outstanding principal amount of such Water and Sewer System Bonds, JEA is to pay to a Designated Swap Obligation Provider an amount determined based upon a variable rate of interest and the Designated Swap Obligation Provider is to pay to JEA an amount determined based upon a fixed rate of interest, then, for purposes of calculating the Debt Service with respect to such Water and Sewer System Bonds for purposes of the "additional bonds test" and the "rate covenant" contained in clause (7) of subsection 1 of Section 203 and Section 711 of the Water and Sewer System Resolution and, it will be assumed that such Water and Sewer System Bonds bear interest at a rate equal to the sum of (1) the lesser of (A) the average of the variable rate payable by JEA pursuant to such Designated Swap Obligation for the five years preceding the date of determination, calculating such rate based upon the method, formula or index with respect thereto set forth in such Designated Swap Obligation and (B) the average of the actual rates paid by JEA pursuant to such Designated Swap Obligation for the 12 months preceding such date of determination; *provided, however,* if such Designated Swap Obligation shall not have been in effect for 12 months, then the rate of interest determined pursuant to this clause (1) shall be the rate determined pursuant to the foregoing subclause (A) and (2) the difference (whether positive or negative) between (X) the fixed rate of interest on such Water and Sewer System Bonds and (Y) the fixed rate of interest payable to JEA pursuant to such Designated Swap Obligation and (b) if JEA has in connection with any Water and Sewer System Variable Rate Bonds entered into a Designated Swap Obligation which provides that, in respect of a notional amount equal to the Outstanding principal amount of such Water and Sewer System Variable Rate Bonds, JEA is to pay to a Designated Swap Obligation Provider an amount determined based upon a fixed rate of interest and the Designated Swap Obligation Provider is to pay to JEA an amount determined based upon a variable rate of interest, then, for purposes of calculating the Debt Service Requirement with respect to such Water and Sewer System Variable Rate Bonds for purposes of the "additional bonds test" and the "rate covenant" contained in clause (7) of subsection 1 of Section 203 and Section 711 of the Water and Sewer System Resolution, it will be assumed that such Water and Sewer System Variable Rate Bonds bear interest at the fixed rate of interest payable by JEA pursuant to such Designated Swap Obligation.

Debt Service Reserve Requirement means, with respect to each separate subaccount in the Debt Service Reserve Account, unless otherwise determined in the manner provided in the Water and Sewer System Resolution, as of any date of calculation, an amount equal to the maximum Aggregate Debt Service coming due on the Water and Sewer System Bonds of all Series secured thereby then Outstanding in the then current or any future Bond Year excluding interest on such Water and Sewer System Bonds to be paid from deposits in the Debt Service Account made from the proceeds of Water and Sewer System Bonds, Subordinated Indebtedness or other evidences of indebtedness of JEA.

For the purpose of the calculation of the Debt Service Reserve Requirement in the event that the Bonds of any Series shall constitute Build America Bonds, then until such time, if any, as JEA, for whatever reason, no longer receives cash subsidy payments from the U.S. Treasury in respect of the interest payable on such Bonds (other than as a result of the U.S. Treasury reducing a particular payment by offsetting an amount due from JEA to it), the interest on such Bonds shall be calculated net of the amount of such subsidy; provided, however, that if at any time the specified percentage of the interest payable on such Bonds represented by such subsidy shall be permanently reduced, then the amount of such Debt Service Reserve Requirement shall be increased to reflect the amount of interest payable on such Bonds that no longer is payable to JEA by the U.S. Treasury, and the amount of such increase shall be required to be funded in equal semiannual installments over a five (5)-year period, with the first such installment becoming due on the first April 1 or October 1 that is at least six (6) months following the date on which such specified percentage is so reduced, except that if at any time from the commencement of such funding, either (x) any of such Bonds shall cease to be Outstanding or (y) the amount of such Debt Service Reserve Requirement shall be reduced for any reason whatsoever, then the obligation of JEA to make deposits during the balance of such period shall be redetermined (taking into account the amount (if any) of such Bonds that remain Outstanding and the amount (if any) of such reduction in such Debt Service Reserve Requirement) and the resulting reduction in the amount required to be deposited to the Initial Subaccount shall be evenly apportioned over the remainder of such five (5)-year period and provided, further, that in the event that JEA, for whatever reason, ceases to receive cash subsidy payments from the U.S. Treasury in respect of the interest payable on any such Bonds (other than as a result of the U.S. Treasury reducing a particular payment by offsetting an amount due from JEA to it), then the amount of such Debt Service Reserve Requirement shall be increased to reflect the full amount of interest payable on such Bonds, and such increase shall be required to be funded in equal semiannual installments over a five (5)-year period, with the first such installment becoming due on the first April 1 or October 1 that is at least six (6) months following the date on which JEA does not receive the first such cash subsidy payment that it theretofore was qualified to receive, except that if at any time from the commencement of such funding, either (x) any of such Bonds shall cease to be Outstanding or (y) the amount of such Debt Service Reserve Requirement shall be reduced for any reason whatsoever, then the obligation of JEA to make deposits during the balance of such period shall be redetermined (taking into account the amount (if any) of such Bonds that remain Outstanding and the amount (if any) of such reduction in such Debt Service Reserve Requirement) and the resulting reduction in the amount required to be deposited to the Initial Subaccount shall be evenly apportioned over the remainder of such five (5)-year period. Notwithstanding any other provision of this resolution, any one or more installments of any increase in the Debt Service Reserve Requirement with respect to the Initial Subaccount in the Debt Service Reserve Account in the Sinking Fund provided for in the preceding sentence may be prepaid at any time in whole or in part by JEA by designating in JEA's records that such payment(s) is (or are) to be treated as a prepayment.

Defeasance Securities shall mean, unless otherwise provided with respect to the Bonds of a Series in the Supplemental Resolution authorizing such Bonds, U.S. Obligations which shall not be subject to redemption prior to their maturity other than at the option of the holder thereof or as to which an irrevocable notice of redemption of such securities on a specified redemption date has been given and such securities are not otherwise subject to redemption prior to such specified date other than at the option of the holder thereof. (This definition was modified pursuant to Resolution 2013-10.)

Defeased Municipal Obligations shall mean any bonds or other obligations of any state of the United States of America or of any agency, instrumentality or local governmental unit of any such state (a) which are not callable prior to maturity, or which have been duly called for redemption by the obligor on a date or dates specified and as to which irrevocable instructions have been given to a trustee in respect of such bonds or other obligations by the obligor to give due notice of such redemption on such date or dates, which date or dates shall be also specified in such instructions, (b) which are secured as to principal and interest and redemption premium, if any, by a fund consisting only of cash or U.S. Obligations which fund may be applied only to the payment of such principal of and interest and redemption premium, if any, on such bonds or other obligations on the maturity date or dates thereof or the redemption date or dates specified in the irrevocable instructions referred to in subclause (a) of this definition, as appropriate, (c) as to which the principal of and interest on the U.S. Obligations on deposit in such fund along with any cash on deposit in such fund are sufficient to pay principal of and interest and redemption premium, if any, on the bonds or other obligations described in this definition on the maturity date or dates thereof or on the redemption date or dates specified in the irrevocable instructions referred to in subclause (a) of this definition, as appropriate and (d) which at the time of their purchase hereunder are rated "AAA" by Standard & Poor's Ratings Group and, if rated by Moody's Investors Service, are rated "Aaa" by such agency. (This definition was added pursuant to Resolution 2013-10.)

Designated Swap Obligation means, to the extent from time to time permitted by law, any interest rate swap transaction (i) which is entered into by JEA for the purpose of converting synthetically the interest rate on any particular Water and Sewer System Bonds from a fixed rate to a variable rate or from a variable rate to a fixed rate (regardless of whether such Designated Swap Obligation shall have a term equal to the remaining term of such Bonds) and (ii) which has been designated in a certificate of an Authorized Officer of JEA filed with the records of JEA as such (which certificate shall specify the Water and Sewer System Bonds with respect to which such Designated Swap Obligation is entered into).

Designated Swap Obligation Provider means any person with whom JEA enters into a Designated Swap Obligation.

Federal Agency Securities shall mean bonds, debentures, or other evidences of indebtedness issued or guaranteed by any agency or corporation which has been or may hereafter be created pursuant to an Act of Congress as an agency or instrumentality of the United States of America which at the time of their purchase hereunder are rated "AAA" by Standard & Poor's Ratings Group and "Aaa" by Moody's Investors Service, if rated by both rating agencies, and, if rated by one rating agency, shall have a rating of "AAA" or "Aaa" by Standard & Poor's Ratings Group or Moody's Investors Service, as the case may be. (This definition was added pursuant to Resolution 2013-10.)

Investment Securities shall mean and include any other securities, obligations or investments that, at the time, shall be permitted by Florida Law for the investment of JEA's funds. (This definition was modified pursuant to Resolution 2013-10.)

Maximum Annual Aggregate Adjusted Water and Sewer System Debt Service means, as of any date of calculation, the greatest Adjusted Aggregate Debt Service for the then current or any future Fiscal Year.

Net Revenues means, for any period, the Revenues during such period, determined on an accrual basis, minus Operation and Maintenance Expenses during such period, determined on an accrual basis, to the extent paid or to be paid from Revenues.

One-Month LIBOR Rate means, as of any date of determination, the offered rate for deposits in U.S. dollars for a one-month period which appears on the Telerate Page 3750 at approximately 11:00 A.M., London time, on such date, or if such date is not a date on which dealings in U.S. dollars are transacted in the London interbank market, then on the next preceding day on which such dealings were transacted in such market.

Operation and Maintenance Expenses means the current expenses, paid or accrued, of operation, maintenance and repair of the System, including administration costs, as calculated in accordance with generally accepted accounting principles, and shall include all Contract Debts. Notwithstanding the foregoing, Operation and Maintenance Expenses shall not include any reserve for renewals or replacements or any allowance for depreciation or amortization and there shall be included in Operation and Maintenance Expenses only that portion of the total administrative, general and other expenses of JEA which are properly allocable to the System.

Principal Installment means, as of any date of calculation and with respect to any Series, so long as any Water and Sewer System Bonds thereof are Outstanding, (i) the principal amount of Water and Sewer System Bonds (including, in the case of any Water and Sewer System Option Bond, the principal amount thereof tendered for payment prior to the stated maturity thereof and paid, or to be paid, from Revenues) of such Series due (or so tendered for payment and paid, or to be so paid) on a certain future date for which no Sinking Fund Installments have been established, or (ii) the unsatisfied balance (determined as provided in the Water and Sewer System Resolution) of any Sinking Fund Installments due on a certain future date for Water and Sewer System Bonds of such Series, plus the amount of the sinking fund redemption premiums, if any, which would be applicable upon redemption of such Water and Sewer System Bonds on such future date in a principal amount equal to said unsatisfied balance of such Sinking Fund Installments, or (iii) if such future dates coincide as to different Water and Sewer System Bonds of such Series, the sum of such principal amount of Water and Sewer System Bonds and of such unsatisfied balance of Sinking Fund Installments due on such future date plus such applicable redemption premiums, if any.

Refundable Principal Installment means any Principal Installment for any Series of Water and Sewer System Bonds which JEA intends to pay with moneys which are not Revenues, if such intent was expressed in the Supplemental Resolution authorizing such Series. Any such Principal Installment will be a Refundable Principal Installment only through the penultimate day of the month preceding the month in which such Principal Installment comes due or such earlier time as JEA no longer intends to pay such Principal Installment with moneys which are not Revenues.

Reimbursement Obligations means all Water and Sewer System Bonds issued to evidence JEA's obligation to repay any advances or loans made to, or on behalf of, JEA in connection with any Credit Enhancement or liquidity support for the Water and Sewer System Bonds of a Series (or a maturity or maturities or interest rate within a maturity thereof).

Renewal and Replacement Requirement means, at any date of calculation, an amount equal to 10 percent of the sum of (a) the aggregate amount of Water and Sewer System Bonds Outstanding under the Water and Sewer System Resolution and (b) the aggregate amount of all other obligations issued by JEA in connection with the System (including, without limitation, Subordinated Indebtedness) outstanding and unpaid (or as to which provision for payment has not been made in accordance with the terms thereof).

Revenues means (i) all revenues, income, rents, service fees and receipts properly allocable to the System resulting from ownership and operation of the System, excluding (a) unless otherwise determined by the Governing Body, Capacity Charges, (b) customer deposits and any other deposits subject to refund unless such deposits have become property of JEA and (c) if and to the extent determined by the JEA Board, special assessments, if any, levied by JEA in connection with any facilities constituting a part of the System, (ii) the proceeds of any insurance covering business interruption loss relating to the System and (iii) interest received or to be received on any moneys or securities held pursuant to the Water and Sewer System Resolution and paid or required to be paid into the Revenue Fund. For any purpose of the Water and Sewer System Resolution that requires the computation of Revenues with respect to any period of time, "Revenues" shall include such amounts resulting, received or to be received, as the case may be, during such period, determined on an accrual basis, plus (x) the amounts, if any, paid from the Rate Stabilization Fund into the Revenue Fund during such period, but only to the extent that such amounts originally were deposited to the Rate Stabilization Fund from Revenues (excluding from (x) amounts included in the Revenues for such period representing interest earnings transferred from the Rate Stabilization Fund to the Revenue Fund pursuant to the Water and Sewer System Resolution) and minus (y) the amounts, if any, paid from the Revenue Fund into the Rate Stabilization Fund during such period. Notwithstanding the foregoing, all cash subsidy payments received by JEA from the U.S. Treasury in respect of interest payable on any Build America Bonds shall not constitute "Revenues" for any purpose of the Resolution.

System or *Water and Sewer System* means each and every part of the water system and sewer system owned and operated by JEA for water supply, transmission, treatment and distribution and for sewage collection, transmission, treatment and disposal or distribution now existing and hereafter acquired by lease, contract, purchase or otherwise or constructed, including any interest or participation of JEA in any facilities in connection with said system, together with all additions, betterments, extensions and improvements to said system or any part thereof hereafter constructed or acquired and together with all lands, easements, licenses and rights of way and all other works, property or structures and contract rights and other tangible and intangible assets now or hereafter owned or used in connection with or related to said System; *provided*, *however*, that upon compliance with certain provisions of the Water and Sewer System Resolution described under "Certain Other Covenants – *Additional Utility Functions*" below, the term System shall be deemed to include other utility functions added to the System such as the acquisition, distribution, and sale of natural gas, the production, distribution and sale of process steam, or other utility functions that are, in accordance with Prudent Utility Practice, reasonably related to the services provided by the System. Notwithstanding the foregoing definition of the term System, such term shall not include the existing electric system owned by JEA or any bulk power supply utilities or systems now owned or hereafter acquired by JEA, nor shall it include any properties or interests in properties of JEA (a) which JEA determines shall not constitute a part of the System for the purpose of the Water and Sewer System Resolution at the time of the acquisition thereof by JEA or (b) as to which there shall be filed with the records of JEA a certificate of the Consulting Engineer stating, in its opinion, that the exclusion of such properties or interests in properties from the System will not materially impair the ability of JEA to comply during the current or any future Fiscal Year with the provisions of the rate covenant described under "Covenant as to Rates, Fees and Other Charges" below.

Trust Estate means (i) the proceeds of the sale of the Water and Sewer System Bonds, (ii) the Revenues, and (iii) all Funds and Accounts established by the Water and Sewer System Resolution (other than the Debt Service Reserve Account), including the investments and investment income, if any, thereof.

U.S. Obligations shall mean any bonds or other obligations which constitute direct obligations of, or as to principal and interest are unconditionally guaranteed by, the United States of America, including Federal Agency Securities to the extent unconditionally guaranteed by the United States of America. (This definition was added pursuant to Resolution 2013-10.)

U.S. Treasury shall mean the U.S. Treasury or any party designated by the federal government to issue cash subsidy payments on Build America Bonds.

Variable Rate Taxable Index means the One-Month LIBOR Rate or, if the One-Month LIBOR Rate no longer shall be available, the Alternate Variable Rate Taxable Index.

Variable Rate Tax-Exempt Index means the BMA Municipal Swap Index or, if the BMA Municipal Swap Index no longer shall be available, the Alternate Variable Rate Tax-Exempt Index.

Water and Sewer System Bond or Bonds means any bonds, notes or other obligations or evidences of indebtedness, as the case may be, authenticated and delivered under and Outstanding pursuant to the Water and Sewer System Resolution but shall not mean Subordinated Indebtedness or Bond Anticipation Notes.

Water and Sewer System Capital Appreciation Bond or Bonds means any Water and Sewer System Bonds issued under the Water and Sewer System Resolution as to which interest is (i) compounded periodically on dates that are specified in the Supplemental Resolution authorizing such Water and Sewer System Capital Appreciation Bonds and (ii) payable only at the maturity, earlier redemption or other payment thereof pursuant to the Water and Sewer System Resolution or the Supplemental Resolution authorizing such Water and Sewer System Capital Appreciation Bonds.

Water and Sewer System Deferred Income Bond or Bonds means any Water and Sewer System Bonds issued under the Water and Sewer System Resolution as to which interest accruing prior to the Current Interest Commencement Date is (i) compounded periodically on dates specified in the Supplemental Resolution authorizing such Water and Sewer System Deferred Income Bonds and (ii) payable only at the maturity, earlier redemption or other payment thereof pursuant to the Water and Sewer System Resolution or the Supplemental Resolution authorizing such Water and Sewer System Deferred Income Bonds.

Water and Sewer System Option Bond or Bonds means any Water and Sewer System Bonds which by their terms may be tendered by and at the option of the Holder thereof for payment by JEA prior to the stated maturity thereof, or the maturities of which may be extended by and at the option of the Holder thereof.

Water and Sewer System Variable Rate Bond means any Water and Sewer System Bond not bearing interest throughout its term at a specified rate or specified rates determined at the time of issuance of the Series of Water and Sewer System Bonds of which such Water and Sewer System Bond is one.

Pledge

The Water and Sewer System Bonds are special obligations of JEA payable from and secured by the funds pledged therefor. Pursuant to the Water and Sewer System Resolution, there is pledged for the payment of the principal and Redemption Price of, and interest on, the Water and Sewer System Bonds in accordance with their terms and the provisions of the Water and Sewer System Resolution, subject only to the provisions of the Water and Sewer System Resolution permitting the application thereof for the purposes and on the terms and conditions set forth in the Water and Sewer System Resolution, the Trust Estate.

Pursuant to the Water and Sewer System Resolution, there also are pledged, as additional security for the payment of the principal or sinking fund Redemption Price, if any, of, and interest on, the Water and Sewer System Bonds of each Additionally Secured Series secured thereby, subject only to the provisions of the Water and Sewer System Resolution permitting the application thereof for the purposes and on the terms and conditions set forth in the Water and Sewer System Resolution, amounts on deposit in any separate subaccount established in the Debt Service Reserve Account, including the investments and investment income, if any, thereof.

Application of Revenues

Revenues are pledged by the Water and Sewer System Resolution to payment of principal of and interest and redemption premium on the Water and Sewer System Bonds of all series, subject to the provisions of the Water and Sewer System Resolution permitting application for other purposes. For the application of Revenues, the Water and Sewer System Resolution establishes a Revenue Fund, a Debt Service Fund, a Subordinated Indebtedness Fund, a Rate Stabilization Fund and a Renewal and Replacement Fund, all of which are held by JEA.

Pursuant to the Water and Sewer System Resolution, all Revenues are to be deposited promptly by JEA to the credit of the Revenue Fund. Notwithstanding anything to the contrary contained in the Water and Sewer System Resolution, in the event that any Revenues constitute "impact fees" within the meaning of applicable Florida law, JEA may use and apply such Revenues only in the manner permitted or required by such applicable law, and JEA is to take such measures (including, without limitation, the establishment of such separate accounts or subaccounts or the implementation of such accounting procedures) as an Authorized Officer of JEA may determine are necessary or desirable to effect the foregoing. Each month JEA is to make transfers from the Rate Stabilization Fund to the Revenue Fund, in accordance with the then current Annual Budget or as otherwise determined by JEA. Each month JEA is to pay from the Revenue Fund amounts necessary to meet Operation and Maintenance Expenses as they become due and payable.

Following the payment of Operation and Maintenance Expenses, the Water and Sewer System Resolution provides that the moneys in the Revenue Fund shall be applied monthly, to the extent available, and subject to the limitation described in the preceding paragraph regarding "impact fees," in the following manner and in the following order of priority:

1. ***To the Debt Service Account and the Debt Service Reserve Account in the Debt Service Fund,*** (a) an amount at least equal to the amount, if any, required so that the balance in the Debt Service Account (excluding capitalized interest on deposit therein in excess of the amount thereof to be applied to pay interest accrued and to accrue on all Water and Sewer System Bonds to the end of the then current calendar month) equals the Accrued Aggregate Debt Service as of the last day of the then current month and (b) the respective amounts, if any, required so that the balance in each separate subaccount in the Debt Service Reserve Account equals the Debt Service Reserve Requirement related thereto.

Amounts in the Debt Service Account are to be applied by JEA to pay the principal or Redemption Price of and interest on the Water and Sewer System Bonds. In addition, JEA may apply such amounts to the purchase or redemption of Water and Sewer System Bonds to satisfy sinking fund requirements.

Amounts in each separate subaccount in the Debt Service Reserve Account are to be applied by JEA to pay the principal or sinking fund Redemption Price of or interest on each Additionally Secured Series of Water and Sewer System Bonds secured thereby, if and to the extent necessary following the application of amounts on deposit in the Debt Service Account in accordance with the terms of the Water and Sewer System Resolution; *provided, however*, that the amount payable from the Initial Subaccount with respect to the Water and Sewer System Variable Rate Bonds of a particular series and maturity shall be limited to the amount on deposit therein allocable to the Water and Sewer System Variable Rate Bonds of such series and maturity, based upon the interest rate that such Water and Sewer System Variable Rate Bonds of such series and maturity are deemed to bear for purposes of computing the Debt Service Reserve Requirement for the Initial Subaccount, as described in the second paragraph under "Debt Service Reserve Account" herein.

Whenever the amount in the Debt Service Reserve Account, together with the amount in the Debt Service Account, is sufficient to pay in full all Outstanding Water and Sewer System Bonds in accordance with their terms, the funds on deposit in the Debt Service Reserve Account will be transferred to the Debt Service Account, and no further deposits will be required to be made to the Debt Service Fund.

In the event of the refunding or defeasance of any Water and Sewer System Bonds, JEA may withdraw from the Debt Service Account, and, if the Water and Sewer System Bonds being refunded or defeased are Water and Sewer System Bonds of an Additionally Secured Series, withdraw from the separate subaccount in the Debt Service Reserve Account securing such Water and Sewer System Bonds, all or any portion of the amounts accumulated therein and deposit such amounts with the Escrow Agent for the Water and Sewer System Bonds being refunded or defeased to be held for the payment of the principal or Redemption Price, if applicable, and interest on such Water and Sewer System Bonds; *provided* that such withdrawal shall not be made unless (i) immediately thereafter the Water and Sewer System Bonds being refunded or defeased shall be deemed to have been paid pursuant to the Water and Sewer System Resolution, and (ii) the amount remaining in the Debt Service Account and, if applicable, such separate subaccount in the Debt Service Reserve Account after such withdrawal, and after giving effect to the issuance of any obligations being issued to refund such Water and Sewer System Bonds and the disposition of the proceeds thereof and, in the case of any separate subaccount in the Debt Service Reserve Account, any surety bond, insurance policy, letter of credit or other similar obligation that may be credited to such subaccount in accordance with the provisions of the Supplemental Resolution establishing such subaccount, shall not be less than the Accrued Aggregate Debt Service and the Debt Service Reserve Requirement relating thereto, respectively. In the event of such refunding or defeasance, JEA may also withdraw from the Debt Service Account or such separate subaccount in the Debt Service Reserve Account all or any portion of the amounts accumulated therein and deposit such amounts in any Fund or Account under the Water and Sewer System Resolution; *provided*, *however*, that such withdrawal cannot be made unless items (i) and (ii) hereinabove have been satisfied and, at the time of such withdrawal, there will exist no deficiency in any Fund or Account held under the Water and Sewer System Resolution.

Whenever the moneys on deposit in any subaccount established in the Debt Service Reserve Account exceed the Debt Service Reserve Requirement related thereto, after giving effect to any surety bond, insurance policy, letter of credit or other similar obligation that may be credited to such subaccount, such excess will be deposited in the Revenue Fund.

See also "Debt Service Reserve Account" herein.

2. ***To the Subordinated Indebtedness Fund***, an amount at least equal to the amount, if any, required to be deposited therein in the then current month to pay principal or sinking fund installments of and premiums, if any, and interest on each issue of Subordinated Indebtedness and reserves therefor as required by the Supplemental Resolution authorizing such Subordinated Indebtedness.

At any time and from time to time JEA may deposit in the Subordinated Indebtedness Fund for the payment of the principal or sinking fund installments of and interest and premium on each issue of Subordinated Indebtedness amounts received from the proceeds of additional issues of Subordinated Indebtedness or amounts received from any other source.

If at any time there is a deficiency in the Debt Service Account or any separate subaccount(s) in the Debt Service Reserve Account and the available funds in the Renewal and Replacement Fund are insufficient to cure such deficiency, there will be transferred from the Subordinated Indebtedness Fund to such Account or subaccount(s) the amount necessary to cure such deficiency (or, if the amount in the Subordinated Indebtedness Fund is less than the amount necessary to make up the deficiencies with respect to the Debt Service Account and all of the separate subaccounts in the Debt Service Reserve Account, then the amount in the Subordinated Indebtedness Fund will be applied first to make up the deficiency in the

Debt Service Account, and any balance remaining will be applied ratably to make up the deficiencies with respect to the separate subaccounts in the Debt Service Reserve Account, in proportion to the deficiency in each such subaccount).

3. ***To the Rate Stabilization Fund***, the amount, if any, budgeted for deposit into such Fund for the then current month as set forth in the current Annual Budget or the amount otherwise determined by JEA to be credited to such Fund for the month.

4. ***To the Renewal and Replacement Fund***, an amount at least equal to the sum of (i) one-twelfth (1/12th) of ten percent of the Annual Net Revenues of the Water and Sewer System for the preceding Fiscal Year and (ii) such additional amount as will make the total annual payment into such Fund during the Fiscal Year of which such month is a part equal to at least five percent of the Revenues of the Water and Sewer System for the preceding Fiscal Year; *provided*, *however*, that so long as there shall be held in the Renewal and Replacement Fund an amount which is at least equal to the Renewal and Replacement Requirement, no deposits are required to be made into the Renewal and Replacement Fund; and *provided*, *further*, however, that the failure of JEA to make such payment into the Renewal and Replacement Fund in any month shall not constitute an Event of Default under the Water and Sewer System Resolution; *provided* that any deficiencies therefor shall have been restored prior to the end of the Fiscal Year of which such month is a part; and *provided*, *further*, that the full amount required to be deposited in said Renewal and Replacement Fund in such Fiscal Year has been deposited therein by the end of such Fiscal Year.

Amounts in the Renewal and Replacement Fund may be applied to the Costs of the Water and Sewer System, the payment of extraordinary operation and maintenance costs and contingencies and payments with respect to the prevention or correction of any unusual loss or damage in connection with all or part of the Water and Sewer System, in the manner provided in the Water and Sewer System Resolution. Amounts in the Renewal and Replacement Fund also may be applied to the purchase, redemption, payment or provision for payment of Water and Sewer System Bonds or interest thereon or, upon determination of the JEA Board, to the payment of the costs of enlargements, extensions, improvements and replacements of capital assets of any other utility system owned and operated by JEA and not constituting a part of the Water and Sewer System.

If at any time there is a deficiency in the Debt Service Account or any separate subaccount(s) in the Debt Service Reserve Account, there will be transferred from the Renewal and Replacement Fund to such Account or subaccount(s) the amount necessary to cure such deficiency (or, if the amount in the Renewal and Replacement Fund is less than the amount necessary to make up the deficiencies with respect to the Debt Service Account and all of the separate subaccounts in the Debt Service Reserve Account, then the amount in the Renewal and Replacement Fund will be applied first to make up the deficiency in the Debt Service Account, and any balance remaining will be applied ratably to make up the deficiencies with respect to the separate subaccounts in the Debt Service Reserve Account, in proportion to the deficiency in each such subaccount). If at any time there is a deficiency in the Subordinated Indebtedness Fund and the amounts on deposit in the Debt Service Account and each separate subaccount in the Debt Service Reserve Account shall equal the current requirements of such Account and subaccounts, respectively, and such amounts are not required for the payment of Operation and Maintenance Expenses, there will be transferred from the Renewal and Replacement Fund to the Subordinated Indebtedness Fund the amount necessary to cure such deficiency.

Notwithstanding anything to the contrary contained in the Water and Sewer System Resolution, in the event that any amounts on deposit in the Renewal and Replacement Fund constitute "impact fees" within the meaning of applicable Florida law, JEA will use and apply such amounts only in the manner permitted or required thereby, and JEA will take such measures (including, without limitation, the establishment of such separate accounts or subaccounts in the Renewal and Replacement Fund or the implementation of such accounting procedures) as an Authorized Officer of JEA may determine are necessary or desirable to effect the foregoing.

The balance of any moneys remaining in the Revenue Fund after the above required payments have been made may be used by JEA for any lawful purpose of JEA (including, but not limited to, (a) the purchase, redemption or provision for payment of any of the Water and Sewer System Bonds, (b) transfers to any utility system owned and/or operated by JEA currently or in the future and (c) the annual transfer by JEA to the City's General Fund not otherwise prohibited by the Water and Sewer System Resolution; *provided*, *however*, that none of the remaining moneys can be used for any purpose other than those specified above unless all current payments, including all deficiencies in prior payments, if any, have been made in full and unless JEA has complied fully with all the covenants and provisions of the Water and Sewer System Resolution.

"Available Water and Sewer System Revenues" are those monies remaining on deposit in the Revenue Fund established under the Water and Sewer System Resolution and available for use by JEA for any lawful purpose. In the event that the amount on deposit in the Debt Service Account in the Debt Service Fund in accordance with clause (a) of subsection (1) of Section 506 of the District Energy System Resolution is less than Accrued Aggregate Debt Service with respect to the 2013 Series A Bonds of the District Energy System as of the last Business Day of the then current month, JEA shall deposit into the 2013 Series A Bonds Subaccount in the Debt Service Reserve Account in the Debt Service Fund under the District Energy System Resolution from Available Water and Sewer System Revenues an amount equal to the Aggregate DES Debt Service Deficiency that exists. See "SUMMARY OF CERTAIN PROVISIONS OF THE DISTRICT ENERGY SYSTEM RESOLUTION – Debt Service Fund – Debt Service Reserve Account and 2013 Series A Bonds Subaccount – 2013 Series A Bonds Subaccount".

During any period in which the Debt Service Requirement for any series of Bonds containing Build America Bonds shall be calculated in the manner provided in the *proviso* of clause (1) of the first paragraph of the definition thereof, no later than each interest payment date for such Build America Bonds then Outstanding, JEA shall withdraw from the Revenue Fund and transfer to the Debt Service Account in the Sinking Fund an amount equal to the amount of the cash subsidy payment payable to JEA by the U.S. Treasury in respect of the interest payable on such Build America Bonds on such interest payment date. Any cash subsidy payment received by JEA from the U.S. Treasury in respect of the interest payable on any Build America Bonds shall be deposited by JEA upon the receipt thereof in the Revenue Fund, but no such payment shall constitute Revenues for any purpose of the Electric System Resolution.

Construction Fund

The Water and Sewer System Resolution establishes a Construction Fund, into which are paid amounts required by the provisions of the Water and Sewer System Resolution and any Supplemental Resolution and, at the option of JEA, any moneys received for or in connection with the System, unless required to be applied otherwise as provided in the Water and Sewer System Resolution. In addition, proceeds of insurance against physical loss of or damage to the System or of contractors' performance bonds, pertaining to the period of construction or acquisition, will be paid into the Construction Fund.

JEA may withdraw amounts from the Construction Fund for the payment of amounts due and owing on account of the Costs of the System upon determination of an Authorized Officer of JEA (or such officer's designee) that an obligation in the amount to be paid from the Construction Fund has been incurred by JEA and that each item thereof is a proper and reasonable charge against the Construction Fund, and that such amount has not been paid.

To the extent that other moneys are not available therefor, amounts in the Construction Fund shall be applied to the payment of principal of and interest on Water and Sewer System Bonds when due.

Amounts credited to the Construction Fund which JEA at any time determines to be in excess of the amounts required for the purposes thereof shall be deposited in the Debt Service Reserve Account, if and to the extent necessary to make the amount in any separate subaccount therein equal to the Debt Service Reserve Requirement related thereto (or, if such excess shall be less than the amount necessary to make up the deficiencies with respect to all of the separate subaccounts in the Debt Service Reserve Account, then such excess shall be applied ratably, in proportion to the deficiency in each such subaccount), and any balance of such excess, upon written determination of an Authorized Officer of JEA, shall be deposited in the Revenue Fund and may be used by JEA for any lawful purpose of JEA, subject to the limitations contained in the Water and Sewer System Resolution; *provided*, *however*, that the amount of any such deposit to the Revenue Fund shall not constitute or be deemed to constitute Revenues for any purpose of the Water and Sewer System Resolution.

JEA may discontinue the acquisition or construction of any portion of the System, the Costs of which are at the time being paid out of the Construction Fund, if the JEA Board determines by resolution that such discontinuance is necessary or desirable in the conduct of the business of JEA and not disadvantageous to the Holders of the Water and Sewer System Bonds.

Debt Service Reserve Account

JEA may establish a separate subaccount in the Debt Service Reserve Account with respect to any one or more maturities (or interest rate(s) within a maturity) of the Water and Sewer System Bonds of one or more series as provided in the Water and Sewer System Resolution. Amounts on deposit in any separate subaccount in the Debt Service Reserve Account will be applied to pay the principal or sinking fund Redemption Price of or interest on each Additionally Secured Series of Water and Sewer System Bonds secured thereby, if and to the extent necessary following the application of amounts on deposit in the Debt Service Account (exclusive of amounts, if any, set aside in said Account for the payment of interest on Water and Sewer System Bonds on a future date) in accordance with the terms of the Water and Sewer System Resolution.

Pursuant to the First Supplemental Water and Sewer System Revenue Bond Resolution adopted by JEA on August 19, 1997 (the "First Supplemental Resolution"), authorizing, among others, JEA's Water and Sewer System Revenue Bonds, 1997 Series B (the "1997 Series B Bonds") JEA established a separate subaccount in the Debt Service Reserve Account in the Debt Service Fund entitled the "Initial Subaccount". The 1997 Series B Bonds, which as of the date of the Annual Disclosure Report to which this Appendix is attached are no longer outstanding, were additionally secured by amounts on deposit in the Initial Subaccount, including the investments and investment income, if any, thereof, which amounts are pledged as additional security for the payment of the principal or sinking fund redemption price of, and interest on, the 1997 Series B Bonds, subject only to the provisions of the Water and Sewer System Resolution permitting the application thereof for the purposes and on the terms and conditions set forth in the Water and Sewer System Resolution. The Initial Subaccount in the Debt Service Reserve Account may, at the option of JEA, secure one or more maturities (or interest rate(s) within a maturity) of the additional Water and Sewer System Bonds of any series thereafter issued; *provided*, *however*, that for purposes of computing the Debt Service Reserve Requirement for the Initial Subaccount, the Water and Sewer System Variable Rate Bonds, if any, of each series and maturity secured thereby shall be deemed to bear interest at the Certified Interest Rate established with respect thereto at the time of the original issuance thereof ***unless*** the interest rate(s) on such Water and Sewer System Variable Rate Bonds of a particular series and maturity shall have been converted synthetically to a fixed interest rate pursuant to an interest rate swap transaction that has a term equal to, and the notional amount of which amortizes at the same times and in the same amounts as, such Water and Sewer System Variable Rate Bonds of such series and maturity, in which case, such Water and Sewer System Variable Rate Bonds shall be deemed to bear interest at the fixed rate payable by JEA under such interest rate swap transaction for so long as such interest rate swap transaction shall remain in effect (*provided*, *however*, that if, at the time of the original issuance thereof, the interest rate on the Water and Sewer System Variable Rate Bonds of a particular series and maturity shall have been converted synthetically to a fixed interest rate pursuant to such an interest rate swap transaction, but such interest rate swap transaction shall be terminated prior to the final maturity date of such Water and Sewer System Variable Rate Bonds, then the Debt Service Reserve Requirement for the Initial Subaccount shall be recalculated as of the date of termination of such interest rate swap transaction, based upon the Certified Interest Rate established for such Water and Sewer System Variable Rate Bonds at the time of the original issuance thereof, and any resulting deficiency in the amount on deposit in the Initial Subaccount shall be required to be funded with moneys and/or one or more additional surety bonds, insurance policies or letters of credit that may be credited to the Initial Subaccount in accordance with the provisions of the First Supplemental Resolution). As of the date of the Annual Disclosure Report to which this Appendix is attached, the Initial Subaccount also secures JEA's Water and Sewer System Revenue Bonds, 2009 Series B, 2010 Series A, 2010 Series B, 2010 Series D, 2010 Series E, 2010 Series F, 2012 Series A, 2012 Series B, 2013 Series A, 2014 Series A, and 2017 Series A and JEA's Variable Rate Water and Sewer System Revenue Bonds, 2006 Series B, 2008 Series A-2 and 2008 Series B.

Pursuant to the Water and Sewer System Resolution, the Water and Sewer System Bonds of any series are not required to be additionally secured by amounts on deposit in any separate subaccount in the Debt Service Reserve Account. JEA currently intends to secure all long-term Water and Sewer System Bonds with the Initial Subaccount in the Debt Service Reserve Account. In the event that one or more maturities (or interest rate(s) within a maturity) of the Water and Sewer System Bonds of a series hereafter issued are to be additionally secured by amounts on deposit in the Initial Subaccount in the Debt Service Reserve Account, it will be a condition to the issuance of the Water and Sewer System Bonds of such series that the amount on deposit in the Initial Subaccount, after giving effect to the issuance of such Water and Sewer System Bonds, equals the Debt Service Reserve Requirement for such Subaccount.

The Water and Sewer System Resolution requires JEA to deposit and maintain in the Initial Subaccount in the Debt Service Reserve Account moneys, Investment Securities and/or reserve fund credit instruments (hereinafter defined) in an amount equal to the Debt Service Reserve Requirement for the Initial Subaccount. The Debt Service Reserve Requirement for the Initial Subaccount is defined in the First Supplemental Resolution, as of any date of calculation, as an amount equal to the lowest of (a) ten percent of the original principal amount of the Water and Sewer System Bonds of all issues (as defined for federal income tax purposes) secured thereby (or, if the Water and Sewer System Bonds of any such issue are issued at an issue price (as computed for federal income tax purposes) of greater than 102 percent or less than 98 percent of the principal amount thereof, ten percent of such issue price), (b) the maximum Aggregate Debt Service on the Water and Sewer System Bonds of all series secured thereby then outstanding for the current or any future Bond Year (excluding interest (other than accrued interest paid in connection with the initial issuance thereof) on such Water and Sewer System Bonds to be paid from deposits in the Debt Service Account in the Debt Service Fund made from the proceeds of Water and Sewer System Bonds, Subordinated Indebtedness or other evidences of indebtedness of JEA) or (c) 125 percent of the average annual Debt Service on the Water and Sewer System Bonds of all series secured thereby then outstanding for the then current and each future Bond Year (excluding interest (other than accrued interest paid in connection with the initial issuance thereof) on such Water and Sewer System Bonds to be paid from deposits in the Debt Service Account in the Debt Service Fund made from the proceeds of Water and Sewer System Bonds, Subordinated Indebtedness or other evidences of indebtedness of JEA); *provided*, *however*, that in no event may an increase in the Debt Service Reserve Requirement for the Initial Subaccount resulting from the issuance of an additional issue (as defined for federal income tax purposes) of Water and Sewer System Bonds exceed ten percent of the original principal amount of the Water and Sewer System Bonds of such issue (or, if the Water and Sewer System Bonds of such issue are issued at an issue price (as computed for federal income tax purposes) of greater than 102 percent or less than 98 percent of the principal amount thereof, ten percent of such issue price).

Amounts in the Initial Subaccount in the Debt Service Reserve Account in excess of the Debt Service Reserve Requirement for such Subaccount, after giving effect to any reserve fund credit instrument, will be credited to the Revenue Fund.

The First Supplemental Resolution provides that in lieu of maintaining moneys or investments in the Initial Subaccount in the Debt Service Reserve Account, JEA at any time may cause to be deposited therein for the benefit of the Holders of the Water and Sewer System Bonds secured thereby an irrevocable surety bond, an insurance policy or a letter of credit satisfying the conditions set forth therein (a "reserve fund credit instrument"), in an amount equal to the difference between the Debt Service Reserve Requirement for the Initial Subaccount and the sums of money or value of Investment Securities then on deposit in the Initial Subaccount, if any. The following is a summary of the provisions of the First Supplemental Resolution, as amended by the applicable portion of the Resolution Amendments, relating to the deposit of reserve fund credit instruments to the Initial Subaccount:

(a) A surety bond or insurance policy issued by a company licensed to issue an insurance policy guaranteeing the timely payment of debt service on the Initial Subaccount Additionally Secured Bonds (a "municipal bond insurer") may be deposited in the Initial Subaccount to meet the Debt Service Reserve Requirement for the Initial Subaccount if the claims paying ability of the issuer thereof shall be rated at least "AA-" or "Aa3" by any two of Standard & Poor's Ratings Group (hereinafter referred to as "S&P") or Moody's Investors Service (hereinafter referred to as "Moody's") or Fitch Ratings (hereinafter referred to as "Fitch").

(b) An unconditional irrevocable letter of credit issued by a bank may be deposited in the Initial Subaccount to meet the Debt Service Reserve Requirement for the Initial Subaccount if the issuer thereof is rated at least "AA-" or "Aa3" by any two of S&P, Moody's or Fitch. The letter of credit shall be payable in one or more draws upon presentation by the beneficiary thereof of a sight draft accompanied by its certificate that it then holds insufficient funds to make a required payment of principal or interest on the Initial Subaccount Additionally Secured Bonds. The draws shall be payable within two days of presentation of the sight draft. The letter of credit shall be for a term of not less than three years. The issuer of the letter of credit shall be required to notify JEA and the beneficiary thereof, not later than 30 months prior to the stated expiration date of the letter of credit, as to whether such expiration date shall be extended, and if so, shall indicate the new expiration date.

(c) If such notice indicates that the expiration date shall not be extended, JEA shall deposit in the Initial Subaccount an amount sufficient to cause the cash or Investment Securities on deposit in the Initial Subaccount, together with any other qualifying reserve fund credit instruments, to equal the Debt Service Reserve Requirement for the Initial Subaccount, such deposit to be paid in equal installments on at least a semi-annual basis over the remaining term of the letter of credit, unless the reserve fund credit instrument is replaced by a reserve fund credit instrument meeting the requirements in any of clauses (a) or (b) above. The letter of credit shall permit a draw in full not less than two weeks prior to the expiration or termination of such letter of credit if the letter of credit has not been replaced or renewed. The beneficiary of the letter of credit shall draw upon the letter of credit prior to its expiration or termination unless an acceptable replacement is in place or the Initial Subaccount is fully funded in its required amount.

(d) The use of any reserve fund credit instrument pursuant to this subsection 4 shall be subject to receipt of an opinion of counsel as to the due authorization, execution, delivery and enforceability of such instrument in accordance with its terms, subject to applicable laws affecting creditors' rights generally, and, in the event the issuer of such credit instrument is not a domestic entity, an opinion of foreign counsel. In addition, the use of an irrevocable letter of credit shall be subject to receipt of an opinion of counsel to the effect that payments under such letter of credit would not constitute avoidable preferences under Section 547 of the U.S. Bankruptcy Code or similar state laws with avoidable preference provisions in the event of the filing of a petition for relief under the U.S. Bankruptcy Code or similar state laws by or against JEA.

(e) The obligation to reimburse the issuer of a reserve fund credit instrument for any fees, expenses, claim or draws upon such reserve fund credit instrument shall be subordinate to the payment of debt service on the Bonds. The right of the issuer of a reserve fund credit instrument to payment or reimbursement of its fees and expenses shall be subordinated to cash replenishment of the Initial Subaccount, and, subject to the second succeeding sentence, its right to reimbursement for claims or draws shall be on a parity with the cash replenishment of the Initial Subaccount. The reserve fund credit instrument shall provide for a revolving feature under which the amount available thereunder will be reinstated to the extent of any reimbursement of draws or claims paid. If the revolving feature is suspended or terminated for any reason, the right of the issuer of the reserve fund credit instrument to reimbursement will be further subordinated to cash replenishment of the Initial Subaccount to an amount equal to the difference between the full original amount available under the reserve fund credit instrument and the amount then available for further draws or claims. If (i) the issuer of a reserve fund credit instrument becomes insolvent or (ii) the issuer of a reserve fund credit instrument defaults in its payment obligations thereunder or (iii) the claims-paying ability of the issuer of the insurance policy or surety bond falls below "AA-" or "Aa3" by any two of S&P, Moody's or Fitch or (iv) the rating of the issuer of the letter of credit falls below "AA-" or "Aa3" by any two of S&P, Moody's or Fitch, the obligation to reimburse the issuer of the reserve fund credit instrument shall be subordinate to the cash replenishment of the Initial Subaccount.

(f) If (i) the revolving reinstatement feature described in the preceding clause (e) is suspended or terminated or (ii) the rating of the claims paying ability of the issuer of the surety bond or insurance policy falls below "AA-" or Aa3" by any two of S&P, Moody's or Fitch or (iii) the rating of the issuer of the letter of credit falls below "AA-" or Aa3" by any two of S&P, Moody's or Fitch, JEA shall either (X) deposit into the Initial Subaccount an amount sufficient to cause the cash or Investment Securities on deposit in the Initial Subaccount to equal the Debt Service Reserve Requirement for the Initial Subaccount, such amount to be paid over the ensuing five years in equal installments deposited at least semi-annually or (Y) replace such instrument with a surety bond, insurance policy or letter of credit meeting the requirements in any of clauses (a) or (b) above within six months of such occurrence. In the event (1) the rating of the claims-paying ability of the issuer of the surety bond or insurance policy falls below "A-" or "A3" by any two of S&P, Moody's or Fitch or (2) the rating of the issuer of the letter of credit falls below "A-" or "A3" by any two of S&P, Moody's or Fitch or (3) the issuer of the reserve fund credit instrument defaults in its payment obligations or (4) the issuer of the reserve fund credit instrument becomes insolvent, JEA shall either (X) deposit into the Initial Subaccount an amount sufficient to cause the cash or Investment Securities on deposit in the Initial Subaccount to equal to Debt Service Reserve Requirement for the Initial Subaccount, such amount to be paid over the ensuing year in equal installments on at least a monthly basis or (Y) replace such instrument with a surety bond, insurance policy or letter of credit meeting the requirements in any of clauses (a) through (b) above within six months of such occurrence.

(g) Where applicable, the amount available for draws or claims under the reserve fund credit instrument may be reduced by the amount of cash or value of Investment Securities deposited in the Initial Subaccount pursuant to clause (X) of the final sentence of the preceding clause (f).

(h) In the event that a reserve fund credit instrument shall be deposited into the Initial Subaccount as aforesaid, any amounts owed by JEA to the issuer of such reserve fund credit instrument as a result of a draw thereon or a claim thereunder, as appropriate, shall be included in any calculation of debt service requirements required to be made pursuant to the Resolution for purposes of clause (7) of subsection 1 of Section 203 and subsection 1 of Section 711 of the Resolution.

(i) The beneficiary of any reserve fund credit instrument shall ascertain the necessity for a claim or draw upon such reserve fund credit instrument and provide notice to the issuer of the reserve fund credit instrument in accordance with its terms not later than three days (or such longer period as may be necessary depending on the permitted time period for honoring a draw under the reserve fund credit instrument) prior to each interest payment date for the Bonds of any Initial Subaccount Additionally Secured Series.

(j) Cash on deposit in the Initial Subaccount shall be used (or investments purchased with such cash shall be liquidated and the proceeds applied as required) prior to any drawing on any reserve fund credit instrument. If and to the extent that more than one reserve fund credit instrument is deposited in the Initial Subaccount, drawings thereunder and repayments of costs associated therewith shall be made on a pro rata basis, calculated by reference to the maximum amounts available thereunder.

On January 4, 2001, simultaneously with the issuance of JEA's Water and Sewer System Revenue Bonds, 2001 Series A, JEA caused FGIC to issue its Municipal Bond Debt Service Reserve Fund Policy (the "Initial FGIC Reserve Policy") for deposit to the credit of the Initial Subaccount in the Debt Service Reserve Account. The Initial FGIC Reserve Policy is in a maximum amount of $37,126,447.50, is non-cancellable, terminates on October 1, 2039 and satisfied the requirements with respect to a reserve fund credit instrument contained in the Water and Sewer System Resolution (including the First Supplemental Resolution) at the time of its deposit to the Initial Subaccount.

On April 11, 2002, simultaneously with the issuance of JEA's Water and Sewer System Revenue Bonds, 2002 Series A, JEA caused FGIC to issue an additional Municipal Bond Debt Service Reserve Fund Policy (the "Second FGIC Reserve Policy") for deposit to the credit of the Initial Subaccount in the Debt Service Reserve Account. The Second FGIC Reserve Policy is in a maximum amount of $8,503,298.05, is non-cancellable, terminates on October 1, 2041 and satisfied the requirements with respect to a reserve fund credit instrument contained in the Water and Sewer System Resolution (including the First Supplemental Resolution) at the time of its deposit to the Initial Subaccount.

On October 24, 2002, simultaneously with the issuance of JEA's Water and Sewer System Revenue Bonds, 2002 Series C, JEA caused FGIC to issue an additional Municipal Bond Debt Service Reserve Fund Policy (the "Third FGIC Reserve Policy") for deposit to the credit of the Initial Subaccount in the Debt Service Reserve Account. The Third FGIC Reserve Policy is in a maximum amount of $9,531,724.90, is non-cancellable, terminates on October 1, 2041 and satisfied the requirements with respect to a reserve fund credit instrument contained in the Water and Sewer System Resolution (including the First Supplemental Resolution) at the time of its deposit to the Initial Subaccount.

Because of a rating downgrade of FGIC, JEA funded the Initial Subaccount with cash and the Berkshire Reserve Policy (hereinafter defined) in the amount of the Initial FGIC Reserve Policy, the Second FGIC Reserve Policy and the Third FGIC Reserve Policy (collectively, the "FGIC Reserve Policies") thereby fulfilling the requirements of the First Supplemental Resolution with regard to the FGIC Reserve Policies.

On November 21, 2003, simultaneously with the issuance of JEA's Variable Rate Water and Sewer System Revenue Bonds, 2003 Series C (the "2003 Series C Bonds"), JEA caused XL Capital Assurance Inc. ("XLCA") to issue a debt service reserve insurance policy (the "Initial XLCA Reserve Policy") for deposit to the credit of a separate subaccount created in the Debt Service Reserve Account. The Initial XLCA Reserve Policy is in a maximum amount of $3,750,000.00, is non-cancelable, terminates on October 1, 2038 and satisfied the requirements with respect to a reserve fund credit instrument contained in the Water and Sewer System Resolution (including the First Supplemental Resolution) at the time of its deposit to the Initial Subaccount. On April 8, 2004, simultaneously with the issuance of JEA's Water and Sewer System Revenue Bonds, 2004 Series A and B, JEA redeemed the 2003 Series C Bonds, and the Initial XLCA Reserve Policy was reissued by XLCA and deposited by JEA into the Initial Subaccount.

On September 22, 2004, simultaneously with the issuance of JEA's Water and Sewer System Revenue Bonds, 2004 Series C, JEA caused Assured Guaranty Municipal Corp., previously known as Financial Security Assurance Inc. ("FSA") to issue its Debt Service Reserve Insurance Policy (the "Initial FSA Reserve Policy") for deposit to the credit of the Initial Subaccount in the Debt Service Reserve Account. The Initial FSA Reserve Policy is in a maximum amount of $3,702,459.05, is non-cancelable, terminates on October 1, 2039 and satisfied the requirements with respect to a reserve fund credit instrument contained in the Water and Sewer System Resolution (including the First Supplemental Resolution) at the time of its deposit to the Initial Subaccount.

On March 24, 2005, simultaneously with the issuance of JEA's Water and Sewer System Revenue Bonds, 2005 Series A (the "2005 Series A Bonds"), JEA caused MBIA Insurance Corporation ("MBIA") to issue its Debt Service Reserve Surety Bond (the "Initial MBIA Surety Bond") for deposit to the credit of the Initial Subaccount in the Debt Service Reserve Account. The Initial MBIA Surety Bond is in a maximum amount of $9,003,471.86, is non-cancelable, terminates on October 1, 2041 (or the date on which JEA has made all payments required to be made on the Initial Subaccount Additionally Secured Bonds pursuant to the Water and Sewer System Resolution) and satisfied the requirements with respect to a reserve fund credit instrument contained in the Water and Sewer System Resolution (including the First Supplemental Resolution) at the time of its deposit to the Initial Subaccount.

On June 6, 2005, JEA caused MBIA to issue an additional Debt Service Reserve Surety Bond (the "Second MBIA Surety Bond") for deposit to the credit of the Initial Subaccount in the Debt Service Reserve Account. The Second MBIA Surety Bond is in a maximum amount of $13,719,213.54, is non-cancelable, terminates on October 1, 2041 (or the date on which JEA has made all payments required to be made on the Initial Subaccount Additionally Secured Bonds pursuant to the Water and Sewer System Resolution) and satisfied the requirements with respect to a reserve fund credit instrument contained in the Water and Sewer System Resolution (including the First Supplemental Resolution) at the time of its deposit to the Initial Subaccount.

On May 25, 2006, simultaneously with the issuance of JEA's Water and Sewer System Revenue Bonds, 2006 Series A (the "2006 Series A Bonds"), JEA caused MBIA to issue an additional Debt Service Reserve Surety Bond (the "Third MBIA Surety Bond") for deposit to the credit of the Initial Subaccount in the Debt Service Reserve Account. The Third MBIA Surety Bond is in a maximum amount of $2,375,403.75, is non-cancelable, terminates on October 1, 2041 (or upon the earlier retirement of all of the 2006 Series A Bonds) and satisfied the requirements with respect to a reserve fund credit instrument contained in the Water and Sewer System Resolution (including the First Supplemental Resolution) at the time of its deposit to the Initial Subaccount.

Effective as of January 1, 2009, MBIA Inc., parent company of MBIA, restructured MBIA; such restructuring involved the reinsurance and assignment of MBIA's obligations under the Initial MBIA Surety Bond, the Second MBIA Surety Bond and the Third MBIA Surety Bond (collectively, the "MBIA Surety Bonds") to National Public Finance Guarantee Corporation ("NPFGC") which is a subsidiary of MBIA Inc. Because of a rating downgrade of MBIA, JEA has made deposits to the Initial Subaccount in the amount of the MBIA Surety Bonds.

On March 8, 2007, simultaneously with the issuance of JEA's Variable Rate Water and Sewer System Revenue Bonds, 2007 Series A (the "2007 Series A Bonds"), JEA caused XLCA to issue a debt service reserve insurance policy (the "Second XLCA Reserve Policy") for deposit to the credit of the Initial Subaccount in the Debt Service Reserve Account. The Second XLCA Reserve Policy is in a maximum amount of $5,275,233.64, is non-cancelable, terminates on October 1, 2041 and satisfied the requirements with respect to a reserve fund credit instrument contained in the Water and Sewer System Resolution (including the First Supplemental Resolution) at the time of its deposit to the Initial Subaccount.

Because of a rating downgrade of XLCA, JEA has made deposits to the Initial Subaccount in the amount of the Initial XLCA Reserve Policy and the Second XLCA Reserve Policy.

On July 26, 2007, simultaneously with the issuance of JEA's Water and Sewer System Revenue Bonds, 2007 Series C (the "2007 Series C Bonds"), JEA caused FSA to issue its Debt Service Reserve Insurance Policy (the "Second FSA Reserve Policy") for deposit to the credit of the Initial Subaccount in the Debt Service Reserve Account. The Second FSA Reserve Policy is in a maximum amount of $468,627.91, is non-cancelable, terminates on October 1, 2037 and satisfied the requirements with respect to a reserve fund credit instrument contained in the Water and Sewer System Resolution (including the First Supplemental Resolution) at the time of its deposit to the Initial Subaccount.

On February 7, 2008, simultaneously with the issuance of JEA's Variable Rate Water and Sewer System Revenue Bonds, 2008 Series A (the "2008 Series A Bonds"), JEA caused FSA to issue its Debt Service Reserve Insurance Policy (the "Third FSA Reserve Policy") for deposit to the credit of the Initial Subaccount in the Debt Service Reserve Account. The Third FSA Reserve Policy is in a maximum amount of $15,000,000.00, is non-cancelable, terminates on October 1, 2042 (or upon the earlier retirement of all of the 2008 Series A Bonds) and satisfied the requirements with respect to a reserve fund credit instrument contained in the Water and Sewer System Resolution (including the First Supplemental Resolution) at the time of its deposit to the Initial Subaccount.

The forms of the Initial FSA Reserve Policy, the Second FSA Reserve Policy and the Third FSA Reserve Policy (collectively, the "FSA Reserve Policies") are substantially identical, and a specimen thereof is attached to this APPENDIX B as Attachment 1. Because of a rating downgrade of FSA, JEA has made deposits to the Initial Subaccount equal to the aggregate amount of the FSA Reserve Policies.

On August 11, 2008, JEA caused Berkshire Hathaway Assurance Corporation ("Berkshire") to issue its Debt Service Reserve Fund Financial Guaranty Insurance Policy (the "Berkshire Reserve Policy") for deposit to the credit of the Initial Subaccount in the Debt Service Reserve Account. The Berkshire Reserve Policy is in a maximum amount of $33,000,000.00, is non-cancelable, terminates on October 1, 2038 and otherwise satisfies the requirements with respect to a reserve fund credit instrument contained in the Water and Sewer System Resolution (including the First Supplemental Resolution). The form of the Berkshire Reserve Policy is attached hereto to this APPENDIX B as Attachment 2. Because of a rating downgrade of Berkshire, JEA made deposits to the Initial Subaccount equal to the amount of the Berkshire Reserve Policy.

On October 2, 2018, JEA transferred $33,000,000 from the Initial Subaccount to the Construction Fund. JEA was able to make such a transfer as a result of Resolution Amendments contained in Resolution 2013-10 that lowered the minimum ratings requirement for the provider of a reserve fund credit instrument that is a surety bond or insurance policy to fund the Initial Subaccount. Upon the effectiveness of such amendments, the Berkshire Reserve Policy may be counted as satisfying the Debt Service Reserve Requirement.

Investment of Funds and Accounts

The Water and Sewer System Resolution provides that moneys held in the Funds and Accounts established thereunder may be invested and reinvested in Investment Securities which will provide moneys when needed for payments from such Funds and Accounts. Investment Securities are to be valued as of September 30 in each year, at the amortized cost thereof. In the event that JEA causes to be deposited in any separate subaccount in the Debt Service Reserve Account an irrevocable surety bond, an insurance policy, a letter of credit or any other similar obligation, such surety bond, insurance policy, letter of credit or other obligation shall be valued at the lesser of the face amount thereof or the maximum amount available thereunder.

Interest (net of that which represents a return of accrued interest paid in connection with the purchase of any investment) earned on any moneys or investments in such Funds and Accounts, other than the Construction Fund, shall be paid into the Revenue Fund. Interest earned on any moneys or investments in the Construction Fund shall be held in such Fund for the purposes thereof or, upon written determination of an Authorized Officer of JEA, paid into the Revenue Fund.

Additional Water and Sewer System Bonds

JEA may issue one or more series of additional Water and Sewer System Bonds for the purposes of (a) paying or providing for the payment of the Costs of the Water and Sewer System and (b) refunding any Water and Sewer System Bonds. All such Water and Sewer System Bonds will be payable from the Trust Estate pledged pursuant to the Water and Sewer System Resolution and secured thereby on a parity with all other Water and Sewer System Bonds. In addition, each series of Water and Sewer System Bonds may be additionally secured by amounts on deposit in a separate subaccount in the Debt Service Reserve Account in the Debt Service Fund established under the Water and Sewer System Resolution (which may be the Initial Subaccount therein). Set forth below are certain conditions applicable to the issuance of additional Water and Sewer System Bonds:

Certificates of Authorized Officer of JEA. The issuance of each series of additional Water and Sewer System Bonds (other than Water and Sewer System Refunding Bonds and Reimbursement Obligations) is conditioned upon the filing with JEA of a certificate of an Authorized Officer of JEA: (1) setting forth the amounts of Net Revenues and Capacity Charges for any 12 consecutive month period within the 24 consecutive months immediately preceding the date of issuance of the additional Water and Sewer System Bonds of the series with respect to which such certificate is being given; and (2) stating that the difference between such Net Revenues and such Capacity Charges for such 12 consecutive month period is at least equal to the greater of (X) 125 percent of the Maximum Annual Aggregate Adjusted Water and Sewer System Debt Service (calculating such Maximum Annual Aggregate Adjusted Water and Sewer System Debt Service with respect to the Water and Sewer System Bonds of all series then Outstanding and the additional Water and Sewer System Bonds of the series with respect to which such certificate is given) or (Y) the sum of (i) the Maximum Annual Aggregate Adjusted Water and Sewer System Debt Service (calculated as aforesaid) and (ii) the amount most recently determined to be required to be deposited in the Renewal and Replacement Fund for the then current, or a previous, Fiscal Year; *provided*, *however*, that the Net Revenues for such 12 month period may be adjusted for the purposes of such certificate (a) to reflect for such period revisions in the rates, fees, rentals and other charges of JEA for the product and services of the Water and Sewer System made after the commencement of such period and preceding the date of issuance of such additional Water and Sewer System Bonds; (b) to reflect any increase in Net Revenues due to any new facilities of the Water and Sewer System having been placed into use and operation subsequent to the commencement of such period and prior to the date of issuance of such additional Water and Sewer System Bonds; and (c) to include an amount equal to the average annual contribution to Net Revenues for the first three full Fiscal Years commencing after the date of acquisition thereof, estimated to be made by facilities anticipated to be acquired and expected to be placed into use and operation within two years of the date of such certificate.

Debt Service Reserve. If, at JEA's option, any series of additional Water and Sewer System Bonds is to be additionally secured by amounts on deposit in the Initial Subaccount in the Debt Service Reserve Account in the Debt Service Fund established under the Water and Sewer System Resolution, the issuance of the additional Water and Sewer System Bonds of such series is further conditioned upon the deposit to the Initial Subaccount of moneys or reserve fund credit instruments, or a combination thereof, in an amount such that the balance in such Subaccount equals the Debt Service Reserve Requirement for such Subaccount calculated immediately after the delivery of such Water and Sewer System Bonds**.**

No Default. In addition, Water and Sewer System Bonds of any series other than Water and Sewer System Refunding Bonds may be issued only if JEA certifies that upon the issuance of such series JEA will not be in default in the performance of any of the covenants, conditions, agreements or provisions contained in the Water and Sewer System Resolution.

Subordinated Indebtedness

JEA may issue Subordinated Indebtedness for any lawful purpose of JEA related to the System, which Subordinated Indebtedness shall be payable out of, and may be secured by a pledge of, such amounts in the Subordinated Indebtedness Fund as may from time to time be available therefor; *provided*, *however*, that any such pledge will be subordinate in all respects to the pledge of the Trust Estate created by the Water and Sewer System Resolution as security for the Water and Sewer System Bonds.

Issuance of Other Indebtedness

The Water and Sewer System Resolution does not restrict the issuance by JEA of other indebtedness to finance facilities which are not a part of the System *provided* that such indebtedness shall not be payable out of or secured by the Revenues or any Fund or Account held under the Water and Sewer System Resolution and neither the cost of such facilities nor any expenditure in connection therewith or with the financing thereof shall be payable from the Revenues or from any such Fund or Account.

Redemption

In the case of any redemption of Water and Sewer System Bonds, JEA shall give written notice to the Bond Registrar(s) therefor and the Paying Agents of the redemption date, of the Series, and of the principal amounts of the Water and Sewer System Bonds of each maturity of such Series and of the Water and Sewer System Bonds of each interest rate within a maturity to be redeemed (which Series, maturities, interest rates within a maturity and principal amounts thereof to be redeemed shall be determined by JEA in its sole discretion, subject to any limitations with respect thereto contained in the Water and Sewer System Resolution or any Supplemental Resolution authorizing the Series of which such Water and Sewer System Bonds are a part). Such notice shall be filed with such Bond Registrars and the Paying Agents for the Water and Sewer System Bonds to be redeemed at least 40 days prior to the redemption date (or such shorter period (a) as shall be specified in the Supplemental Resolution authorizing the Series of the Water and Sewer System Bonds to be redeemed or (b) as shall be acceptable to such Bond Registrars and Paying Agents). In the event notice of redemption shall have been given, and unless such notice shall have been revoked or shall cease to be in effect in accordance with the terms thereof, there shall be paid on or prior to the redemption date to the appropriate Paying Agents an amount which, in addition to other moneys, if any, available therefor held by such Paying Agents, will be sufficient to redeem on the redemption date at the Redemption Price thereof, plus interest accrued and unpaid to the redemption date, all of the Water and Sewer System Bonds to be redeemed.

Covenant as to Rates, Fees and Other Charges

Under the Water and Sewer System Resolution, JEA has covenanted that it will at all times fix, establish, maintain, charge and collect rates, fees and charges for the use or the sale of the output, capacity or service of the System which shall be sufficient to provide an amount at least equal to the difference between (a) Net Revenues in each Bond Year and (b) Capacity Charges in such Bond Year which shall be the greater of (i) 125 percent of the Aggregate Debt Service for such Bond Year; *provided*, *however*, that any Principal Installment which is a Refundable Principal Installment may be excluded from Aggregate Debt Service for purposes of the foregoing but only to the extent that JEA intends to pay such Principal Installment from sources other than Revenues, and (ii) the amount which, together with other available funds, shall be sufficient for the payment of: (a) the amount to be paid during such Bond Year into the Debt Service Account (other than amounts required to be paid into such Account out of the proceeds of Water and Sewer System Bonds, Subordinated Indebtedness or other evidences of indebtedness of JEA); (b) the amount, if any, to be paid during such Bond Year into each separate subaccount in the Debt Service Reserve Account (other than amounts required to be paid into any such subaccount out of the proceeds of Water and Sewer System Bonds, Subordinated Indebtedness or other evidences of indebtedness of JEA); (c) the amount, if any, to be paid during such Bond Year into the Subordinated Indebtedness Fund (other than amounts required to be paid into such Fund out of the proceeds of Water and Sewer System Bonds, Subordinated Indebtedness or other evidences of indebtedness of JEA); (d) the amount, if any, to be paid during such Bond Year into the Renewal and Replacement Fund (other than amounts required to be paid into such Fund out of the proceeds of Water and Sewer System Bonds, Subordinated Indebtedness or other evidences of indebtedness of JEA); and (e) all other charges and liens whatsoever payable out of Revenues during such Bond Year. Nothing in the preceding sentence shall be deemed to prevent or preclude JEA, for purposes of financial reporting, from preparing and disseminating schedules of debt service coverage based upon Net Revenues without deduction therefrom of Capacity Charges, nor shall anything in the preceding sentence be deemed to require JEA, for purposes of financial reporting, to prepare schedules of debt service coverage based upon the difference between Net Revenues and Capacity Charges.

Certain Other Covenants

Creation of Liens. JEA shall not issue any bonds, notes, debentures or other evidences of indebtedness of similar nature, other than the Water and Sewer System Bonds, payable out of or secured by a security interest in or pledge of the Trust Estate, any separate subaccount in the Debt Service Reserve Account or other moneys, securities or funds held or set aside by JEA or by the Fiduciaries under the Water and Sewer System Resolution and shall not create or cause to be created any lien or charge on the Trust Estate, any separate subaccount in the Debt Service Reserve Account or such moneys, securities or funds; *provided*, *however*, that nothing contained in the Water and Sewer System Resolution shall prevent JEA from issuing, if and to the extent permitted by law, (a) Bond Anticipation Notes or other evidences of indebtedness payable out of, and which may be secured by a pledge of (i) the proceeds of sale of Water and Sewer System Bonds or investment income therefrom, or (ii) amounts in the Construction Fund derived from the proceeds of sale of said Bond Anticipation Notes or investment income therefrom as may from time to time be available for payment of such Bond Anticipation Notes or other evidences of indebtedness (including redemption premiums, if any, and interest thereon) as part of the Costs of the System, or (iii) Revenues to be derived on and after such date as the pledge of the Revenues provided in the Water and Sewer System Resolution shall be discharged and satisfied as provided in the Water and Sewer System Resolution, or (b) Subordinated Indebtedness.

Disposition of the System. Except as described in this paragraph, JEA may not sell, lease, mortgage or otherwise dispose of any part of the System. JEA may sell or exchange at any time and from time to time any property or facilities constituting part of the System only if (i) JEA shall determine that such property or facilities are not needed or useful in the operation of the System, or (ii) the net book value of the property or facilities sold or exchanged is not more than five percent of the net book value of the property and facilities of the System, or (iii) there shall be filed with the records of JEA a certificate of the Consulting Engineer stating, in its opinion, that the sale or exchange of such property or facilities will not materially impair the ability of JEA to comply during the current or any future Fiscal Year with the rate covenant described under "Covenant as to Rates, Fees and Other Charges" above. The proceeds of any sale or exchange of any property or facilities constituting a part of the System not used to acquire other property necessary or desirable for the safe or efficient operation of the System shall be deposited in the Revenue Fund; *provided*, *however*, that the amount of any such deposit to the Revenue Fund shall not constitute or be deemed to constitute Revenues for any purpose of the Water and Sewer System Resolution. In addition to any agreement in effect as of the date on which JEA assumes ownership of the System to which JEA and/or the City is a party relating to the ownership or operation of any part of the System or the use of the output thereof, JEA also may lease or make contracts or grant licenses for the operation of, or make arrangements for the use of, or grant easements or other rights with respect to, any part of the System; *provided* that any such lease, contract, license, arrangement, easement or right (i) does not impede the operation by JEA or its agents of the System and (ii) does not materially adversely affect the rights or security of the Holders of the Water and Sewer System Bonds under the Water and Sewer System Resolution. Any payments received by JEA under or in connection with any such lease, contract, license, arrangement, easement or right in respect of the System shall constitute Revenues. JEA also may enter into certain sale-leaseback and lease-leaseback transactions if certain conditions set forth in the Water and Sewer System Resolution are satisfied. The proceeds of any such transaction not used to acquire other property necessary or desirable for the safe or efficient operation of the System shall be deposited in the Revenue Fund; *provided*, *however*, that the amount of any such deposit to the Revenue Fund shall not constitute or be deemed to constitute Revenues for any purpose of the Water and Sewer System Resolution. JEA may permanently discontinue the acquisition or construction of any portion of the System as described in the final paragraph under "Construction Fund" above.

Insurance. JEA shall at all times keep or cause to be kept the properties of the System which are of an insurable nature and of the character usually insured by those operating properties similar to such properties of the System insured against loss or damage by fire and from other causes customarily insured against and in such relative amounts as are usually obtained. JEA shall at all times maintain or cause to be maintained insurance or reserves against loss or damage from such hazards and risks to the person and property of others as are usually insured or reserved against by those operating properties similar to the properties of the System.

Reconstruction of the System; Application of Insurance Proceeds; Condemnation Awards. If any useful portion of the System shall be damaged or destroyed or taken by any governmental authority under the power of eminent domain or otherwise ("Condemnation"), JEA shall, as expeditiously as possible, continuously and diligently prosecute or cause to be prosecuted the reconstruction or replacement thereof, unless there shall be filed with the records of JEA a certificate of an Authorized Officer of JEA setting forth a determination by JEA that, taking into account all relevant facts and circumstances, including, if and to the extent JEA deems appropriate, the advice of the Consulting Engineer as to engineering matters, its attorneys as to legal matters and other consultants and advisors, such reconstruction or replacement is not in the interest of JEA and the Holders of the Water and Sewer System Bonds. Except as provided in the Water and Sewer System Resolution, the proceeds of any insurance paid or award received on account of such damage, destruction (other than any business interruption loss insurance or insurance proceeds deposited in the Construction Fund pursuant to the Water and Sewer System

Resolution) or Condemnation shall be held by JEA in a special account and made available for, and to the extent necessary be applied to, the cost of such reconstruction or replacement.

Additional Utility Functions. JEA may expand the utility functions of the System as they exist as of the date on which JEA assumes the ownership thereof as permitted in the definition of "System" only if JEA files with the books and records of JEA a certified copy of resolutions of the JEA Board to the effect that the addition of such utility functions (a) will not impair the ability of JEA to comply during the current or any future Fiscal Year with the provisions of the Water and Sewer System Resolution, including specifically the rate covenant described under "Covenant as to Rates, Fees and Other Charges" above and (b) will not materially adversely affect the rights of the Holders of the Water and Sewer System Bonds. In making the determinations to be set forth in such resolutions, the JEA Board may rely upon such certificates and opinions of its Consulting Engineer, independent certified public accountants, bond counsel, financial advisors or other appropriate advisors as the JEA Board shall deem necessary or appropriate.

Amendment of Water and Sewer System Resolution

The Water and Sewer System Resolution and the rights and obligations of JEA and of the Holders of the Water and Sewer System Bonds may be amended by a Supplemental Resolution with the written consent (i) of the Holders of not less than a majority in principal amount of the Water and Sewer System Bonds affected by such modification or amendment and (ii) in case the modification or amendment changes the terms of any Sinking Fund Installment, of the Holders of not less than a majority in principal amount of the Water and Sewer System Bonds of the particular Series and maturity entitled to such Sinking Fund Installment. No such modification or amendment may (A) permit a change in the terms of redemption or maturity of the principal of any Water and Sewer System Bond or any installment of interest or a reduction in the principal, Redemption Price or rate of interest thereon without consent of each affected Holder, or (B) reduce the percentages or otherwise affect the classes of Water and Sewer System Bonds the consent of the Holders of which is required to effect any such modification or amendment. For purposes of the foregoing, (a) a change in the terms of redemption of any Water and Sewer System Bond shall be deemed only to affect such Bond and (b) the Holders of Water and Sewer System Bonds may include the initial Holders thereof, regardless of whether such Water and Sewer System Bonds are being held for resale. The Water and Sewer System Resolution provides that, if not in default in respect of any of its obligations with respect to Credit Enhancement for Water and Sewer System Bonds of a Series, or a maturity within a Series, the Credit Enhancer for, and not the actual Holders of, Water and Sewer System Bonds of a Series, or a maturity within a Series, for which such Credit Enhancement is being provided will be deemed to be the Holder of such Water and Sewer System Bonds of any Series, or a maturity within a Series, at all times for the purpose of giving any approval or consent to the effectiveness of any Supplemental Resolution or any amendment, change or modification of the Water and Sewer System Resolution which requires the written approval or consent of Holders, except that the foregoing provisions will not apply to any change in the terms of redemption or maturity of the principal of any Outstanding Water and Sewer System Bond or of any installment of interest thereon or a reduction in the principal amount or the Redemption Price thereof or in the rate of interest thereon, or shall reduce the percentages or otherwise affect the classes of Water and Sewer System Bonds the consent of the Holders of which is required to effect any such modification or amendment, or shall change or modify any of the rights or obligations of any Fiduciary without its written assent thereto. See "Action by Credit Enhancer When Action by Holders of Water and Sewer System Bonds Required" herein.

The Supplemental Resolutions authorizing JEA's Variable Rate Water and Sewer System Revenue Bonds, 2008 Series A-2 and 2008 Series B (collectively, the "Prior Series Variable Rate Water and Sewer System Bonds") provide that in the event that JEA shall adopt any Supplemental Resolution making any amendment to the Water and Sewer System Resolution for which the consent of the Holders of the Prior Series Variable Rate Water and Sewer System Bonds of a particular Series shall be required (hereinafter in this paragraph referred to as an "Amending Resolution"), an authorized officer of JEA may deliver to the Tender Agent for the Prior Series Variable Rate Water and Sewer System Bonds of such Series a certificate requiring that the Prior Series Variable Rate Water and Sewer System Bonds of such Series be subject to mandatory tender for purchase at the time and in the manner provided in said Supplemental Resolutions. Following the date on which such mandatory tender shall occur, all subsequent Holders of the Prior Series Variable Rate Water and Sewer System Bonds of such Series shall be deemed to have consented to such Amending Resolution, notwithstanding anything to the contrary contained in the Water and Sewer System Resolution. JEA intends to include this provision in each Supplemental Resolution it may adopt in the future authorizing the issuance of any Series of additional Water and Sewer System Variable Rate Bonds.

The Water and Sewer System Resolution also may be amended, upon the delivery of a Counsel's Opinion to the effect that the provisions of such amendment will not have a material adverse effect on the interests of the Holders of Outstanding Water and Sewer System Bonds, but without the consent of Holders of Water and Sewer System Bonds, (i) to cure any ambiguity, omission, defect or inconsistent provision in the Water and Sewer System Resolution; (ii) to insert provisions clarifying the Water and Sewer System Resolution; or (iii) to make any other modification or amendment of the Water and Sewer System Resolution which such counsel in its reasonable judgment determines will not have a material adverse effect on the interests of the Holders of the Water and Sewer System Bonds. Notwithstanding any other provision of the Water and Sewer System Resolution, in determining whether the interests of the Holders of Outstanding Water and Sewer System Bonds are materially adversely affected, such counsel shall consider the effect on the Holders of any Water and Sewer System Bonds for which Credit Enhancement has been provided without regard to such Credit Enhancement.

Without the consent of the Holders of Water and Sewer System Bonds, JEA may adopt a Supplemental Resolution which (i) closes the Water and Sewer System Resolution against, or provides additional conditions to, the issuance of Water and Sewer System Bonds or other evidences of indebtedness; (ii) adds covenants and agreements of JEA; (iii) adds limitations and restrictions to be observed by JEA; (iv) authorizes Water and Sewer System Bonds of an additional Series; (v) provides for the issuance of Water and Sewer System Bonds in coupon form payable to bearer or in uncertificated form; (vi) confirms any security interest or pledge of the Revenues or of any other moneys, securities or funds; (vii) if and to the extent authorized in a Supplemental Resolution authorizing an Additionally Secured Series of Water and Sewer System Bonds, specifies the qualifications of any provider of an obligation similar to a surety bond, insurance policy or letter of credit for deposit into the particular subaccount in the Debt Service Reserve Account securing the Water and Sewer System Bonds of such Additionally Secured Series; (viii) makes any modification which is to be effective only after all Water and Sewer System Bonds of each Series Outstanding as of the date of the adoption of such Supplemental Resolution cease to be Outstanding; and (ix) authorizes Subordinated Indebtedness.

Defeasance

The pledge of the Trust Estate and each separate subaccount in the Debt Service Reserve Account created by the Water and Sewer System Resolution and all covenants, agreements and other obligations of JEA to the Holders of Water and Sewer System Bonds will cease, terminate and become void and be discharged and satisfied whenever all Water and Sewer System Bonds and interest due or to become due thereon are paid in full. If any Water and Sewer System Bonds are paid in full, such Water and Sewer System Bonds shall cease to be entitled to any lien, benefit or security under the Water and Sewer System Resolution, and all covenants, agreements and obligations of JEA to the Holders of such Water and Sewer System Bonds will cease, terminate and become void and be discharged and satisfied. Water and Sewer System Bonds are deemed to have been paid and are not entitled to the lien, benefit and security of the Water and Sewer System Resolution whenever the following conditions (or such other conditions as may be set forth in the Supplemental Resolution authorizing such Water and Sewer System Bonds) are met: (i) in case any Water and Sewer System Bonds are to be redeemed prior to their maturity, JEA has given to the Escrow Agent therefor instructions to give notice of redemption therefor, (ii) there has been deposited with such Escrow Agent either moneys or Defeasance Securities the principal of and interest on which when due will provide moneys which, together with other moneys, if any, also deposited, will be sufficient to pay when due the principal or Redemption Price, if applicable, and interest due and to become due on such Water and Sewer System Bonds, and (iii) in the event such Water and Sewer System Bonds are not to be redeemed or paid at maturity within the next succeeding 60 days, JEA has given such Escrow Agent instructions to give a notice to the Holders of such Water and Sewer System Bonds that the above deposit has been made and that such Water and Sewer System Bonds are deemed to have been paid and stating the maturity or redemption date upon which moneys are expected to be available for the payment of the principal or Redemption Price, if applicable, on said Water and Sewer System Bonds.

Events of Default; Remedies

Events of Default under the Water and Sewer System Resolution include (i) failure to pay the principal or Redemption Price of any Water and Sewer System Bond when due (determined without giving effect to any payments made with funds provided by any Credit Enhancer pursuant to any Credit Enhancement); (ii) failure to pay any installment of interest on any Water and Sewer System Bond or the unsatisfied balance of any Sinking Fund Installment when due (determined without giving effect to any payments made with funds provided by any Credit Enhancer pursuant to any Credit Enhancement) and continuance thereof for a period of 30 days; (iii) failure by JEA to perform or observe any other covenants, agreements, or conditions contained in the Water and Sewer System Resolution or the Water and Sewer System Bonds and continuance thereof for a period of 60 days after written notice; and (iv) certain events of bankruptcy or insolvency. Upon the happening of any such Event of Default the Holders of not less than 25 percent in principal amount of the Water and Sewer System Bonds Outstanding may declare the principal of all the Water and Sewer System Bonds then Outstanding, and the interest accrued thereon, due and payable (subject to a rescission of such declaration upon the curing of such default before the Water and Sewer System Bonds have matured); *provided*, *however*, that in the event that a Supplemental Resolution authorizing Water and Sewer System Bonds for which Credit Enhancement is being provided provides that the principal of such Water and Sewer System Bonds, and the accrued interest thereon, may not be declared due and payable immediately (nor such declaration be rescinded and annulled, as provided in the Water and Sewer System Resolution) without the consent in writing of the Credit Enhancer therefor, then such Water and Sewer System Bonds, and the interest accrued thereon, shall not become due and payable immediately as aforesaid (nor may such declaration be rescinded and annulled) without such written consent, and, in that event, the remedies available to the Holders of such Water and Sewer System Bonds (or such Credit Enhancer on behalf of such Holders) shall be limited to the other remedies set forth in the Water and Sewer System Resolution.

During the continuance of an Event of Default under the Water and Sewer System Resolution, JEA is to apply all moneys, securities, funds and Revenues held or received by JEA (other than amounts on deposit in any separate subaccount in the Debt Service Reserve Account) as follows and in the following order: (i) for Operation and Maintenance Expenses and for the reasonable renewals, repairs, replacements of the System necessary in the judgment of JEA to prevent a loss of Revenues; (ii) to the interest and principal or Redemption Price due on the Water and Sewer System Bonds; and (iii) to the interest and principal or redemption price due on Subordinated Indebtedness. During the continuance of an Event of Default under the Water and Sewer System Resolution, JEA is to apply all amounts on deposit in each separate subaccount in the Debt Service Reserve Account to the interest and principal or sinking fund Redemption Price due on the Water and Sewer System Bonds of any Additionally Secured Series secured thereby.

The Water and Sewer System Resolution provides that, if not in default in respect of any of its obligations with respect to Credit Enhancement for Water and Sewer System Bonds, the Credit Enhancer for, and not the actual Holders of, Water and Sewer System Bonds for which such Credit Enhancement is being provided will be deemed to be the Holder of such Water and Sewer System Bonds at all times for the purposes of giving any approval or consent, exercising any remedies or taking any other actions in respect of the occurrence of an Event of Default. See "Action by Credit Enhancer When Action by Holders of Water and Sewer System Bonds Required" herein.

Action by Credit Enhancer When Action by Holders of Water and Sewer System Bonds Required

Except as otherwise provided in a Supplemental Resolution authorizing Water and Sewer System Bonds for which Credit Enhancement is being provided, if not in default in respect of any of its obligations with respect to Credit Enhancement for the Water and Sewer System Bonds of a Series, or a maturity within a Series, the Credit Enhancer for, and not the actual Holders of, the Water and Sewer System Bonds of a Series, or a maturity within a Series, for which such Credit Enhancement is being provided, shall be deemed to be the Holder of Water and Sewer System Bonds of any Series, or maturity within a Series, as to which it is the Credit Enhancer at all times for the purpose of (i) giving any approval or consent to the effectiveness of any Supplemental Resolution or any amendment, change or modification of the Water and Sewer System Resolution which requires the written approval or consent of Holders; *provided*, *however*, that the foregoing shall not apply to any change in the terms of redemption or maturity of the principal of any Outstanding Water and Sewer System Bond or of any installment of interest thereon or a reduction in the principal amount or the Redemption Price thereof or in the rate of interest thereon, or shall reduce the percentages or otherwise affect the classes of Water and Sewer System Bonds the consent of the Holders of which is required to effect any such modification or amendment, or shall change or modify any of the rights or obligations of any Fiduciary without its written assent thereto and (ii) giving any approval or consent, exercising any remedies or taking any other action following the occurrence of an Event of Default under the Water and Sewer System Resolution.

Special Provisions Relating to Water and Sewer System Capital Appreciation Bonds, Water and Sewer System Deferred Income Bonds and Reimbursement Obligations

The principal and interest portions of the Accreted Value of Water and Sewer System Capital Appreciation Bonds or the Appreciated Value of Water and Sewer System Deferred Income Bonds becoming due at maturity or by virtue of a Sinking Fund Installment shall be included in the calculations of accrued and unpaid and accruing interest or Principal Installments made under the definitions of Debt Service, Accrued Aggregate Debt Service, Adjusted Aggregate Debt Service and Aggregate Debt Service only from and after the date (the "Calculation Date") which is one year prior to the date on which such Accreted Value or Appreciated Value, as the case may be, becomes so due, and the principal and interest portions of such Accreted Value or Appreciated Value shall be deemed to accrue in equal daily installments from the Calculation Date to such due date.

For the purposes of (i) receiving payment of the Redemption Price if a Water and Sewer System Capital Appreciation Bond is redeemed prior to maturity, or (ii) receiving payment of a Water and Sewer System Capital Appreciation Bond if the principal of all Water and Sewer System Bonds is declared immediately due and payable following an Event of Default or (iii) computing the principal amount of Water and Sewer System Bonds held by the Holder of a Water and Sewer System Capital Appreciation Bond in giving to JEA any notice, consent, request, or demand pursuant to the Water and Sewer System Resolution for any purpose whatsoever, the principal amount of a Water and Sewer System Capital Appreciation Bond shall be deemed to be its then current Accreted Value.

For the purposes of (i) receiving payment of the Redemption Price if a Water and Sewer System Deferred Income Bond is redeemed prior to maturity, or (ii) receiving payment of a Water and Sewer System Deferred Income Bond if the principal of all Water and Sewer System Bonds is declared immediately due and payable following an Event of Default or (iii) computing the principal amount of Water and Sewer System Bonds held by the Holder of a Water and Sewer System Deferred Income Bond in giving to JEA any notice, consent, request, or demand pursuant to the Water and Sewer System Resolution for any purpose whatsoever, the principal amount of a Water and Sewer System Deferred Income Bond shall be deemed to be its then current Appreciated Value.

Except as otherwise provided in a Supplemental Resolution authorizing a Series of Reimbursement Obligations, for the purposes of (i) receiving payment of a Reimbursement Obligation, whether at maturity, upon redemption or if the principal of all Water and Sewer System Bonds is declared immediately due and payable following an Event of Default or (ii) computing the principal amount of Water and Sewer System Bonds held by the Holder of a Reimbursement Obligation in giving to JEA any notice, consent, request, or demand pursuant to the Water and Sewer System Resolution for any purpose whatsoever, the principal amount of a Reimbursement Obligation shall be deemed to be the actual principal amount that JEA shall owe thereon, which shall equal the aggregate of the amounts advanced to, or on behalf of, JEA in connection with the Water and Sewer System Bonds of the Series or maturity or interest rate within a maturity for which such Reimbursement Obligation has been issued to evidence JEA's obligation to repay any advances or loans made in respect of the Credit Enhancement or liquidity support provided for such Water and Sewer System Bonds, less any prior repayments thereof.

Recent Amendments to the Water and Sewer System Resolution

In June 2013, JEA adopted Resolution 2013-10 which, upon the consent thereto of the holders of a majority in principal amount of Water and Sewer System Bonds Outstanding, provides for the amendment of certain provisions of the Water and Sewer System Resolution and the First Supplemental Resolution.

The amendments have become effective, and:

(a) Revise certain definitions in order to allow for the more efficient and advantageous investment of certain funds held under the Water and Sewer System Resolution; and

(b) Revise certain provisions of the First Supplemental Resolution related to the use of a reserve fund credit instrument (as defined therein) to fund the Initial Subaccount in the Debt Service Reserve Account established thereby.

See the following definitions under "Definition of Terms" hereunder: Defeasance Securities, Defeased Municipal Obligations, Federal Agency Securities, Investment Securities, U.S. Obligations, and see the summary of the provisions of the First Supplemental Resolution, as amended by the applicable portion of the Resolution Amendments, relating to the deposit of reserve fund credit instruments to the Initial Subaccount under "Debt Service Reserve Account" hereunder.

Also see "FINANCIAL INFORMATION RELATING TO WATER AND SEWER SYSTEM – Debt Relating to Water and Sewer System – Recent Amendments to the Water and Sewer System Resolution" in the Annual Disclosure Report to which this summary is attached for a discussion regarding the recent amendments.

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Attachment 1

FINANCIAL SECURITY ASSURANCE®

MUNICIPAL BOND DEBT SERVICE RESERVE INSURANCE POLICY

ISSUER: JEA, Florida

Policy No.: 203510-R

BONDS: Water and Sewer System Revenue Bonds, 2004 Series C and other Additionally Secured Bonds secured by amounts on deposit in the Initial Subaccount in the Debt Service Reserve Account in the Debt Service Reserve Fund

Effective Date: September 22, 2004

Premium: $

FINANCIAL SECURITY ASSURANCE INC. ("Financial Security"), for consideration received, hereby UNCONDITIONALLY AND IRREVOCABLY agrees to pay to the trustee (the "Trustee") or paying agent (the "Paying Agent") as set forth in the documentation (the "Bond Document") providing for the issuance of and securing the Bonds, for the benefit of the Owners, subject only to the terms of this Policy (which includes each endorsement hereto), that portion of the principal of and interest on the Bonds that shall become Due for Payment but shall be unpaid by reason of Nonpayment by the Issuer.

Financial Security will make payment as provided in this Policy to the Trustee or Paying Agent on the later of the Business Day on which such principal and interest becomes Due for Payment or the Business Day next following the Business Day on which Financial Security shall have received Notice of Nonpayment in a form reasonably satisfactory to it. A Notice of Nonpayment will be deemed received on a given Business Day if it is received prior to 1:00 p.m. (New York time) on such Business Day; otherwise, it will be deemed received on the next Business Day. If any Notice of Nonpayment received by Financial Security is incomplete, it shall be deemed not to have been received by Financial Security for purposes of the preceding sentence and Financial Security shall promptly so advise the Trustee, Paying Agent or Issuer, as appropriate, who may submit an amended Notice of Nonpayment. Payment by Financial Security to the Trustee or Paying Agent for the benefit of the Owners shall, to the extent thereof, discharge the obligation of Financial Security under this Policy. Upon such payment, Financial Security shall become entitled to reimbursement of the amount so paid (together with interest and expenses) pursuant to the Bond Document. Upon disbursement in respect of a Bond, Financial Security shall become the owner of the Bond, any appurtenant coupon to the Bond or right to receipt of payment of principal of or interest on the Bond and shall be fully subrogated to the rights of the Owner, including the Owner's right to receive payments under the Bond and all insurance policies in respect of the Bond, to the extent of any payment by Financial Security hereunder.

The amount available under this Policy for payment shall not exceed the Policy Limit. The amount available at any particular time to be paid to the Trustee or Paying Agent under the terms of this Policy shall automatically be reduced by any payment under this Policy. However, after such payment, the amount available under this Policy shall be reinstated in full or in part, but only up to the Policy Limit, to the extent of the reimbursement of such payment (exclusive of interest and expenses) to Financial Security by or on behalf of the Issuer. Within three Business Days of such reimbursement, Financial Security shall provide the Trustee, the Paying Agent and the Issuer with notice of the reimbursement and reinstatement.

Payment under this Policy shall not be available with respect to (a) any Nonpayment that occurs prior to the Effective Date or after the Termination Date of this Policy or (b) Bonds that are not outstanding under the Bond Document. If the amount payable under this Policy is also payable under another insurance policy or surety bond insuring the Bonds, payment first shall be made under this Policy to the extent of the amount available under this Policy up to the Policy Limit. In no event shall Financial Security incur duplicate liability for the same amounts owing with respect to the Bonds that are covered under this Policy and any other insurance policy or surety bond that Financial Security has issued.

Except to the extent expressly modified by an endorsement hereto, the following terms shall have the meanings specified for all purposes of this Policy. "Business Day" means any day other than (a) a Saturday or Sunday or (b) a day on which banking institutions in the State of New York are, or the Insurer's Fiscal Agent is, authorized or required by law or executive order to remain closed. "Due for Payment" means (a) when referring to the principal of a Bond, payable on the stated maturity date thereof or the date on which the same shall have been duly called for mandatory sinking fund redemption and does not refer to any earlier date on which payment is due by reason of call for redemption (other than by mandatory sinking fund redemption), acceleration or other advancement of maturity unless Financial Security shall elect, in its sole discretion, to pay such principal due upon such acceleration together with any accrued interest to the date of acceleration and (b) when referring to interest on a Bond, payable on the stated date for payment of interest. "Nonpayment" means, in respect of a Bond, the failure of the Issuer to have provided sufficient funds to the Paying Agent for payment in full of all principal and interest that is Due for Payment on such Bond. "Nonpayment" shall also include, in respect of a Bond, any payment of principal or interest that is Due for Payment made to an Owner by or on behalf of the Issuer that has been recovered from such Owner pursuant to the United States Bankruptcy Code by a trustee in bankruptcy in accordance with a final, nonappealable order of a court having competent jurisdiction. "Notice" means telephonic or telecopied notice, subsequently confirmed in a signed writing, or written notice by registered or certified mail, from the Issuer, the Trustee or the Paying Agent to Financial Security which notice shall specify (a) the person or entity making the claim, (b) the Policy Number, (c) the claimed amount and (d) the date such claimed amount became Due for Payment. "Owner" means, in respect of a Bond, the person or entity who, at the time of Nonpayment, is entitled under the terms of such Bond to payment of principal or interest thereunder, except that "Owner" shall not include the Issuer or any person or entity whose direct or indirect obligation constitutes the underlying security for the Bonds. "Policy Limit" shall be the dollar amount of the debt service reserve fund required to be maintained for the Bonds by the Bond Document from time to time (the "Debt Service Reserve Requirement"), but in no event shall the Policy Limit exceed $3,702,459.05. The Policy Limit shall automatically and irrevocably be reduced from time to time by the amount of each reduction in the Debt Service Reserve Requirement, as provided in the Bond Document. "Termination Date" means October 1, 2039.

Financial Security may appoint a fiscal agent (the "Insurer's Fiscal Agent") for purposes of this Policy by giving written notice to the Trustee and the Paying Agent specifying the name and notice address of the Insurer's Fiscal Agent. From and after the date of receipt of such notice by the Trustee and the Paying Agent, (a) copies of all notices required to be delivered to Financial Security pursuant to this Policy shall be simultaneously delivered to the Insurer's Fiscal Agent and to Financial Security and shall not be deemed received until received by both and (b) all payments required to be made by Financial Security under this Policy may be made directly by Financial Security or by the Insurer's Fiscal Agent on behalf of Financial Security. The Insurer's Fiscal Agent is the agent of Financial Security only and the Insurer's Fiscal Agent shall in no event be liable to any Owner for any act of the Insurer's Fiscal Agent or any failure of Financial Security to deposit or cause to be deposited sufficient funds to make payments due under this Policy.

To the fullest extent permitted by applicable law, Financial Security agrees not to assert, and hereby waives, only for the benefit of each Owner, all rights (whether by counterclaim, setoff or otherwise) and defenses (including, without limitation, the defense of fraud), whether acquired by subrogation, assignment or otherwise, to the extent that such rights and defenses may be available to Financial Security to avoid payment of its obligations under this Policy in accordance with the express provisions of this Policy.

This Policy sets forth in full the undertaking of Financial Security, and shall not be modified, altered or affected by any other agreement or instrument, including any modification or amendment thereto. Except to the extent expressly modified by an endorsement hereto, (a) any premium paid in respect of this Policy is nonrefundable for any reason whatsoever, including payment, or provision being made for payment, of the Bonds prior to maturity and (b) this Policy may not be canceled or revoked. THIS POLICY IS NOT COVERED BY THE PROPERTY/CASUALTY INSURANCE SECURITY FUND SPECIFIED IN ARTICLE 76 OF THE NEW YORK INSURANCE LAW.

In witness whereof, FINANCIAL SECURITY ASSURANCE INC. has caused this Policy to be executed on its behalf by its Authorized Officer.

FINANCIAL SECURITY ASSURANCE INC.

By ______________________________
Authorized Officer

A subsidiary of Financial Security Assurance Holdings Ltd.
350 Park Avenue, New York, N.Y. 10022-6022

(212) 826-0100

Form 501B NY (8/96)

SPECIMEN

FINANCIAL SECURITY ASSURANCE®

ENDORSEMENT NO. 1 TO MUNICIPAL BOND INSURANCE POLICY (Florida Insurance Guaranty Association)

ISSUER: JEA, Florida

Policy No.: 253510-R

Effective Date: September 22, 2004

BONDS: Water and Sewer System Revenue Bonds, 2004 Series C and other Additionally Secured Bonds secured by amounts on deposit in the Initial Subaccount in the Debt Service Reserve Account in the Debt Service Reserve Fund

Notwithstanding the terms and provisions contained in this Policy, it is further understood that the insurance provided by this Policy is not covered by the Florida Insurance Guaranty Association created under part 11 of chapter 631, Florida Statutes.

Nothing herein shall be construed to waive, alter, reduce or amend coverage in any other section of the Policy. If found contrary to the Policy language, the terms of this Endorsement supersede the Policy language.

In witness whereof, FINANCIAL SECURITY ASSURANCE INC. has caused this Endorsement to be executed on its behalf by its Authorized Officer.

FINANCIAL SECURITY ASSURANCE INC.

By: ______________________
Authorized Officer

A subsidiary of Financial Security Assurance Holdings Ltd.
350 Park Avenue, New York, N.Y. 10022-6022

(212) 826-0100

Form No. 553NY (FL 6/90)

FINANCIAL SECURITY ASSURANCE®

ENDORSEMENT NO. 2 TO MUNICIPAL BOND INSURANCE POLICY (Nonreduction Endorsement)

ISSUER: JEA, Florida

Policy No.: 203510-R

BONDS: Water and Sewer System Revenue Bonds, 2004 Series C and other Additionally Secured Bonds secured by amounts on deposit in the Initial Subaccount in the Debt Service Reserve Account in the Debt Service Reserve Fund

Effective Date: September 22, 2004

Notwithstanding the terms and provisions contained in this Policy, the amount available under this Policy to pay principal of and interest on Bonds that are Due for Payment but are unpaid by reason of Nonpayment, at any time prior to the time the Policy terminates, shall be an amount equal to the Policy Limit reduced by the dollar amount of any payment under this Policy and increased by the dollar amount of any subsequent reimbursement to Financial Security for amounts so paid, up to the Policy Limit.

"Policy Limit" shall mean $3,702,459.05.

Nothing herein shall be construed to waive, alter, reduce or amend coverage of the Policy in any other respect. If found contrary to the Policy language, the terms of this Endorsement supersede the Policy language.

FINANCIAL SECURITY ASSURANCE INC. has caused this Endorsement to be executed on its behalf by its Authorized Officer.

FINANCIAL SECURITY ASSURANCE INC.

By ______________________

Authorized Officer

A subsidiary of Financial Security Assurance Holdings Ltd.
350 Park Avenue, New York, N.Y. 10022-6022

(212) 826-0100

Form 632 NY (FL 5/04)

SPECIMEN

Attachment 2

BERKSHIRE HATHAWAY ASSURANCE CORPORATION

NEW YORK, NEW YORK

DEBT SERVICE RESERVE FUND FINANCIAL GUARANTY INSURANCE POLICY

DECLARATIONS

Policy No.:	98SRD102446
Issuer:	JEA
Issuer Address:	Jacksonville, Florida
Obligations:	All Water and Sewer System Revenue Bonds which constitute an Additionally Secured Series secured by amounts on deposit in the Initial Subaccount in the Debt Service Reserve Account in the Debt Service Reserve Fund established pursuant to the First Supplemental Water and Sewer System Revenue Bond Resolution of August 19, 1997
Effective Date:	August 11, 2008
Termination Date:	October 1, 2038
Insured Limit:	$33,000,000
Percentage:	Insured Limit of this Policy divided by the sum of the available limits of all surety bonds, insurance policies, letters of credit or any other reserve fund credit instruments outstanding on the Date of Demand as defined in this Policy that meet the requirements of the Initial Subaccount at the time of a demand under this Policy.
Premium:	
Endorsements:	None

INSURANCE POLICY TERMS AND CONDITIONS

BERKSHIRE HATHAWAY ASSURANCE CORPORATION ("BHAC"), in consideration of the payment of the premium received by BHAC and subject to the terms of this Policy, hereby unconditionally and irrevocably agrees to pay to the Trustee for the benefit of the Holders the Insured Payments on the Payment Due Date but shall be unpaid by reason of Nonpayment by the Issuer. Payment will be made on the later to occur of (i) the Business Day following the day on which BHAC shall have Received a completed notice of Nonpayment in form attached as Exhibit A to the Policy, or (ii) the Payment Due Date with respect to the applicable principal or interest payment (the later of the dates referred to in clauses (i) and (ii) being the "Date of Demand"). If a notice of Nonpayment to BHAC is incomplete or does not in any instance conform to the terms and conditions of this Policy, it shall be deemed not Received, and BHAC shall promptly give notice to the Trustee that the purported notice of Nonpayment is not deemed Received. Upon receipt of such notice, the Trustee may submit an amended notice of Nonpayment. Payment by BHAC to the Trustee for the benefit of the Holders shall discharge the obligation of BHAC under this Policy to the extent of such payment.

Except as described below, this Policy is non-cancelable by BHAC for any reason. The Premium on this Policy is not refundable for any reason, including the payment prior to maturity of the Obligations. This Policy does not insure against loss of any premium on the Obligation paid by the Holder or any acceleration payment which at any time may become due in respect of any Obligation, other than at the sole option of BHAC, nor does this Policy insure against any risk other than Nonpayment.

Under no circumstance shall BHAC's obligations under this Policy exceed the Insured Limit. The amount available at any time to be paid to the Trustee under the terms of this Policy shall automatically be reduced by any payment under this Policy; provided that Issuer may reinstate the Insured Limit by payment of the amount paid by BHAC hereunder plus interest and expenses as provided herein. Issuer shall repay any draws under this Policy and pay all related reasonable expenses incurred by BHAC. Interest shall accrue and be payable on such draws and expenses from the date of payment by BHAC at the Late Payment Rate. Repayment of draws and payment of expenses and accrued interest there on at the Late Payment Rate (collectively "Policy Costs") shall commence in the first month following each draw, and each such monthly payment shall be in an amount at least equal to 1/12 of the aggregate of Policy Costs related to such draw. Payment of such Policy Costs shall be payable in the manner provided in paragraph (f) of subsection 4 of Section 6.01 of the First Supplemental Water and Sewer System Revenue Bond Resolution of the Issuer adopted August 19, 1997.

Each reinstatement payment shall first be applied to payment of interest and expenses and any remainder deemed to be repayment of the principal paid by BHAC to reinstate the Insured Limit. BHAC shall provide the Trustee and the Issuer with notice of reinstatement of the Insured Limit in the form provided in Exhibit B to this Policy within three Business Days following Receipt of the full reinstatement payment due BHAC. Under no circumstances shall BHAC incur duplicate liability for the same amounts owing with respect to the Obligations that are covered under this Policy and any other insurance policy or surety bond that BHAC has issued.

Under no circumstances may the Insured Limit be increased from the amount stated in the Declarations other than by Endorsement to this Policy.

BHAC shall have no liability under this Policy with respect to any Obligation which is not subject to the Resolution. This Policy will not apply to any Obligation that is not pari passu in security to the Water and Sewer System Refunding Revenue Bonds, 2007 Series C whether or not such 2007 Series C Bonds remain outstanding; provided that, if the 2007 Series C Bonds are not outstanding, this Policy will not apply to any Obligation that would not have been pari passu in security to the Water and Sewer System Refunding Revenue Bonds, 2007 Series C if they had remained outstanding. BHAC shall have no liability under this Policy for any Nonpayment with respect to an Obligation that is not issued pursuant to the Resolution, without amendment of that Resolution.

This Policy excludes from coverage any Non-Payment occurring prior to the Effective Date or after the Termination Date.

If JEA shall fail to pay any Policy Costs in accordance with the requirement of this Policy, BHAC shall be entitled to exercise any and all legal and equitable remedies available to it, including (i) the bringing of an action for mandamus and (ii) those remedies provided under the Resolution other than (A) acceleration of the maturity of the Obligations or (B) remedies which would adversely affect owners of the Obligations. In furtherance of the foregoing, JEA hereby acknowledges and agrees that BHAC shall be a third-party beneficiary of the Resolution, and shall be entitled to bring suit on the Resolution based upon JEA's failure to pay any Policy Costs as aforesaid.

The Resolution shall not be discharged until all Policy Costs owing to BHAC shall have been paid in full. JEA's obligation to pay such amounts shall survive payment in full of the Obligations.

Except to the extent expressly modified by the Declarations to this Policy or any endorsement hereto, the following terms shall have the meanings specified for all purposes of this Policy.

"Business Day" means any day other than (i) a Saturday or Sunday, (ii) any day on which the offices of the Custodian are closed, or (iii) any day on which banking institutions are authorized or required by law, executive order or governmental decree to be closed in the City of New York, New York.

"Holder" means, in respect of any Obligation, the person or entity who, at the time of Nonpayment, is the registered owner of an Obligation pursuant to the applicable Resolution governing the Obligation entitled to payment of principal or interest thereunder, except that Holder shall not include the Issuer or any person or entity whose direct or indirect obligation constitutes the underlying security for the Obligations.

"Initial Subaccount" means the initial subaccount in the Debt Service Reserve Account in the Debt Service Reserve Fund established pursuant to the First Supplemental Water and Sewer System Revenue Bond Resolution of the Issuer adopted August 19, 1997.

"Insured Payments" means the Percentage set forth in the Declarations multiplied by the principal of and interest for which payment is due on the Obligations on the applicable Payment Due Date, but only after any cash and investments in the Initial Subaccount on the Date of Demand under this Policy have been applied to amounts due under the Obligations on that Payment Due Date. Insured Payments shall not include any additional amounts owing by the Issuer solely as a result of the failure by the Trustee to pay such amount when due and payable, including without limitation any such additional amounts as may be attributable to penalties or to interest accruing at a default rate, to amounts payable in respect of indemnification, or to any other additional amounts payable by the Trustee by reason of such failure.

"Late Payment Rate" means, the lesser of (a) the per annum rate of interest, publicly announced from time to time by JPMorgan Chase Bank at its principal office in the City of New York, as its prime or base lending rate (the "Prime Rate") (any change in such Prime Rate to be effective on the date such change is announced by JPMorgan Chase Bank) plus three percent interest plus fifty basis points per annum starting twelve months after any draw is made and increasing by fifty basis points per annum every twelve months any draw remains unpaid, and (b) the maximum rate permissible under applicable usury or similar laws limiting interest rates. The Late Payment rate shall be computed on the basis of the actual number of days elapsed over a year of 365 days. In the event JPMorgan Chase Bank ceases to announce its Prime Rate publicly, Prime Rate shall be the publicly announced prime or base lending rate of such national bank as BHAC shall specify.

"Nonpayment" means, in respect of an Obligation, the failure of the Issuer to have provided sufficient funds to the Trustee for payment in full of all principal and interest due on such Obligation on the applicable Payment Due Date.

"Obligations" mean the bonds described in the Declarations which are outstanding under the terms of the Resolution.

"Payment Due Date" means (i) when referring to the principal of an Obligation, the stated maturity date thereof, or the date on which such Obligation shall have been duly called for mandatory sinking fund redemption, and does not refer to any earlier date on which payment is due by reason of a call for redemption (other than by mandatory sinking fund redemption), acceleration or other advancement of maturity (unless BHAC in its sole discretion elects to make any principal payment, in whole or in part, on such earlier date) and (ii) when referring to interest on an Obligation, the stated date for payment of such interest.

"Receipt" or "Received" means actual receipt of notice of or, if notice is given by overnight or other delivery service, or by certified or registered United States mail, by a delivery receipt signed by a person authorized to accept delivery on behalf of the person to whom the notice was given. Notices to BHAC may be mailed by certified mail or may be delivered by telecopier to facsimile number 203 363 5221, attn: Bond Insurance Claims, or to such other address as shall be specified by BHAC to the Trustee in writing.

"Resolution" means the Water and Sewer System Revenue Bond Resolution of the Issuer adopted February 18, 1997, the First Supplemental Water and Sewer System Revenue Bond Resolution of the Issuer adopted August 19, 1997 and any further supplemental resolution issued subject to the foregoing resolutions.

"Trustee" means the trustee or paying agent, as set forth in the applicable Resolution of the Issuer governing the Obligations.

All capitalized terms used in this Policy and not otherwise defined in this Policy shall have the meaning given them in the applicable Resolution governing the Obligations.

To the fullest extent permitted by applicable law, BHAC hereby waives, in each case for the benefit of the Holders only, all rights and defenses of any kind (including, without limitation, the defense of fraud in the inducement or in fact or any other circumstance that would have the effect of discharging a surety, guarantor or any other person in law or in equity) that may be available to BHAC to deny or avoid payment of amounts due under this Policy in accordance with the express provisions hereof, and BHAC furthermore hereby expressly waives any claim for set-off or other counterclaim against payment hereunder. Nothing in this paragraph will be construed (i) to waive, limit or otherwise impair, and BHAC expressly reserves, BHAC's rights and remedies, including, without limitation, its right to assert any claim or to pursue recoveries (based on contractual rights, securities law violations, fraud or other causes of action) against any person or entity, in each case, whether directly or acquired as a subrogee, assignee or otherwise, subsequent to making any payment to the Trustee, in accordance with the express provisions hereof, and/or (ii) to require payment by BHAC of any amounts that have been previously paid or that are not otherwise due in accordance with the express provisions of this Policy.

This Policy sets forth in full the undertaking of BHAC with respect to the subject matter hereof, and shall not be modified, altered or affected by any other agreement or instrument, including without limitation, any modification or amendment thereto, unless the modification or amendment is agreed to by the Custodian of the Obligations. THIS POLICY IS NOT COVERED BY THE PROPERTY/CASUALTY INSURANCE SECURITY FUND SPECIFIED IN ARTICLE 76 OF THE NEW YORK INSURANCE LAWS OR THE FLORIDA INSURANCE GUARANTY ASSOCIATION SPECIFIED IN THE FLORIDA INSURANCE GUARANTY ASSOCIATION ACT. Payments under this Policy may not be accelerated except at the sole option of BHAC.

Premium is due from the Issuer not later than the Effective Date.

This Policy will be governed by, and shall be construed in accordance with, the laws of the State of Florida.

IN WITNESS WHEREOF, BHAC has caused this Policy to be executed on its behalf by its duly authorized officer, and to become effective and binding upon BHAC by virtue of such signature.

BERKSHIRE HATHAWAY ASSURANCE CORPORATION

Exhibit A

Policy No. ______________

NOTICE OF NONPAYMENT

_________________, 20__

BERKSHIRE HATHAWAY ASSURANCE CORPORATION
100 First Stamford Place
Stamford, CT 06902

Attention:

Reference is made to the Policy No. ____________ (the "Policy") issued by Berkshire Hathaway Assurance Corporation ("BHAC"). The terms which are capitalized herein and not otherwise defined have the meanings specified in the Policy unless the context otherwise requires.

The Paying Agent hereby certifies that:

1. On the Payment Due Date of ______, 20__ $________ [became] [will become] due for payment on the following Obligations:_[list of Obligations]____.

2. The amount on deposit in the Debt Service Account of the Debt Service Fund and the Initial Subaccount of the Debt Service Reserve Account of the Debt Service Fund available to pay such amount is $_____, which is $_______________ less than the amount due (the "Deficiency Amount");

3. The Paying Agent hereby demands payment of $__________ which amount does not exceed the lesser of (i) the Percentage multiplied by the Deficiency Amount and (ii) the amount available to be drawn under the Policy which in no event shall exceed the Insured Limit;

4. The Paying Agent has not heretofore made demand under the Policy for the amount specified in 3. above or any portion thereof; and

5. The Paying Agent hereby requests that payment of the amount specified in 3. above be made by BHAC under the Policy and directs that payment under the Policy be made to the following account by bank wire transfer of federal or other immediately available funds in accordance with the terms of the Policy: _____________ [Paying Agent's Account].

[Paying Agent]

By: ______________________________

Exhibit B

Policy No. ____________

NOTICE OF REINSTATEMENT

________________, 20___

[Paying Agent]

[Address]

Reference is made to the Policy No. ______________ (the "Policy") issued by Berkshire Hathaway Assurance Corporation ("BHAC"). The terms which are capitalized herein and not otherwise defined have the meanings specified in the Policy unless the context otherwise requires.

BHAC hereby delivers notice that it is in receipt of payment from the Issuer pursuant to Article 2 of the Financial Guaranty Agreement relating to the Policy and as of the date hereof the Insured Limit is $__________.

BERKSHIRE HATHAWAY ASSURANCE CORPORATION

____

Authorized Officer

Attest:________________________

Title:

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SUMMARY OF CERTAIN PROVISIONS OF THE SUBORDINATED WATER AND SEWER SYSTEM RESOLUTION

The following is a summary of certain provisions of the Subordinated Water and Sewer System Resolution. Summaries of certain definitions contained in the Subordinated Water and Sewer System Resolution are set forth below. Other terms defined in the Subordinated Water and Sewer System Resolution for which summary definitions are not set forth are indicated by capitalization. The summary does not purport to be a complete description of the terms of the Subordinated Water and Sewer System Resolution and, accordingly, is qualified by reference thereto and subject to the full text thereof.

The Subordinated Water and Sewer System Resolution, as heretofore amended, is available for viewing and downloading on JEA's website at https://www.jea.com/About/Investor_Relations/Bonds/. Copies of the Subordinated Water and Sewer System Resolution also may be obtained from JEA; provided that a reasonable charge may be imposed for the cost of reproduction. The term "Subordinated Bonds" as used in the Subordinated Water and Sewer System Resolution and in this summary has the same meaning as the term "Subordinated Water and Sewer System Bonds" as used in the Annual Disclosure Report to which this summary is attached.

Definitions

The following are summaries of certain definitions in the Subordinated Water and Sewer System Resolution:

Accreted Value means, as of any date of computation with respect to any Water and Sewer System Capital Appreciation Subordinated Bond, an amount equal to the principal amount of such Bond plus the interest accrued on such Bond from the date of original issuance of such Bond to the periodic date specified in the Supplemental Subordinated Resolution authorizing such Water and Sewer System Capital Appreciation Subordinated Bond on which interest on such Bond is to be compounded (hereinafter, a "Periodic Compounding Date") next preceding the date of computation or the date of computation if a Periodic Compounding Date, such interest to accrue at the interest rate per annum of the Water and Sewer System Capital Appreciation Subordinated Bonds set forth in the Supplemental Subordinated Resolution authorizing such Subordinated Bonds, compounded periodically on each Periodic Compounding Date, plus, if such date of computation shall not be a Periodic Compounding Date, a portion of the difference between the Accreted Value as of the immediately preceding Periodic Compounding Date (or the date of original issuance if the date of computation is prior to the first Periodic Compounding Date succeeding the date of original issuance) and the Accreted Value as of the immediately succeeding Periodic Compounding Date, calculated based upon an assumption that, unless otherwise provided in the Supplemental Subordinated Resolution authorizing such Water and Sewer System Capital Appreciation Subordinated Bonds, Accreted Value accrues in equal daily amounts on the basis of a year consisting of twelve 30-day months.

Additional Parity Subordinated Indebtedness means any obligation incurred by JEA subsequent to the date of adoption of the Subordinated Water and Sewer System Resolution in respect of amounts payable by JEA in repayment of draws under any surety bond, insurance policy, letter of credit or other similar obligation that is deposited, in lieu of a cash deposit thereto, to any subaccount in the Debt Service Reserve Account in the Debt Service Fund established pursuant to the Water and Sewer System Resolution, and all expenses with respect thereto and interest thereon, and that is designated as such by an Authorized Officer of JEA in a certificate filed with the records of JEA on the date of the deposit of such surety bond, insurance policy, letter of credit or other similar obligation to such subaccount.

Adjusted Aggregate Debt Service shall have the meaning assigned to such term in the Water and Sewer System Resolution.

Adjusted Aggregate Subordinated Debt Service for any period shall mean, as of any date of calculation, the Aggregate Subordinated Debt Service for such period except that (a) if any Refundable Subordinated Principal Installment for any Series of Subordinated Bonds is included in Aggregate Subordinated Debt Service for such period, Adjusted Aggregate Subordinated Debt Service shall mean Aggregate Subordinated Debt Service determined (i) in the case of Refundable Subordinated Principal Installments with respect to Subordinated Bonds other than Commercial Paper Notes and Medium-Term Notes, as if each such Refundable Subordinated Principal Installment had been payable, over a period extending from the due date of such Subordinated Principal Installment through the earlier of (x) the 40th anniversary of the issuance of such Series of Subordinated Bonds or (y) the 30th anniversary of the due date of such Refundable Subordinated Principal Installment, in installments which would have required equal annual payments of principal and interest over such period and (ii) in the case of Refundable Subordinated Principal Installments with respect to Commercial Paper Notes or Medium-Term Notes, in accordance with the then current Commercial Paper Payment Plan or Medium-Term Note Payment Plan, as applicable, with respect thereto and (b) the principal and interest portions of the Accreted Value of Water and Sewer System Capital Appreciation Subordinated Bonds or the Appreciated Value of Water and Sewer System Deferred Income Subordinated Bonds shall be included in the calculation of Adjusted Aggregate Subordinated Debt Service at the times and in the manner provided in the provisions of the Subordinated Water and Sewer System Resolution. Interest deemed payable in any Fiscal Year after the actual due date of any Refundable Subordinated Principal Installment of any Series of Subordinated Bonds shall be calculated at such rate of interest as JEA, or a banking or financial institution or financial advisory firm selected by JEA, determines would be a reasonable estimate of the rate of interest that would be borne on Subordinated Bonds maturing at the times determined in accordance with the provisions of clause (a) of the preceding sentence, determined as of such date of calculation.

Aggregate Subordinated Debt Service for any period shall mean, as of any date of calculation, the sum of the amounts of Subordinated Debt Service for such period with respect to all Series; *provided, however*, that (a) for purposes of estimating Aggregate Subordinated Debt Service for any future period (i) any Variable Rate Subordinated Bonds, Commercial Paper Notes and Medium-Term Notes Outstanding during such period shall be assumed to bear interest during such period at the Stipulated Interest Rate applicable thereto, determined as of such date of calculation and (ii) any Option Subordinated Bonds Outstanding during such period shall be assumed to mature on the stated maturity date thereof and (b) the principal and interest portions of the Accreted Value of Water and Sewer System Capital Appreciation Subordinated Bonds or the Appreciated Value of Water and Sewer System Deferred Income Subordinated Bonds shall be included in the calculation of Aggregate Subordinated Debt Service at the times and in the manner provided in the Subordinated Water and Sewer System Resolution.

Alternate Variable Rate Taxable Index means such index as, at the time, is in general use as a proxy for short-term interest rates on debt obligations of state and local governments the interest on which is not excluded from gross income for federal income tax purposes, as determined by an Authorized Officer of JEA.

Alternate Variable Rate Tax-Exempt Index means such index as, at the time, is in general use as a proxy for short-term interest rates on debt obligations of state and local governments the interest on which is excluded from gross income for federal income tax purposes, as determined by an Authorized Officer of JEA.

Appreciated Value means, with respect to any Water and Sewer System Deferred Income Subordinated Bond, (i) as of any date of computation prior to the Current Interest Commencement Date with respect to such Water and Sewer System Deferred Income Subordinated Bond, an amount equal to the principal amount of such Bond plus the interest accrued on such Bond from the date of original issuance of such Bond to the periodic date specified in the Supplemental Subordinated Resolution authorizing such Water and Sewer System Deferred Income Subordinated Bond on which interest on such Bond is to be compounded (hereinafter, a "Periodic Compounding Date") next preceding the date of computation or the date of computation if a Periodic Compounding Date, such interest to accrue at the interest rate per annum of the Water and Sewer System Deferred Income Subordinated Bonds set forth in the Supplemental Subordinated Resolution authorizing such Subordinated Bonds, compounded periodically on each Periodic Compounding Date, plus, if such date of computation shall not be a Periodic Compounding Date, a portion of the difference between the Appreciated Value as of the immediately preceding Periodic Compounding Date (or the date of original issuance if the date of computation is prior to the first Periodic Compounding Date succeeding the date of original issuance) and the Appreciated Value as of the immediately succeeding Periodic Compounding Date, calculated based upon an assumption that, unless otherwise provided in the Supplemental Subordinated Resolution authorizing such Water and Sewer System Deferred Income Subordinated Bonds, Appreciated Value accrues in equal daily amounts on the basis of a year consisting of twelve 30-day months and (ii) as of any date of computation on and after the Current Interest Commencement Date, the Appreciated Value on the Current Interest Commencement Date.

Average Annual Adjusted Aggregate Debt Service means, as of any date of calculation, the arithmetic average of the Adjusted Aggregate Debt Service for the then current and each future Bond Year.

Average Annual Adjusted Aggregate Subordinated Debt Service means, as of any date of calculation, the arithmetic average of the Adjusted Aggregate Subordinated Debt Service for the then current and each future Bond Year.

Bearer Commercial Paper Note means any Commercial Paper Note that, in accordance with the Supplemental Subordinated Resolution authorizing the Series of which such Commercial Paper Note is a part, is issued in bearer form, not registrable as to principal or face amount.

BMA Municipal Swap Index means the rate determined on the basis of an index based upon the weekly interest rates of tax-exempt variable rate issues included in a database maintained by Municipal Market Data or any successor indexing agent which meets specific criteria established by The Bond Market Association.

Build America Bonds means any Subordinated Bonds with respect to which JEA has irrevocably elected, pursuant to Section 54AA(g) of the Code, or any similar federal program creating subsidies for municipal borrowers for which JEA qualifies, to receive cash subsidy payments from the U.S. Treasury equal to a portion of the interest payable on such Subordinated Bonds.

Code means the Internal Revenue Code of 1986, or any successor, and the applicable regulations (including final, temporary and proposed) promulgated by the United States Department of the Treasury thereunder, including Treasury Regulations issued pursuant to Sections 103 and 141 through 150, inclusive, of said Internal Revenue Code of 1986.

Commercial Paper Note means any Subordinated Bond which (a) has a maturity date which is not more than 365 days after the date of issuance thereof and (b) is designated as a Commercial Paper Note in the Supplemental Subordinated Resolution authorizing such Subordinated Bond.

Commercial Paper Payment Plan means, with respect to any Series of Commercial Paper Notes and as of any time, the then current Commercial Paper Payment Plan for such Notes contained in a certificate of an Authorized Officer of JEA setting forth the sources of funds expected to be utilized by JEA to pay the principal of and interest on such Commercial Paper Notes; *provided*, *however*, that if any Commercial Paper Payment Plan provides for the refunding of any Commercial Paper Note with proceeds of (a) Subordinated Bonds other than Commercial Paper Notes or Medium-Term Notes or (b) Water and Sewer System Bonds, in either such case, that JEA intends to pay from Revenues, the principal of such Commercial Paper Notes shall, for purposes of the Commercial Paper Payment Plan, be assumed to come due over a period commencing with the due date of the Commercial Paper Note and ending not later than the earlier of (x) the 40th anniversary of the first issuance of Commercial Paper Notes of such Series or (y) the 30th anniversary of the due date of the Commercial Paper Note to be refunded, in installments such that the principal and interest payable on such Commercial Paper Notes in each Fiscal Year in such period will be equal to the principal and interest payable on such Commercial Paper Notes in each other Fiscal Year in such period.

Credit Enhancement means, with respect to the Water and Sewer System Bonds of a Series, a maturity within a Series or an interest rate within a maturity or the Subordinated Bonds of a Series, a maturity within a Series or an interest rate within a maturity, the issuance of an insurance policy, letter of credit, surety bond or any other similar obligation, whereby the issuer thereof becomes unconditionally obligated to pay when due, to the extent not paid by JEA or otherwise, the principal of and interest on such Water and Sewer System Bonds or Subordinated Bonds, as the case may be.

Credit Enhancer means any person or entity which, pursuant to a Supplemental Subordinated Resolution, is designated as a Credit Enhancer and which provides Credit Enhancement for the Water and Sewer System Bonds of a Series, a maturity within a Series or an interest rate within a maturity or the Subordinated Bonds of a Series, a maturity within a Series or an interest rate within a maturity.

Current Interest Commencement Date means, with respect to any particular Water and Sewer System Deferred Income Subordinated Bonds, the date specified in the Supplemental Subordinated Resolution authorizing such Water and Sewer System Deferred Income Subordinated Bonds (which date must be prior to the maturity date for such Water and Sewer System Deferred Income Subordinated Bonds) after which interest accruing on such Water and Sewer System Deferred Income Subordinated Bonds shall be payable periodically on dates specified in such Supplemental Subordinated Resolution, with the first such payment date being the first such periodic date immediately succeeding such Current Interest Commencement Date.

Defeasance Securities have the meaning given to such term in the Water and Sewer Resolution except that (a) the references therein to “Bonds of a Series” and “the Supplemental Resolution authorizing such Bonds” shall be deemed to refer to “Subordinated Bonds of a Series” and “the Supplemental Subordinated Resolution authorizing such Subordinated Bonds,” respectively and (b) the reference in clause (g) thereof to subsection 6 of Section 1201 of the Water and Sewer Resolution shall be deemed to refer to subsection 6 of Section 12.01 of the Subordinated Water and Sewer Resolution.

Designated Swap Obligation means, to the extent from time to time permitted by law, any interest rate swap transaction (i) which is entered into by JEA for the purpose of converting synthetically the interest rate on any particular Water and Sewer System Bonds or Subordinated Bonds from a fixed rate to a variable rate or from a variable rate to a fixed rate (regardless of whether such Designated Swap Obligation shall have a term equal to the remaining term of such Water and Sewer System Bonds or Subordinated Bonds, as the case may be) and (ii) which has been designated in a certificate of an Authorized Officer of JEA filed with the records of JEA as such (which certificate shall specify the Water and Sewer System Bonds or Subordinated Bonds, as applicable, with respect to which such Designated Swap Obligation is entered into).

Designated Swap Obligation Provider means any person with whom JEA enters into a Designated Swap Obligation.

Event of Default when used with respect to the Subordinated Bonds, shall mean any event specified as such in the Water and Sewer System Resolution and any other event specified as such in the Subordinated Water and Sewer System Resolution.

Existing Parity Subordinated Indebtedness means (i) the Reimbursement Obligations of JEA under (and as defined in) the Debt Service Reserve Fund Policy Agreement, dated as of January 4, 2001, between JEA and Financial Guaranty Insurance Company ("FGIC"), (ii) the Reimbursement Obligations of JEA under (and as defined in) the Debt Service Reserve Fund Policy Agreement, dated as of April 11, 2002, between JEA and FGIC and (iii) the Reimbursement Obligations of JEA under (and as defined in) the Debt Service Reserve Fund Policy Agreement, dated as of October 24, 2002, between JEA and FGIC.

Initial Subordinated Debt Service Reserve Fund means the Fund by that name that is established in the Third Supplemental Subordinated Water and Sewer System Resolution.

Medium-Term Note means any Subordinated Bond which (a) has a maturity date which is more than 365 days, but not more than 15 years, after the date of issuance thereof and (b) is designated as a Medium-Term Note in the Supplemental Subordinated Resolution authorizing such Subordinated Bond.

Medium-Term Note Payment Plan means, with respect to any Series of Medium-Term Notes and as of any time, the then current Medium-Term Note Payment Plan for such Notes contained in a certificate of an Authorized Officer of JEA setting forth the sources of funds expected to be utilized by JEA to pay the principal of and interest on such Medium-Term Notes; *provided*, *however*, that if any Medium-Term Note Payment Plan provides for the refunding of any Medium-Term Note with proceeds of (a) Subordinated Bonds other than Commercial Paper Notes or Medium-Term Notes or (b) Water and Sewer System Bonds, in either such case, that JEA intends to pay from Revenues, the principal of such Medium-Term Notes shall, for purposes of the Medium-Term Note Payment Plan, be assumed to come due over a period commencing with the due date of the Medium-Term Note and ending not later than the earlier of (x) the 40th anniversary of the first issuance of Medium-Term Notes of such Series or (y) the 30th anniversary of the due date of the Medium-Term Note to be refunded, in installments such that the principal and interest payable on such Medium-Term Notes in each Fiscal Year in such period will be equal to the principal and interest payable on such Medium-Term Notes in each other Fiscal Year in such period.

One-Month LIBOR Rate means, as of any date of determination, the offered rate for deposits in U.S. dollars for a one-month period which appears on the Telerate Page 3750 at approximately 11:00 A.M., London time, on such date, or if such date is not a date on which dealings in U.S. dollars are transacted in the London interbank market, then on the next preceding day on which such dealings were transacted in such market.

Option Subordinated Bonds means Subordinated Bonds which by their terms may be tendered by and at the option of the Holder thereof for payment by JEA prior to the stated maturity thereof, or the maturities of which may be extended by and at the option of the Holder thereof.

Refundable Subordinated Principal Installment means any Subordinated Principal Installment for any Series of Subordinated Bonds which JEA intends to pay with moneys which are not Revenues; *provided*, *however*, that (i) in the case of Subordinated Bonds other than Commercial Paper Notes or Medium-Term Notes, such intent shall have been expressed in the Supplemental Subordinated Resolution authorizing such Series of Subordinated Bonds, (ii) in the case of Commercial Paper Notes, such intent shall be expressed in the then current Commercial Paper Payment Plan for such Commercial Paper Notes and (iii) in the case of Medium-Term Notes, such intent shall be expressed in the then current Medium-Term Note Payment Plan for such Medium-Term Notes; and *provided*, *further*, that such Subordinated Principal Installment shall be a Refundable Subordinated Principal Installment only through the penultimate day of the month preceding the month in which such Principal Installment comes due or such earlier time as JEA no longer intends to pay such Subordinated Principal Installment with moneys which are not Revenues.

Stipulated Interest Rate means, as of any date of determination:

(i) with respect to (A) any Commercial Paper Notes or Medium-Term Notes or (B) any Variable Rate Subordinated Bonds maturing on a particular date, in either of the foregoing cases, that were, at the date of the original issuance thereof, the subject of a Counsel's Opinion to the effect that the interest thereon is excluded from gross income for federal income tax purposes pursuant to Section 103 of the Code, a rate of interest equal to the lesser of (1) the average of the Variable Rate Tax-Exempt Index for the five years preceding such date of determination and (2) the average rate of interest borne by such Commercial Paper Notes, Medium-Term Notes, Variable Rate Subordinated Bonds or Water and Sewer System Variable Rate Bonds, as the case may be, for the 12 months preceding such date of determination; *provided*, *however*, if such Commercial Paper Notes, Medium-Term Notes, Variable Rate Subordinated Bonds or Water and Sewer System Variable Rate Bonds, as the case may be, are then being issued or shall not have been Outstanding for 12 months, then the rate of interest determined pursuant to this clause (i) shall be the rate determined pursuant to the foregoing subclause (1) and

(ii) with respect to (A) any Commercial Paper Notes or Medium-Term Notes or (B) any Variable Rate Subordinated Bonds maturing on a particular date, in either of the foregoing cases, that were not, at the date of the original issuance thereof, the subject of a Counsel's Opinion to the effect that the interest thereon is excluded from gross income for federal income tax purposes pursuant to Section 103 of the Code, a rate of interest equal to the lesser of (a) the average of the Variable Rate Taxable Index for the five years preceding such date of determination and (b) the average rate of interest borne by such Commercial Paper Notes, Medium-Term Notes, Variable Rate Subordinated Bonds or Water and Sewer System Variable Rate Bonds, as the case may be, for the 12 months preceding such date of determination; *provided*, *however*, if such Commercial Paper Notes, Medium-Term Notes, Variable Rate Subordinated Bonds or Water and Sewer System Variable Rate Bonds, as the case may be, are then being issued or shall not have been Outstanding for 12 months, then the rate of interest determined pursuant to this clause (ii) shall be the rate determined pursuant to the foregoing subclause (a).

Subordinated Bonds means any bonds, notes or other obligations or evidences of indebtedness, as the case may be, authenticated and delivered under and Outstanding pursuant to the Subordinated Water and Sewer System Resolution, which shall constitute "Subordinated Indebtedness," and shall not constitute "Water and Sewer System Bonds," for purposes of the Water and Sewer System Resolution.

Subordinated Debt Service for any period shall mean, as of any date of calculation and with respect to any Series, an amount equal to the sum of:

(i) interest accruing during such period on the Subordinated Bonds of such Series, except to the extent that such interest is to be paid from the proceeds of Water and Sewer System Bonds, Subordinated Bonds or other evidences of indebtedness of JEA, provided, that in the event that the Subordinated Bonds of any Series (or any portion thereof) shall constitute Build America Bonds, then in respect of the interest payable on such Subordinated Bonds, for purposes of this definition, the interest on the Subordinated Bonds of such Series shall be calculated net of the amount of cash subsidy payments from the U.S. Treasury in respect of the interest payable on such Subordinated Bonds (other than as a result of the U.S. Treasury reducing a particular payment by offsetting an amount due from JEA to it), for purposes of this definition, the interest on the Subordinated Bonds of such Series shall be calculated without regard to such subsidy, and

(ii) that portion of each Subordinated Principal Installment for such Series which would accrue during such period if such Subordinated Principal Installment were deemed to accrue daily in equal amounts from the next preceding Subordinated Principal Installment due date for such Series (or, (x) in the case of Subordinated Bonds other than Subordinated Reimbursement Obligations, if (1) there shall be no such preceding Subordinated Principal Installment due date or (2) such preceding Subordinated Principal Installment due date is more than one year prior to the due date of such Subordinated Principal Installment, then, from a date one year preceding the due date of such Subordinated Principal Installment or from the date of issuance of the Subordinated Bonds of such Series, whichever date is later, and (y) in the case of Subordinated Reimbursement Obligations, in accordance with the terms thereof and the Supplemental Subordinated Resolution authorizing such Subordinated Reimbursement Obligations), except to the extent that such Subordinated Principal Installment is paid or to be paid from the proceeds of Water and Sewer System Bonds, Subordinated Bonds or other evidences of indebtedness of JEA.

Such interest and Subordinated Principal Installments for such Series shall be calculated on the assumption that (x) no Subordinated Bonds (except for Option Subordinated Bonds actually tendered for payment prior to the stated maturity thereof and paid, or to be paid, from Revenues) of such Series Outstanding at the date of calculation will cease to be Outstanding except by reason of the payment of each Subordinated Principal Installment on the due date thereof, (y) the principal amount of Option Subordinated Bonds tendered for payment before the stated maturity thereof, and paid, or to be paid, from Revenues, shall be deemed to accrue on the date required to be paid pursuant to such tender and (z) the principal and interest portions of the Accreted Value of Water and Sewer System Capital Appreciation Subordinated Bonds or the Appreciated Value of Water and Sewer System Deferred Income Subordinated Bonds shall be included in the calculation of Subordinated Debt Service at the times and in the manner provided in the Subordinated Water and Sewer System Resolution.

Notwithstanding anything to the contrary contained in the Subordinated Water and Sewer System Resolution, (a) if JEA has in connection with any Subordinated Bonds entered into a Designated Swap Obligation which provides that, in respect of a notional amount equal to the Outstanding principal amount of such Subordinated Bonds, JEA is to pay to a Designated Swap Obligation Provider an amount determined based upon a variable rate of interest and the Designated Swap Obligation Provider is to pay to JEA an amount determined based upon a fixed rate of interest, then, for purposes of calculating Subordinated Debt Service with respect to such Subordinated Bonds for the purposes of the rates, fees and charges covenant of JEA in the Subordinated Water and Sewer System Resolution and the issuance of additional Subordinated Bonds, it will be assumed that such Subordinated Bonds bear interest at a rate equal to the sum of (1) the lesser of (A) the average of the variable rate payable by JEA pursuant to such Designated Swap Obligation for the five years preceding the date of determination, calculating such rate based upon the method, formula or index with respect thereto set forth in such Designated Swap Obligation and (B) the average of the actual rates paid by JEA pursuant to such Designated Swap Obligation for the 12 months preceding such date of determination; *provided*, *however*, if such Designated Swap Obligation shall not have been in effect for 12 months, then the rate of interest determined pursuant to this clause (1) shall be the rate determined pursuant to the foregoing subclause (A) and (2) the difference (whether positive or negative) between (X) the fixed rate of interest on such Subordinated Bonds and (Y) the fixed rate of interest payable to JEA pursuant to such Designated Swap Obligation and (b) if JEA has in connection with any Variable Rate Subordinated Bonds, Commercial Paper Notes or Medium-Term Notes entered into a Designated Swap Obligation which provides that, in respect of a notional amount equal to the Outstanding principal amount of such Variable Rate Subordinated Bonds, Commercial Paper Notes or Medium-Term Notes, as the case may be, JEA is to pay to a Designated Swap Obligation Provider an amount determined based upon a fixed rate of interest and the Designated Swap Obligation Provider is to pay to JEA an amount determined based upon a variable rate of interest, then, for purposes of calculating Subordinated Debt Service with respect to such Variable Rate Subordinated Bonds, Commercial Paper Notes or Medium-Term Notes, as the case may be, it will be assumed that such Variable Rate Subordinated Bonds, Commercial Paper Notes or Medium-Term Notes, as applicable, bear interest at the fixed rate of interest payable by JEA pursuant to such Designated Swap Obligation.

Subordinated Debt Service Reserve Requirement as of any date of calculation and with respect to the Initial Subordinated Debt Service Reserve Fund, shall have the meaning assigned to such term in the Third Supplemental Subordinated Water and Sewer System Resolution hereinafter referred to (see "Initial Subordinated Debt Service Reserve Fund" discussion below).

For the purpose of the calculation of the Subordinated Debt Service Reserve Requirement in the event that the Subordinated Bonds of any Series shall constitute Build America Bonds, then until such time, if any, as JEA, for whatever reason, no longer receives cash subsidy payments from the U.S. Treasury in respect of the interest payable on such Subordinated Bonds (other than as a result of the U.S. Treasury reducing a particular payment by offsetting an amount due from JEA to it), the interest on such Subordinated Bonds shall be calculated net of the amount of such subsidy; provided, however, that if at any time the specified percentage of the interest payable on such Subordinated Bonds represented by such subsidy shall be permanently reduced, then the amount of such Subordinated Debt Service Reserve Requirement shall be increased to reflect the amount of interest payable on such Subordinated Bonds that no longer is payable to JEA by the U.S. Treasury, and the amount of such increase shall be required to be funded in equal semiannual installments over a five (5)-year period, with the first such installment becoming due on the first April 1 or October 1 that is at least six (6) months following the date on which such specified percentage is so reduced, except that if at any time from the commencement of such funding, either (x) any of such Subordinated Bonds shall cease to be Outstanding or (y) the amount of such Subordinated Debt Service Reserve Requirement shall be reduced for any reason whatsoever, then the obligation of JEA to make deposits during the balance of such period shall be redetermined (taking into account the amount (if any) of such Subordinated Bonds that remain Outstanding and the amount (if any) of such reduction in such Subordinated Debt Service Reserve Requirement) and the resulting reduction in the amount required to be deposited to the Initial Subaccount shall be evenly apportioned over the remainder of such five (5)-year period and provided, further, that in the event that JEA, for whatever reason, ceases to receive cash subsidy payments from the U.S. Treasury in respect of the interest payable on any such Subordinated Bonds (other than as a result of the U.S. Treasury reducing a particular payment by offsetting an amount due from JEA to it), then the amount of such Subordinated Debt Service Reserve Requirement shall be increased to reflect the full amount of interest payable on such Subordinated Bonds, and such increase shall be required to be funded in equal semiannual installments over a five (5)-year period, with the first such installment becoming due on the first April 1 or October 1 that is at least six (6) months following the date on which JEA does not receive the first such cash subsidy payment that it theretofore was qualified to receive, except that if at any time from the commencement of such funding, either (x) any of such Subordinated Bonds shall cease to be Outstanding or (y) the amount of such Subordinated Debt Service Reserve Requirement shall be reduced for any reason whatsoever, then the obligation of JEA to make deposits during the balance of such period shall be redetermined (taking into account the amount (if any) of such Subordinated Bonds that remain Outstanding and the amount (if any) of such reduction in such Subordinated Debt Service Reserve Requirement) and the resulting reduction in the amount required to be deposited to the Initial Subaccount shall be evenly apportioned over the remainder of such five (5)-year period. Notwithstanding any other provision of this resolution, any one or more installments of any increase in the Subordinated Debt Service Reserve Requirement with respect to the Initial Subaccount in the Debt Service Reserve Account in the Sinking Fund provided for in the preceding sentence may be prepaid at any time in whole or in part by JEA by designating in JEA's records that such payment(s) is (or are) to be treated as a prepayment.

Subordinated Principal Installment means, as of any date of calculation and with respect to any Series, so long as any Subordinated Bonds thereof are Outstanding, (i) the principal amount of Subordinated Bonds (including, in the case of any Option Subordinated Bond, the principal amount thereof tendered for payment prior to the stated maturity thereof and paid, or to be paid, from Revenues) of such Series due (or so tendered for payment and paid, or to be so paid) on a certain future date for which no Sinking Fund Installments have been established, or (ii) the unsatisfied balance of any Sinking Fund

Installments due on a certain future date for Subordinated Bonds of such Series, plus the amount of the sinking fund redemption premiums, if any, which would be applicable upon redemption of such Subordinated Bonds on such future date in a principal amount equal to said unsatisfied balance of such Sinking Fund Installments, or (iii) if such future dates coincide as to different Subordinated Bonds of such Series, the sum of such principal amount of Subordinated Bonds and of such unsatisfied balance of Sinking Fund Installments due on such future date plus such applicable redemption premiums, if any.

Subordinated Reimbursement Obligations means all Subordinated Bonds issued pursuant to the Subordinated Water and Sewer System Resolution, concurrently with (a) the issuance of the Water and Sewer System Bonds of a Series authorized pursuant to the provisions of the Water and Sewer System Resolution for which Credit Enhancement or liquidity support is being provided with respect to such Water and Sewer System Bonds (or a maturity or maturities or interest rate within a maturity thereof) by a third-party or (b) the issuance of the Subordinated Bonds of a Series authorized pursuant to the provisions of the Subordinated Water and Sewer System Resolution for which Credit Enhancement or liquidity support is being provided with respect to such Subordinated Bonds (or a maturity or maturities or interest rate within a maturity thereof) by a third-party, for the purpose of evidencing JEA's obligation to repay any advances or loans made to, or on behalf of, JEA in connection with such Credit Enhancement or liquidity support, and any Subordinated Bonds thereafter authenticated and delivered in lieu of or in substitution for such Subordinated Bonds.

Subordinated Water and Sewer System Resolution means the Water and Sewer System Subordinated Revenue Bond Resolution, supplemental to the Water and Sewer System Resolution, as from time to time amended or supplemented by Supplemental Subordinated Resolutions in accordance with the terms of the Water and Sewer System Resolution and the terms of the Water and Sewer System Subordinated Revenue Bond Resolution. The Water and Sewer System Subordinated Revenue Bond Resolution shall constitute a "Supplemental Resolution" within the meaning of the Water and Sewer System Resolution.

Supplemental Subordinated Resolution means any resolution supplemental to the Subordinated Water and Sewer System Resolution adopted by JEA in accordance with the Water and Sewer System Resolution and the Subordinated Water and Sewer System Resolution.

U.S. Treasury means the U.S. Treasury or any party designated by the federal government to issue cash subsidy payments on Build America Bonds.

Variable Rate Subordinated Bond means any Subordinated Bond not bearing interest throughout its term at a specified rate or specified rates determined at the time of initial issuance of the Series of Subordinated Bonds of which such Subordinated Bond is one.

Variable Rate Taxable Index means the One-Month LIBOR Rate or, if the One-Month LIBOR Rate no longer shall be available, the Alternate Variable Rate Taxable Index.

Variable Rate Tax-Exempt Index means the BMA Municipal Swap Index or, if the BMA Municipal Swap Index no longer shall be available, the Alternate Variable Rate Tax-Exempt Index.

Water and Sewer System Capital Appreciation Subordinated Bonds means any Subordinated Bonds issued under the Subordinated Water and Sewer System Resolution as to which interest is (i) compounded periodically on dates that are specified in the Supplemental Subordinated Resolution authorizing such Water and Sewer System Capital Appreciation Subordinated Bonds and (ii) payable only at the maturity, earlier redemption or other payment thereof pursuant to the Subordinated Water and Sewer System Resolution or the Supplemental Subordinated Resolution authorizing such Water and Sewer System Capital Appreciation Subordinated Bonds.

Water and Sewer System Deferred Income Subordinated Bonds means any Subordinated Bonds issued under the Subordinated Water and Sewer System Resolution as to which interest accruing prior to the Current Interest Commencement Date is (i) compounded periodically on dates specified in the Supplemental Subordinated Resolution authorizing such Water and Sewer System Deferred Income Subordinated Bonds and (ii) payable only at the maturity, earlier redemption or other payment thereof pursuant to the Subordinated Water and Sewer System Resolution or the Supplemental Subordinated Resolution authorizing such Water and Sewer System Deferred Income Subordinated Bonds.

Pledge

The Subordinated Bonds are special obligations of JEA payable from and secured as to the payment of the principal or Redemption Price, if any, thereof, and interest thereon, in accordance with their terms and the provisions of the Subordinated Water and Sewer System Resolution by (i) the amounts on deposit in the Subordinated Indebtedness Fund established pursuant to the Water and Sewer System Resolution as may from time to time be available therefor, *subject, however,* to the pledge of the Trust Estate created by the Water and Sewer System Resolution as security for the Water and Sewer System Bonds and (ii) amounts on deposit in the Funds established under the Subordinated Water and Sewer System Resolution, subject only to the provisions of the Water and Sewer System Resolution and the Subordinated Water and Sewer System Resolution permitting the application thereof for the purposes and on the terms and conditions set forth in the Water and Sewer System Resolution and the Subordinated Water and Sewer System Resolution. The Subordinated Bonds shall be "Subordinated Indebtedness" within the meaning of such term contained in the Water and Sewer System Resolution.

Deposit of Revenues

Pursuant to the Subordinated Water and Sewer System Resolution, as soon as practicable in each month following the payment of the Cost of Operation and Maintenance of the Water and Sewer System and the making of all required deposits pursuant to the Water and Sewer System Resolution in respect of debt service on, and required reserves for, the Water and Sewer System Bonds, JEA is to pay out of the Revenue Fund established under the Water and Sewer System Resolution to the extent permitted by the Water and Sewer System Resolution and to the extent that the amount in the Revenue Fund is available therefor and deposit in the Subordinated Indebtedness Fund established pursuant to the Water and Sewer System Resolution (a) in each month such amounts as shall be provided (i) in the then current annual budget or as otherwise determined by JEA to be deposited in the Subordinated Indebtedness Fund for the payment of the principal or sinking fund redemption price, if any, of, and interest on, the Subordinated Bonds and other Subordinated Indebtedness on the next succeeding payment date with respect to such bonds and indebtedness and (ii) in any event, on any date that any principal or sinking fund redemption price, if any, of, and interest on, any Subordinated Bonds or other Subordinated Indebtedness shall become due and payable, an amount which, together with (A) other amounts then on deposit in such Subordinated Indebtedness Fund, including the proceeds of the sale of the Subordinated Bonds or Subordinated Indebtedness (exclusive of amounts, if any, set aside in said Fund for the payment of interest on Subordinated Indebtedness on a future date or as a reserve for the payment of the principal or redemption price, if any, of, and interest on, Subordinated Indebtedness), (B) in the case of Subordinated Bonds of any Series for which a separate fund or account has been established pursuant to the Subordinated Water and Sewer System Resolution, the amounts then on deposit in such separate account (exclusive of amounts, if any, set aside in said fund or account for the payment of interest on the Subordinated Bonds of such Series on a future date) and (C) in the case of any other issue of Subordinated Indebtedness for which a separate fund or account has been established as a source of moneys for the payment of the Subordinated Indebtedness of such issue, the amounts available in such fund or account (exclusive of amounts, if any, set aside in said fund or account for the payment of interest on the Subordinated Indebtedness of such issue on a future date or as a reserve for the payment of the principal or redemption price, if any, of, and interest on, the Subordinated Indebtedness of such issue), will be sufficient and available to make such payment in full on such payment date.

During any period in which the Subordinated Debt Service with respect to any Series of Subordinated Bonds containing Build America Bonds shall be calculated in the manner provided in the proviso of the first paragraph of the definition thereof, no later than each interest payment date for such Build America Bonds then Outstanding, JEA shall withdraw from the Revenue Fund and transfer to the Subordinated Bond Fund an amount equal to the amount of the cash subsidy payment payable to JEA by the U.S. Treasury in respect of the interest payable on such Build America Bonds on such interest payment date, without regard to any reduction thereto made by the U.S. Treasury for the purpose of offsetting any amount due from JEA to it. Any cash subsidy payment received by JEA from the U.S. Treasury in respect of the interest payable on any Build America Bonds shall be deposited by JEA upon the receipt thereof in the Revenue Fund, but not such payment shall constitute Revenues for any purpose of the Electric System Resolution or this Subordinated Resolution.

Subordinated Indebtedness Fund

Subject to the provisions of the Water and Sewer System Resolution, amounts in the Subordinated Indebtedness Fund shall be applied to the payment of the principal or sinking fund Redemption Price, if any, of, and interest on, the Subordinated Bonds. In addition, JEA may apply such amounts to the purchase or redemption of Subordinated Bonds to satisfy sinking fund requirements.

The Subordinated Water and Sewer System Resolution also provides that, in the event of the refunding or defeasance of any Subordinated Bonds, JEA may withdraw from the Subordinated Indebtedness Fund all or any portion of the amounts accumulated therein and deposit such amounts with the Escrow Agent for the Subordinated Bonds being refunded or defeased to be held for the payment of the principal or Redemption Price, if applicable, and interest on the Subordinated Bonds being refunded or defeased; *provided*, *however*, that such withdrawal shall not be made unless (a) immediately thereafter the Subordinated Bonds being refunded or defeased shall be deemed to have been paid pursuant to the provisions of the Subordinated Water and Sewer System Resolution, and (b) the amount remaining in the Subordinated Indebtedness Fund, after giving effect to the issuance of any obligations being issued to refund any Subordinated Bonds being refunded and the disposition of the proceeds thereof, shall not be less than the requirement of such Account. In the event of such refunding or defeasance, JEA may also withdraw from the Subordinated Indebtedness Fund all or any portion of the amounts accumulated therein and deposit such amounts in any Fund or Account under the Water and Sewer System Resolution or any fund or account established thereunder; *provided*, *however*, that such withdrawal shall not be made unless items (a) and (b) referred to hereinabove have been satisfied; and *provided*, *further*, that, at the time of such withdrawal, there shall exist no deficiency in any Fund or Account held under the Water and Sewer System Resolution or any fund or account held under the Subordinated Water and Sewer System Resolution.

Subordinated Bond Construction Fund

The Subordinated Water and Sewer System Resolution establishes a Subordinated Bond Construction Fund into which shall be deposited the amount required to be paid by the provisions of any Supplemental Subordinated Resolution and as may be paid into the Subordinated Bond Construction Fund, at the option of JEA, any moneys received for or in connection with the Water and Sewer System by JEA from any other source, unless required to be otherwise applied as provided by the Water and Sewer System Resolution or the Subordinated Water and Sewer System Resolution. Amounts on deposit in the Subordinated Bond Construction Fund shall be withdrawn, used and applied by JEA solely for the payment of costs of the Water and Sewer System or any other lawful purpose of JEA relating to the Water and Sewer System.

Subordinated Bond Rate Stabilization Fund

The Subordinated Water and Sewer System Resolution establishes a Subordinated Bond Stabilization Fund. As soon as practicable in each month following the application of Revenues to make the deposits required by the Water and Sewer System Resolution, but in any case not later than the last day of such month, JEA shall pay out of the amounts remaining in the Revenue Fund to the extent permitted by the Water and Sewer System Resolution, and to the extent that the amount in the Revenue Fund is available therefor, for deposit into the Subordinated Bond Rate Stabilization Fund, the amount, if any, budgeted for deposit into such Fund for the then current month as set forth in the then current annual budget, or the amount otherwise determined by JEA to be deposited to such Fund for the month.

Each month JEA shall transfer from the Subordinated Bond Rate Stabilization Fund to the Subordinated Indebtedness Fund the amount budgeted for transfer into such Fund for the then current month as set forth in the then current annual budget, or the amount otherwise determined by JEA to be deposited into such Fund for the month. JEA may also from time to time withdraw amounts currently on deposit in the Subordinated Bond Rate Stabilization Fund and (i) transfer such amounts to any other Fund or Account established under the Water and Sewer System Resolution or any fund or account established under the Subordinated Water and Sewer System Resolution, (ii) use such amounts to purchase or redeem Water and Sewer System Bonds or Subordinated Bonds, (iii) use such amounts to otherwise provide for the payment of Water and Sewer System Bonds or Subordinated Bonds or (iv) use such amounts for any lawful purpose of JEA relating to the Water and Sewer System. If JEA determines that amounts on deposit in the Subordinated Bond Rate Stabilization Fund are to be used to pay the principal or Redemption Price of, or interest on, or to otherwise provide for the payment of, Water and Sewer System Bonds or Subordinated Bonds, JEA may designate the particular Water and Sewer System Bonds or Subordinated Bonds for which such amounts are to be so used, and such amounts shall, subject only to the other provisions of the Subordinated Water and Sewer System Resolution permitting or requiring the application thereof, be used for such purpose.

At any time and from time to time JEA may transfer for deposit in the Subordinated Bond Rate Stabilization Fund from any source such amounts as JEA deems necessary or desirable; such amounts shall be applied for purposes of the Subordinated Bond Rate Stabilization Fund in accordance with the preceding paragraph.

Notwithstanding anything to the contrary contained in the Subordinated Water and Sewer System Resolution, whenever the amounts available therefor under the Water and Sewer System Resolution shall not be sufficient to pay the principal or Redemption Price of, or interest on, the Water and Sewer System Bonds then due, JEA shall withdraw from the Subordinated Bond Rate Stabilization Fund an amount equal to the amount of such deficiency (or the entire amount on deposit therein, if less than the amount of such deficiency), and shall deposit such amount in the Debt Service Fund established under the Water and Sewer System Resolution.

Establishment of Additional Funds

If and to the extent provided in a Supplemental Subordinated Resolution, JEA may establish one or more additional funds or accounts with respect to the Subordinated Bonds of one or more Series as shall be specified in such Supplemental Subordinated Resolution and, if and to the extent provided in any such Supplemental Subordinated Resolution, amounts on deposit in any such fund or account, including the investments, if any, thereof may be pledged for the payment of the principal or Redemption Price, if any, of, and interest on, any or all of such Subordinated Bonds. In such event, deposits to and withdrawals from any such fund or account shall be governed by the provisions of such Supplemental Subordinated Resolution; *provided, however,* that in the event that any such Supplemental Subordinated Resolution shall provide for the deposit of Revenues into any such fund or account, such deposit shall not be made in any month until after the deposits required pursuant to the provisions of the Water and Sewer System Resolution shall have been made for such month, and such deposits shall be made pro rata with the deposits of Revenues to the Subordinated Bond Rate Stabilization Fund provided for in the provisions of the Subordinated Water and Sewer System Resolution; and *provided*, *further*, that if the amount on deposit in the Revenue Fund shall not be sufficient to make all such deposits so required to be made with respect to all such funds and accounts in any month, then such amount on deposit in the Revenue Fund shall be applied ratably, in proportion to the amount necessary for deposit into each such fund and account.

Initial Subordinated Debt Service Reserve Fund

Pursuant to the Third Supplemental Water and Sewer System Revenue Subordinated Bond Resolution adopted by JEA on July 15, 2003 (the "Third Supplemental Subordinated Water and Sewer System Resolution"), authorizing JEA's Water and Sewer System Subordinated Revenue Bonds, 2003 Series C (the "2003 Series C Subordinated Bonds") JEA established an additional fund under the Subordinated Water and Sewer System Resolution, the "Initial Subordinated Debt Service Reserve Fund." The 2003 Series C Subordinated Bonds were additionally secured by amounts on deposit in the Initial Subordinated Debt Service Reserve Fund, including the investments and investment income, if any, thereof, which amounts were pledged as additional security for the payment of the principal or sinking fund redemption price of, and interest on, the 2003 Series C Subordinated Bonds, subject only to the provisions of the Water and Sewer System Resolution and the Subordinated Water and Sewer System Resolution permitting the application thereof for the purposes and on the terms and conditions set forth in the Water and Sewer System Resolution and the Subordinated Water and Sewer System Resolution. The Initial Subordinated Debt Service Reserve Fund may, at the option of JEA, secure additional Subordinated Bonds of any series thereafter issued. As of the date of the Annual Disclosure Report to which this Appendix is attached, the Initial Subordinated Debt Service Reserve Fund also secures JEA's Water and Sewer System Subordinated Revenue Bonds, 2010 Series A, 2010 Series B, 2012 Series A, 2012 Series B, 2013 Series A and 2017 Series A.

Pursuant to the Subordinated Water and Sewer System Resolution, the Subordinated Bonds of any series are not required to be additionally secured by amounts on deposit in the Initial Subordinated Debt Service Reserve Fund. However, JEA may provide, at its option, in the Supplemental Subordinated Resolution authorizing the Subordinated Bonds of any series that the Subordinated Bonds of such series will be additionally secured by amounts on deposit in any Initial Subordinated Debt Service Reserve Fund. In the event that the Subordinated Bonds of a series hereafter issued are to be additionally secured by amounts on deposit in the Initial Subordinated Debt Service Reserve Fund, it will be a condition to the issuance of such Subordinated Bonds that the amount on deposit in the Initial Subordinated Debt Service Reserve Fund, after giving effect to the issuance of such Subordinated Bonds, equals the Subordinated Debt Service Reserve Requirement.

The Subordinated Water and Sewer System Resolution requires JEA to deposit and maintain in the Initial Subordinated Debt Service Reserve Fund moneys, Investment Securities and/or reserve fund credit instruments (hereinafter defined) in an amount equal to the Subordinated Debt Service Reserve Requirement. The Subordinated Debt Service Reserve Requirement for the Initial Subordinated Debt Service Reserve Fund is defined in the Third Supplemental Subordinated Water and Sewer System Resolution, as of any date of calculation, as an amount equal to the lowest of (a) ten percent of the original principal amount of the Subordinated Bonds of all issues (as defined for federal income tax purposes) secured thereby (or, if the Subordinated Bonds of any such issue are issued at an issue price (as computed for federal income tax purposes) of greater than 102 percent or less than 98 percent of the principal amount thereof, ten percent of such issue price), (b) the maximum Aggregate Subordinated Debt Service on the Subordinated Bonds of all series secured thereby then outstanding for the current or any future Bond Year (excluding interest (other than accrued interest paid in connection with the initial issuance thereof) on such Subordinated Bonds to be paid from deposits in the Subordinated Indebtedness Fund made from the proceeds of Subordinated Bonds, Subordinated Indebtedness or other evidences of indebtedness of JEA) or (c) 125 percent of the average annual Subordinated Debt Service on the Subordinated Bonds of all series secured thereby then outstanding for the then current and each future Bond Year (excluding interest (other than accrued interest paid in connection with the initial issuance thereof) on such Subordinated Bonds to be paid from deposits in the Subordinated Indebtedness Fund made from the proceeds of Subordinated Bonds, Subordinated Indebtedness or other evidences of indebtedness of JEA); *provided*, *however*, that in no event may an increase in the Subordinated Debt Service Reserve Requirement for the Initial Subordinated Debt Service Reserve Fund resulting from the issuance of an additional issue (as defined for federal income tax purposes) of Subordinated Bonds exceed ten percent of the original principal amount of the Subordinated Bonds of such issue (or, if the Subordinated Bonds of such issue are issued at an issue price (as computed for federal income tax purposes) of greater than 102 percent or less than 98 percent of the principal amount thereof, ten percent of such issue price).

Amounts in the Initial Subordinated Debt Service Reserve Fund in excess of the Subordinated Debt Service Reserve Requirement, after giving effect to any reserve fund credit instrument, will be credited to the Revenue Fund.

The Third Supplemental Subordinated Water and Sewer System Resolution provides that in lieu of maintaining moneys or investments in the Initial Subordinated Debt Service Reserve Fund, JEA at any time may cause to be deposited therein for the benefit of the Holders of the Subordinated Bonds secured thereby an irrevocable surety bond, an insurance policy or a letter of credit satisfying the conditions set forth therein (a "reserve fund credit instrument"), in an amount equal to the difference between the Subordinated Debt Service Reserve Requirement and the sums of money or value of Investment Securities then on deposit in the Initial Subordinated Debt Service Reserve Fund, if any. The following is a summary of the provisions of the Third Supplemental Subordinated Water and Sewer System Resolution relating to the deposit of reserve fund credit instruments to the Initial Subordinated Debt Service Reserve Fund:

(a) A surety bond or insurance policy issued by a company (a "municipal bond insurer") licensed to issue an insurance policy guaranteeing the timely payment of debt service on the Subordinated Bonds that are additionally secured by the Initial Subordinated Debt Service Reserve Fund (the "Initial Subordinated Debt Service Reserve Fund Additionally Secured Bonds") may be deposited in the Initial Subordinated Debt Service Reserve Fund to meet the Subordinated Debt Service Reserve Requirement or if the claims paying ability of the issuer thereof shall be rated "AAA" or "Aaa" by Standard & Poor's Credit Market Services, a business of Standard & Poor's Financial Services LLC, a limited liability company, organized and existing under the laws of the State of Delaware ("S&P"), or Moody's Investors Service ("Moody's"), respectively.

(b) An unconditional irrevocable letter of credit issued by a bank may be deposited in the Initial Subordinated Debt Service Reserve Fund if the issuer thereof is rated at least "AA" by S&P and if such letter of credit shall be payable in one or more draws upon presentation by the beneficiary thereof of a sight draft accompanied by its certificate that it then holds insufficient funds to make a required payment of principal or interest on the Subordinated Bonds secured by the Initial Subordinated Debt Service Reserve Fund. The draws shall be payable within two days of presentation of the sight draft. The letter of credit shall be for a term of not less than three years. The issuer of the letter of credit shall be required to notify JEA and the beneficiary thereof, not later than 30 months prior to the stated expiration date of the letter of credit, as to whether such expiration date shall be extended, and if so, shall indicate the new expiration date.

(c) If such notice indicates that the expiration date shall not be extended, JEA shall deposit in the Initial Subordinated Debt Service Reserve Fund an amount sufficient to cause the cash or Investment Securities on deposit in the Initial Subordinated Debt Service Reserve Fund, together with any other qualifying reserve fund credit instruments, to equal the Subordinated Debt Service Reserve Requirement, such deposit to be paid in equal installments on at least a semi-annual basis over the remaining term of the letter of credit, unless the reserve fund credit instrument is replaced by a reserve fund credit instrument meeting the requirements in either of clauses (a) or (b) above. The letter of credit shall permit a draw in full not less than two weeks prior to the expiration or termination of such letter of credit if the letter of credit has not been replaced or renewed. The beneficiary of the letter of credit shall draw upon the letter of credit prior to its expiration or termination unless an acceptable replacement is in place or the Initial Subordinated Debt Service Reserve Fund is fully funded in its required amount.

(d) The obligation to reimburse the issuer of a reserve fund credit instrument for any fees, expenses, claim or draws upon such reserve fund credit instrument shall be subordinate to the payment of debt service on the Subordinated Bonds. Subject to the second and third succeeding sentences, the right of the issuer of a reserve fund credit instrument to payment or reimbursement for claims or draws under such reserve fund credit instrument and to payment or reimbursement of its fees and expenses shall be on a parity with the cash replenishment of the Initial Subordinated Debt Service Reserve Fund. The reserve fund credit instrument shall provide for a revolving feature under which the amount available thereunder will be reinstated to the extent of any reimbursement of draws or claims paid. If the revolving feature is suspended or terminated for any reason, the right of the issuer of the reserve fund credit instrument to reimbursement will be subordinated to cash replenishment of the Initial Subordinated Debt Service Reserve Fund to an amount equal to the difference between the full original amount available under the reserve fund credit instrument and the amount then available for further draws or claims. If (i) the issuer of a reserve fund credit instrument becomes insolvent or (ii) the issuer of a reserve fund credit instrument defaults in its payment obligations thereunder or (iii) the claims-paying ability of the issuer of the insurance policy or surety bond falls below a S&P "AAA" or a Moody's "Aaa" or (iv) the rating of the issuer of the letter of credit falls below a S&P "AA", the obligation to reimburse the issuer of the reserve fund credit instrument shall be subordinate to the cash replenishment of the Initial Subordinated Debt Service Reserve Fund.

(e) If (i) the revolving reinstatement feature described in the preceding clause (d) is suspended or terminated or (ii) the rating of the claims paying ability of the issuer of the surety bond or insurance policy falls below a S&P "AAA" or a Moody's "Aaa" or (iii) the rating of the issuer of the letter of credit falls below a S&P "AA", JEA shall either (X) deposit into the Initial Subordinated Debt Service Reserve Fund an amount sufficient to cause the cash or Investment Securities on deposit in the Initial Subordinated Debt Service Reserve Fund to equal the Subordinated Debt Service Reserve Requirement, such amount to be paid over the ensuing five years in equal installments deposited at least semi-annually or (Y) replace such instrument with a surety bond, insurance policy or letter of credit meeting the requirements in either of clauses (a) or (b) above within six months of such occurrence. In the event (1) the rating of the claims-paying ability of the issuer of the surety bond or insurance policy falls below "A" or (2) the rating of the issuer of the letter of credit falls below "A" or (3) the issuer of the reserve fund credit instrument defaults in its payment obligations or (4) the issuer of the reserve fund credit instrument becomes insolvent, JEA shall either (X) deposit into the Initial Subordinated Debt Service Reserve

Fund an amount sufficient to cause the cash or Investment Securities on deposit in the Initial Subordinated Debt Service Reserve Fund to equal to Subordinated Debt Service Reserve Requirement, such amount to be paid over the ensuing year in equal installments on at least a monthly basis or (Y) replace such instrument with a surety bond, insurance policy or letter of credit meeting the requirements in either of clauses (a) or (b) above within six months of such occurrence. Where applicable, the amount for draws or claims under the reserve fund credit instrument may be reduced by the amount of cash or value of Investment Securities deposited in the Initial Subordinated Debt Service Reserve Fund pursuant to clause (X) of the penultimate sentence of this clause (e).

(f) In the event that a reserve fund credit instrument shall be deposited into the Initial Subordinated Debt Service Reserve Fund as aforesaid, any amounts owed by JEA to the issuer of such reserve fund credit instrument as a result of a draw thereon or a claim thereunder, as appropriate, shall be included in any calculation of debt service requirements required to be made pursuant to the Subordinated Water and Sewer System Resolution for purposes of the additional bonds test and rate covenant contained in the Subordinated Water and Sewer System Resolution.

(g) The beneficiary of any reserve fund credit instrument shall ascertain the necessity for a claim or draw upon such reserve fund credit instrument and provide notice to the issuer of the reserve fund credit instrument in accordance with its terms not later than three days (or such longer period as may be necessary depending on the permitted time period for honoring a draw under the reserve fund credit instrument) prior to each interest payment date for the Subordinated Bonds of any Series additionally secured by the Initial Subordinated Debt Service Reserve Fund.

(h) Cash on deposit in the Initial Subordinated Debt Service Reserve Fund shall be used (or investments purchased with such cash shall be liquidated and the proceeds applied as required) prior to any drawing on any reserve fund credit instrument. If and to the extent that more than one reserve fund credit instrument is deposited in the Initial Subordinated Debt Service Reserve Fund, drawings thereunder and repayments of costs associated therewith shall be made on a pro rata basis, calculated by reference to the maximum amounts available thereunder.

On April 8, 2004, simultaneously with the issuance of JEA's Water and Sewer System Subordinated Revenue Bonds, 2004 Series A, JEA caused FGIC to issue its Municipal Bond Debt Service Reserve Fund Policy (the "FGIC Subordinated Reserve Policy") for deposit to the credit of the Initial Subordinated Debt Service Reserve Fund. The FGIC Subordinated Reserve Policy is in the amount of $2,292,670.54, is non-cancelable, terminates on October 1, 2034 and satisfied the requirements with respect to a reserve fund credit instrument contained in the Third Supplemental Subordinated Water and Sewer System Resolution at the time of its deposit to the Initial Subordinated Debt Service Reserve Fund. Because of a rating downgrade of FGIC, JEA has made deposits to the Initial Subordinated Debt Service Reserve Fund in the amount of the FGIC Subordinated Reserve Policy.

On September 22, 2004, simultaneously with the issuance of JEA's Water and Sewer System Subordinated Revenue Bonds, 2004 Series B, JEA caused Assured Guaranty Municipal Corp., previously known as Financial Security Assurance Inc. ("FSA") to issue its Debt Service Reserve Insurance Policy (the "FSA Subordinated Reserve Policy") for deposit to the credit of the Initial Subordinated Debt Service Reserve Fund. The FSA Subordinated Reserve Policy is in the amount of $1,076,155.73, is non-cancelable, terminates on October 1, 2025 and satisfied the requirements with respect to a reserve fund credit instrument contained in the Third Supplemental Subordinated Water and Sewer System Resolution at the time of its deposit to the Initial Subordinated Debt Service Reserve Fund. Because of a rating downgrade of FSA, JEA has made deposits to the Initial Subordinated Debt Service Reserve Fund in the amount of the FSA Subordinated Reserve Policy.

On June 6, 2005, JEA caused MBIA Insurance Corporation ("MBIA") to issue its Debt Service Reserve Surety Bond (the "Initial MBIA Subordinated Surety Bond") for deposit to the credit of the Initial Subordinated Debt Service Reserve Fund. The Initial MBIA Subordinated Surety Bond is in the amount of $3,957,054.21, is non-cancelable, terminates on October 1, 2043 and satisfied the requirements with respect to a reserve fund credit instrument contained in the Third Supplemental Subordinated Water and Sewer System Resolution at the time of its deposit to the Initial Subordinated Debt Service Reserve Fund.

On May 25, 2006, simultaneously with the issuance of JEA's Water and Sewer System Subordinated Revenue Bonds, 2006 Series A (the "2006 Series A Bonds"), JEA caused MBIA to issue an additional Debt Service Reserve Surety Bond (the "Second MBIA Subordinated Surety Bond") for deposit to the credit of the Initial Subordinated Debt Service Reserve Fund. The Second MBIA Subordinated Surety Bond is in the amount of $977,475.00, is non-cancelable, terminates on October 1, 2036 (or upon the earlier retirement of all of the 2006 Series A Bonds) and satisfied the requirements with respect to a reserve fund credit instrument contained in the Third Supplemental Subordinated Water and Sewer System Resolution at the time of its deposit to the Initial Subordinated Debt Service Reserve Fund.

Effective as of January 1, 2009, MBIA Inc., parent company of MBIA, restructured MBIA; such restructuring involved the reinsurance and assignment of MBIA's obligations under the Initial MBIA Subordinated Surety Bond and the Second MBIA Subordinated Surety Bond (collectively, the "MBIA Surety Bonds") to National Public Finance Guarantee Corporation ("NPFGC") which is a subsidiary of MBIA Inc. Because of a rating downgrade of MBIA, JEA has made deposits to the Initial Subordinated Debt Service Reserve Fund in the amount of the MBIA Surety Bonds.

Additional Subordinated Bonds; Conditions to Issuance

JEA may issue additional Subordinated Bonds for any lawful purpose of the Water and Sewer System, including providing funds for the refunding of Outstanding Water and Sewer System Bonds or Outstanding Subordinated Bonds and evidencing JEA's obligation to repay any advances or loans made to, or on behalf of, JEA in connection with Credit Enhancement or liquidity support. All such additional Subordinated Bonds will be payable from amounts on deposit in the Subordinated Indebtedness Fund and secured thereby on a parity with all other Subordinated Bonds. Set forth below are certain conditions applicable to the issuance of additional Subordinated Bonds. The Subordinated Water and Sewer System Resolution provides that a Series of Subordinated Bonds may be issued at one time or from time to time. If the Subordinated Bonds of a Series are to be issued from time to time, the Subordinated Water and Sewer System Resolution requires that the conditions set forth below be satisfied only prior to the issuance of the first Subordinated Bonds of such Series to be issued.

Debt Service Coverage Test**:** The issuance of any Series of additional Subordinated Bonds (except for Refunding Subordinated Bonds and Subordinated Reimbursement Obligations) is conditioned upon the delivery by an Authorized Officer of JEA of a certificate to the effect that either (a) the difference between Net Revenues and Capacity Charges for each of the three full Bond Years succeeding the date of issuance of the Subordinated Bonds of the Series with respect to which such certificate is being given, as such Net Revenues and Capacity Charges are estimated in accordance with the Subordinated Water and Sewer System Resolution, are at least equal to the sum of (i) the Adjusted Aggregate Debt Service for each such Bond Year, (ii) 120 percent of the Adjusted Aggregate Subordinated Debt Service for each such Bond Year and (iii) all amounts payable by JEA for each such Bond Year with respect to all Existing Parity Subordinated Indebtedness and any Additional Parity Subordinated Indebtedness, or (b) the Net Revenues for any 12 consecutive month period within the 24 consecutive months immediately preceding the date of issuance of the Subordinated Bonds of the Series with respect to which such certificate is being given is at least equal to the greater of (X) the sum of (i) the Average Annual Adjusted Aggregate Debt Service, (ii) 110 percent of the Average Annual Adjusted Aggregate Subordinated Debt Service and (iii) all amounts payable by JEA during such 12 month period with respect to all Existing Parity Subordinated Indebtedness and any Additional Parity Subordinated Indebtedness and (Y) the sum of (i) the Average Annual Adjusted Aggregate Debt Service, (ii) the Average Annual Adjusted Aggregate Subordinated Debt Service, (iii) all amounts payable by JEA during such 12 month period with respect to all Existing Parity Subordinated Indebtedness and any Additional Parity Subordinated Indebtedness and (iv) the amount most recently determined to be required to be deposited in the Renewal and Replacement Fund for the then current, or a previous, Fiscal Year.

***No Default*:** In addition, additional Subordinated Bonds (except for Refunding Subordinated Bonds and Subordinated Reimbursement Obligations) may be issued only if an Authorized Officer of JEA certifies that upon the issuance of such Series JEA will not be in default in the performance of any of the covenants, conditions, agreements or provisions contained in the Water and Sewer System Resolution or in the Subordinated Water and Sewer System Resolution.

Redemption

In the case of any redemption of Subordinated Bonds, JEA shall give written notice to the Subordinated Bond Registrar(s) therefor and the Subordinated Bond Paying Agents of the redemption date, of the Series, and of the principal amounts of the Subordinated Bonds of each maturity of such Series and of the Subordinated Bonds of each interest rate within a maturity to be redeemed (which Series, maturities, interest rates within a maturity and principal amounts thereof to be redeemed shall be determined by JEA in its sole discretion, subject to any limitations with respect thereto contained in the Subordinated Water and Sewer System Resolution or any Supplemental Subordinated Resolution authorizing the Series of which such Subordinated Bonds are a part). Such notice shall be filed with such Subordinated Bond Registrars and the Subordinated Bond Paying Agents for the Subordinated Bonds to be redeemed at least 35 days prior to the redemption date (or such shorter period (a) as may be specified in the Supplemental Subordinated Resolution authorizing the Series of the Subordinated Bonds to be redeemed or (b) as shall be acceptable to such Subordinated Bond Registrars and Subordinated Bond Paying Agents). In the event notice of redemption shall have been given, and unless such notice shall have been revoked or shall cease to be in effect in accordance with the terms thereof, there shall be paid on or prior to the redemption date to the appropriate Subordinated Bond Paying Agents an amount which, in addition to other moneys, if any, available therefor held by such Subordinated Bond Paying Agents, will be sufficient to redeem on the redemption date at the Redemption Price thereof, plus interest accrued and unpaid to the redemption date, all of the Subordinated Bonds to be redeemed.

Rate Covenant

Under the Subordinated Water and Sewer System Resolution, JEA shall at all times fix, establish, maintain, charge and collect rates, fees and charges for the use or the sale of the output, capacity or service of the Water and Sewer System which shall be sufficient to provide Revenues in each Bond Year in an amount at least equal to the amount required to satisfy either clause (i) or clause (ii) below:

> (i) the difference between (a) Net Revenues in each Bond Year and (b) Capacity Charges in such Bond Year shall be at least equal to the sum of (X) the Aggregate Debt Service for such Bond Year; *provided, however*, that any Principal Installment which is a Refundable Principal Installment may be excluded from Aggregate Debt Service for purposes of the foregoing but only to the extent that JEA intends to pay such Principal Installment from sources other than Revenues, (Y) the Aggregate Subordinated Debt Service for such Bond Year; *provided, however*, that any Subordinated Principal Installment which is a Refundable Subordinated Principal Installment may be

excluded from Aggregate Subordinated Debt Service for purposes of the foregoing but only to the extent that JEA intends to pay such Subordinated Principal Installment from sources other than Revenues and (Z) all amounts payable by JEA during such Bond Year with respect to all Existing Parity Subordinated Indebtedness and any Additional Parity Subordinated Indebtedness; or

(ii) Net Revenues in each Bond Year shall be at least equal to the sum of (X) the Aggregate Debt Service for such Bond Year; *provided*, *however*, that any Principal Installment which is a Refundable Principal Installment may be excluded from Aggregate Debt Service for purposes of the foregoing but only to the extent that JEA intends to pay such Principal Installment from sources other than Revenues, (Y) 120 percent of the Aggregate Subordinated Debt Service for such Bond Year; *provided*, *however*, that any Subordinated Principal Installment which is a Refundable Subordinated Principal Installment may be excluded from Aggregate Subordinated Debt Service for purposes of the foregoing but only to the extent that JEA intends to pay such Subordinated Principal Installment from sources other than Revenues and (Z) all amounts payable by JEA during such Bond Year with respect to all Existing Parity Subordinated Indebtedness and any Additional Parity Subordinated Indebtedness.

Creations of Liens

JEA will not issue any bonds, notes, debentures or other evidences of indebtedness of similar nature, other than the Water and Sewer System Bonds and the Subordinated Bonds, payable out of or secured by a security interest in or pledge of the Subordinated Indebtedness Fund, including the funds, moneys and securities contained therein; *provided, however,* that nothing contained in the Subordinated Water and Sewer System Resolution shall prevent JEA from issuing or incurring, if and to the extent permitted by law and the Water and Sewer System Resolution, (a) Additional Parity Subordinated Indebtedness and (b) Subordinated Indebtedness that is expressly made subordinate in right of payment to the Subordinated Bonds and for which any pledge of such amounts in the Subordinated Indebtedness Fund as may from time to time be available therefor shall be, and shall be expressed to be, subordinate in all respects to the pledge and lien created under the Subordinated Water and Sewer System Resolution as security for the Subordinated Bonds.

Amendment of Subordinated Water and Sewer System Resolution

The Subordinated Water and Sewer System Resolution and the rights and obligations of JEA and of the Holders of the Subordinated Bonds may be amended by a Supplemental Subordinated Resolution, with the written consent (i) of the Holders of not less than a majority in principal amount of the Subordinated Bonds affected by such modification or amendment and (ii) in case the modification or amendment changes the terms of any Sinking Fund Installment, of the Holders of not less than a majority in principal amount of the Subordinated Bonds of the particular Series and maturity entitled to such Sinking Fund Installment No such modification or amendment may (A) permit a change in the terms of redemption or maturity of the principal of any Outstanding Subordinated Bond or of any installment of interest thereon or a reduction in the principal amount, Redemption Price or rate of interest thereon without the consent of each affected Holder, or (B) reduce the percentages or otherwise affect the classes of Subordinated Bonds the consent of the Holders of which is required to effect any such modification or amendment. For purposes of the foregoing, (a) a change in the terms of redemption of any Outstanding Subordinated Bond shall be deemed only to affect such Subordinated Bond, and shall be deemed not to affect any other Subordinated Bond and (b) the Holders of Subordinated Bonds may include the initial Holders thereof, regardless of whether such Subordinated Bonds are being held for resale.

The Subordinated Water and Sewer System Resolution provides that, if not in default in respect of any of its obligations with respect to Credit Enhancement for Subordinated Bonds of a Series, or a maturity within a Series, the Credit Enhancer for, and not the actual Holders of, Subordinated Bonds of a Series, or a maturity within a Series, for which such Credit Enhancement is being provide will be deemed to be the Holder of such Subordinated Water and Sewer System Bonds of any Series, or a maturity within a Series, at all times for the purpose of giving any approval or consent to the effectiveness of any Supplemental Subordinated Resolution or any amendment, change or modification of the Subordinated Water and Sewer System Resolution which requires the written approval or consent of Holders, except that the foregoing provisions will not apply to any change in the terms of redemption or maturity of the principal of any Outstanding Subordinated Bond or of any installment of interest thereon or a reduction in the principal amount or the Redemption Price thereof or in the rate of interest thereon, or shall reduce the percentages or otherwise affect the classes of Subordinated Bonds the consent of the Holders of which is required to effect any such modification or amendment, or shall change or modify any of the rights or obligations of any Fiduciary without its written assent thereto. See “Action by Credit Enhancer When Action by Holders of Subordinated Bonds Required” herein.

The Supplemental Subordinated Resolutions authorizing JEA’s Variable Rate Water and Sewer System Subordinated Revenue Bonds, 2008 Series A and 2008 Series B (collectively, the “Prior Series Variable Rate Water and Sewer System Subordinated Bonds”) provide that in the event that JEA shall adopt any Supplemental Subordinated Resolution making any amendment to the Subordinated Water and Sewer System Resolution for which the consent of the Holders of the Prior Series Variable Rate Water and Sewer System Subordinated Bonds of a particular Series shall be required (hereinafter in this paragraph referred to as an “Amending Resolution”), an authorized officer of JEA may deliver to the Tender Agent for the Prior Series Variable Rate Water and Sewer System Subordinated Bonds of such Series a certificate requiring that the Prior Series Variable Rate Water and Sewer System Subordinated Bonds of such Series be subject to mandatory tender for purchase at the time and in the manner provided in said Supplemental Subordinated Resolutions. Following the date on which such mandatory tender shall occur, all subsequent Holders of the Prior Series Variable Rate Water and Sewer System Subordinated Bonds of such Series shall be deemed to have consented to such Amending Resolution, notwithstanding anything to the contrary contained in the Subordinated Water and Sewer System Resolution. JEA intends to include this provision in each Supplemental Subordinated Resolution it may adopt in the future authorizing the issuance of any Series of additional Variable Rate Subordinated Bonds.

Without the consent of the Holders of the Subordinated Bonds, JEA may adopt a Supplemental Subordinated Resolution which (i) closes the Subordinated Water and Sewer System Resolution against, or provides additional conditions to, the issuance of Subordinated Bonds or other evidences of indebtedness; (ii) adds covenants and agreements of JEA; (iii) adds limitations and restrictions to be observed by JEA; (iv) authorizes Subordinated Bonds of an additional Series; (v) provides for the issuance of Subordinated Bonds in coupon form payable to bearer or in uncertificated form; and makes any modification which is to be effective only after all Subordinated Bonds of each Series Outstanding as of the date of the adoption of such Supplemental Subordinated Resolution cease to be Outstanding.

Defeasance

The pledge of moneys and securities created by the Subordinated Water and Sewer System Resolution and all covenants, agreements and other obligations of JEA to the Holders of Subordinated Bonds will cease, terminate and become void and be discharged and satisfied whenever all Subordinated Bonds and interest due or to become due thereon are paid in full. If any Subordinated Bonds are paid in full, such Subordinated Bonds shall cease to be entitled to any lien, benefit or security under the Subordinated Water and Sewer System Resolution, and all covenants, agreements and obligations of JEA to the Holders of such Subordinated Bonds will cease, terminate and become void and be discharged and satisfied. Subordinated Bonds are deemed to have been paid and are not entitled to the lien, benefit and security of the Subordinated Water and Sewer System Resolution whenever the following conditions (or such other conditions as may be set forth in the Supplemental Subordinated Resolution authorizing such Subordinated Bonds) are met: (i) in case any Subordinated Bonds are to be redeemed prior to their maturity, JEA has given to the Escrow Agent therefor instructions to give notice of redemption therefor, (ii) there has been deposited with such Escrow Agent either moneys or Defeasance Securities the principal of and interest on which when due will provide moneys which, together with other moneys, if any, also deposited, will be sufficient to pay when due the principal or Redemption Price, if applicable, and interest due and to become due on such Subordinated Bonds, and (iii) in the event such Subordinated Bonds are not to be redeemed or paid at maturity within the next succeeding 60 days, JEA has given such Escrow Agent instructions to give a notice to the Holders of such Subordinated Bonds that the above deposit has been made and that such Subordinated Bonds are deemed to have been paid and stating the maturity or redemption date upon which moneys are expected to be available for the payment of the principal or Redemption Price, if applicable, on said Subordinated Bonds.

In addition, any Outstanding Subordinated Bonds shall, prior to the maturity or redemption date thereof, be deemed to have been paid if (a) there shall have been deposited with the Escrow Agent therefor, Water and Sewer System Bonds issued pursuant to Article II of the Water and Sewer System Resolution of the type described in Section 12.01, subsection 1 of the Subordinated Water and Sewer System Resolution (hereinafter, "Senior Bonds"), (b) in the event said Subordinated Bonds do not by their terms mature within the next succeeding 60 days, JEA shall have given such Escrow Agent in form satisfactory to it instructions to give, as soon as practicable, by first-class mail, postage paid, to the Holders of such Subordinated Bonds at their last addresses appearing on the books of JEA kept at the office of the Subordinated Bond Registrar(s) therefor a notice that the deposit required by clause (a) above has been made with such Escrow Agent and that said Subordinated Bonds are deemed to have been paid and (c) JEA and such Escrow Agent shall have entered into an agreement in writing whereby such Escrow Agent agrees, among other things, to perform the duties required to be performed by it set forth in the Water and Sewer System Resolution. Senior Bonds deposited for purposes of clause (a) above (i) shall be payable to such Escrow Agent as the registered owner thereof, (ii) shall provide, with respect to the giving of any notice by or on behalf of JEA, for the giving of such notice to such Escrow Agent no later than 2 business days prior to the earliest date required or permitted under the Subordinated Water and Sewer System Resolution for the giving of notice of the corresponding event with respect to the Subordinated Bonds, (iii) shall be payable in immediately available funds and (iv) shall be identical (except as provided in clauses (ii) and (iii) above), as to aggregate principal amount, maturity dates, interest rates and redemption features, to the Subordinated Bonds deemed to have been paid by reason of the deposit of such Senior Bonds.

Events of Default; Remedies

Events of default under the Subordinated Water and Sewer System Resolution include (i) failure to pay the principal or Redemption Price of any Subordinated Bond when due; (ii) failure to pay any installment of interest on any Subordinated Bond on the unsatisfied balance of any Sinking Fund Installment when due; (iii) failure by JEA to perform or observe any other covenants, agreements or conditions contained in the Subordinated Water and Sewer System Resolution or the Subordinated Bonds and continuation thereof for a period of 60 days after written notice thereof; (iv) certain events of bankruptcy or insolvency or (v) an Event of Default pursuant to the provisions of the Water and Sewer System Resolution. Upon the happening of any such Event of Default the Holders of not less than 25 percent in principal amount of the Subordinated Bonds then Outstanding may declare the principal of all the Subordinated Bonds then Outstanding, and the interest accrued thereon, due and payable (subject to a rescission of such declaration upon the curing of such default before the Subordinated Bonds have matured).

The Subordinated Water and Sewer System Resolution provides that, if not in default in respect of any of its obligations with respect to Credit Enhancement for Subordinated Bonds, the Credit Enhancer for, and not the actual Holders of, Subordinated Bonds for which such Credit Enhancement is being provided will be deemed to be the Holder of such Subordinated Bonds at all times for the purposes of giving any approval or consent, exercising any remedies or taking any other actions in respect of the occurrence of an Event of Default. See "Action by Credit Enhancer When Action by Holders of Subordinated Bonds Required" herein.

During the continuance of an Event of Default under the Subordinated Water and Sewer System Resolution, JEA is to apply all moneys, securities and funds held or received by JEA with respect to the Subordinated Bonds as follows and in the following order: (i) to the extent required in the Water and Sewer System Resolution, to the payment of the interest and principal or redemption price due on the Water and Sewer System Bonds and (ii) to the interest and principal or Redemption Price due on the Subordinated Bonds.

Subordinated Bond Paying Agents

The Subordinated Water and Sewer System Resolution requires the appointment by JEA of one or more Subordinated Bond Paying Agent(s) for the Subordinated Bonds of each Series. Any Subordinated Bond Paying Agent may resign on 60 days' notice and may at any time be removed with or without cause by JEA. Successor Subordinated Bond Paying Agents will be appointed by JEA, and will be an officer of JEA, a transfer agent duly registered pursuant to the Securities Exchange Act of 1934, as amended, or a bank, trust company or national banking association having capital stock, surplus and undivided earnings aggregating at least $25,000,000 if there be such an entity willing to accept appointment.

Action by Credit Enhancer When Action by Holders of Subordinated Bonds Required

Except as otherwise provided in a Supplemental Subordinated Resolution authorizing Subordinated Bonds for which Credit Enhancement is being provided, if not in default in respect of any of its obligations with respect to Credit Enhancement for the Subordinated Bonds of a Series, or a maturity within a Series, the Credit Enhancer for, and not the actual Holders of, the Subordinated Bonds of a Series, or a maturity within a Series, for which such Credit Enhancement is being provided, shall be deemed to be the Holder of Subordinated Bonds of any Series, or maturity within a Series, as to which it is the Credit Enhancer at all times for the purpose of (i) giving any approval or consent to the effectiveness of any Supplemental Subordinated Resolution or any amendment, change or modification of the Subordinated Water and Sewer System Resolution which requires the written approval or consent of Holders; *provided*, *however*, that the foregoing shall not apply to any change in the terms of redemption or maturity of the principal of any Outstanding Subordinated Bond or of any installment of interest thereon or a reduction in the principal amount or the Redemption Price thereof or in the rate of interest thereon, or shall reduce the percentages or otherwise affect the classes of Subordinated Bonds the consent of the Holders of which is required to effect any such modification or amendment, or shall change or modify any of the rights or obligations of any Subordinated Bond Fiduciary without its written assent thereto and (ii) giving any approval or consent, exercising any remedies or taking any other action following the occurrence of an Event of Default under the Subordinated Water and Sewer System Resolution.

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Special Provisions Relating to Water and Sewer System Capital Appreciation Subordinated Bonds, Water and Sewer System Deferred Income Subordinated Bonds and Subordinated Reimbursement Obligations

The principal and interest portions of the Accreted Value of Water and Sewer System Capital Appreciation Subordinated Bonds or the Appreciated Value of Water and Sewer System Deferred Income Subordinated Bonds becoming due at maturity or by virtue of a Sinking Fund Installment shall be included in the calculations of accrued and unpaid and accruing interest or Principal Installments made under the definitions of Subordinated Debt Service, Aggregate Subordinated Debt Service, Adjusted Aggregate Subordinated Debt Service and Average Annual Adjusted Aggregate Subordinated Debt Service only from and after the date (the "Calculation Date") which is one year prior to the date on which such Accreted Value or Appreciated Value, as the case may be, becomes so due, and the principal and interest portions of such Accreted Value or Appreciated Value shall be deemed to accrue in equal daily installments from the Calculation Date to such due date.

For the purposes of (i) receiving payment of the Redemption Price if a Water and Sewer System Capital Appreciation Subordinated Bond is redeemed prior to maturity, or (ii) receiving payment of a Water and Sewer System Capital Appreciation Subordinated Bond if the principal of all Subordinated Bonds is declared immediately due and payable following an Event of Default or (iii) computing the principal amount of Subordinated Bonds held by the Holder of a Water and Sewer System Capital Appreciation Subordinated Bond in giving to JEA any notice, consent, request, or demand pursuant to the Subordinated Water and Sewer System Resolution for any purpose whatsoever, the principal amount of a Water and Sewer System Capital Appreciation Subordinated Bond shall be deemed to be its then current Accreted Value.

For the purposes of (i) receiving payment of the Redemption Price if a Water and Sewer System Deferred Income Subordinated Bond is redeemed prior to maturity, or (ii) receiving payment of a Water and Sewer System Deferred Income Subordinated Bond if the principal of all Subordinated Bonds is declared immediately due and payable following an Event of Default or (iii) computing the principal amount of Subordinated Bonds held by the Holder of a Water and Sewer System Deferred Income Subordinated Bond in giving to JEA any notice, consent, request, or demand pursuant to the Subordinated Water and Sewer System Resolution for any purpose whatsoever, the principal amount of a Water and Sewer System Deferred Income Subordinated Bond shall be deemed to be its then current Appreciated Value.

Notwithstanding anything to the contrary contained in the Subordinated Water and Sewer System Resolution, in the event that any Variable Rate Subordinated Bonds contain provisions that allow the principal amount thereof to be repaid on an accelerated basis in the event that such Subordinated Bonds are purchased by the Credit Enhancer therefor or the provider of liquidity support therefor and, in either such case, are not remarketed, for purposes of the additional bonds test contained in the Subordinated Water and Sewer System Resolution, such accelerated repayment shall not be taken into account, and compliance with such test shall be determined based upon the scheduled due date(s) of the Subordinated Principal Installments for such Subordinated Bonds, irrespective of any such accelerated repayment.

Except as otherwise provided in the Supplemental Subordinated Resolution authorizing a Series of Subordinated Reimbursement Obligations, for the purposes of (i) receiving payment of a Subordinated Reimbursement Obligation, whether at maturity, upon redemption or if the principal of all Subordinated Bonds is declared immediately due and payable following an Event of Default or (ii) computing the principal amount of Subordinated Bonds held by the Holder of a Subordinated Reimbursement Obligation in giving to JEA any notice, consent, request, or demand pursuant to the Subordinated Water and Sewer System Resolution for any purpose whatsoever, the principal amount of a Subordinated Reimbursement Obligation shall be deemed to be the actual principal amount that JEA shall owe thereon, which shall equal the aggregate of the amounts advanced to, or on behalf of, JEA in connection with the Water and Sewer System Bonds or Subordinated Bonds, as the case may be, of the Series or maturity or interest rate within a maturity for which such Subordinated Reimbursement Obligation has been issued to evidence JEA's obligation to repay any advances or loans made in respect of the Credit Enhancement or liquidity support provided for such Water and Sewer System Bonds or Subordinated Bonds, as the case may be, less any prior repayments thereof.

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APPENDIX D

SUMMARY OF CERTAIN PROVISIONS OF THE DISTRICT ENERGY SYSTEM RESOLUTION

The following is a summary of certain provisions of the District Energy System Resolution. Summaries of certain definitions contained in the District Energy System Resolution are set forth below. Other terms defined in the District Energy System Resolution for which summary definitions are not set forth are indicated by capitalization. The summary does not purport to be a complete description of the terms of the District Energy System Resolution and, accordingly, is qualified by reference thereto and subject to the full text thereof.

The District Energy System Resolution, as heretofore amended, is available for viewing and downloading on JEA's website at https://www.jea.com/About/Investor_Relations/Bonds/. Copies of the District Energy System Resolution also may be obtained from JEA; provided that a reasonable charge may be imposed for the cost of reproduction. The term "Bonds" as used in the District Energy System Resolution and in this summary has the same meaning as the term "District Energy System Bonds" as used in the Annual Disclosure Report to which this summary is attached.

Excluded Provisions

The Third Supplemental Resolution provides that solely with respect to the rate covenant set forth in Section 710 of the District Energy System Resolution (summarized below under the caption "Covenant as to Rates, Fees and Charges"), clause (iii) of Section 801, Events of Default, of the District Energy System Resolution shall not be applicable to the 2013 Series A Bonds and shall not be enforceable by the Holders of the 2013 Series A Bonds so long as JEA remains in compliance with its obligations to make deposits to the 2013 Series A Bonds Subaccount in the Debt Service Reserve Account in the Debt Service Reserve Fund from Available Water and Sewer System Revenues as provided in the Third Supplemental Resolution and described below under "Debt Service Fund – Debt Service Reserve Account and 2013 Series A Bonds Subaccount – *2013 Series A Bonds Subaccount*".

Definition of Terms

The following are summaries of certain definitions in the District Energy System Resolution:

Accreted Value shall mean, as of any date of computation with respect to any Capital Appreciation Bond, an amount equal to the principal amount of such Bond plus the interest accrued on such Bond from the date of original issuance of such Bond to the periodic date specified in the Supplemental Resolution authorizing such Capital Appreciation Bond on which interest on such Bond is to be compounded (hereinafter, a "Periodic Compounding Date") next preceding the date of computation or the date of computation if a Periodic Compounding Date, such interest to accrue at the interest rate per annum of the Capital Appreciation Bonds set forth in the Supplemental Resolution authorizing such Bonds, compounded periodically on each Periodic Compounding Date, plus, if such date of computation shall not be a Periodic Compounding Date, a portion of the difference between the Accreted Value as of the immediately preceding Periodic Compounding Date (or the date of original issuance if the date of computation is prior to the first Periodic Compounding Date succeeding the date of original issuance) and the Accreted Value as of the immediately succeeding Periodic Compounding Date, calculated based upon an assumption that, unless otherwise provided in the Supplemental Resolution authorizing such Capital Appreciation Bonds, Accreted Value accrues in equal daily amounts on the basis of a year consisting of twelve 30-day months.

Accrued Aggregate Debt Service shall mean, as of any date of calculation, an amount equal to the sum of the amounts of accrued Debt Service with respect to all Series, calculating the accrued Debt Service with respect to each Series at an amount equal to the sum of (i) interest on the Bonds of such Series accrued and unpaid and to accrue to the end of the then current calendar month, and (ii) Principal Installments due and unpaid and that portion of the Principal Installments for such Series next due which would have accrued (if deemed to accrue in the manner set forth in the definition of Debt Service) to the end of such calendar month; *provided*, *however*, that (i) there shall be excluded from the calculation of Accrued Aggregate Debt Service any Principal Installments which are Refundable Principal Installments, (ii) the principal and interest portions of the Accreted Value of Capital Appreciation Bonds or the Appreciated Value of Deferred Income Bonds shall be included in the calculation of Accrued Aggregate Debt Service at the times and in the manner provided in the District Energy System Resolution and (iii) if the calculation of the Debt Service Reserve Requirement for any separate subaccount in the Debt Service Reserve Account in the Debt Service Fund takes into account Accrued Aggregate Debt Service, then, for purposes of such calculation, Accrued Aggregate Debt Service shall be calculated only with respect to the Bonds of the Series secured thereby.

Additionally Secured Series shall mean a Series of Bonds for which the payment of the principal or sinking fund Redemption Price, if any, of, and interest on, the Bonds of such Series shall be secured, in addition to the pledge created pursuant to the District Energy System Resolution in favor of all of the Bonds, by amounts on deposit in a separate subaccount to be designated therefor in the Debt Service Reserve Account in the Debt Service Fund.

Adjusted Aggregate Debt Service for any period shall mean, as of any date of calculation, the Aggregate Debt Service for such period except that (a) if any Refundable Principal Installment for any Series of Bonds is included in Aggregate Debt Service for such period, Adjusted Aggregate Debt Service shall mean Aggregate Debt Service determined (i) in the case of Refundable Principal Installments with respect to Bonds other than Commercial Paper Notes and Medium-Term Notes, as if each such Refundable Principal Installment had been payable, over a period extending from the due date of such Principal Installment through the later of (x) the 30th anniversary of the issuance of such Series of Bonds or (y) the 10th anniversary of the due date of such Refundable Principal Installment, in installments which would have required equal annual payments of principal and interest over such period and (ii) in the case of Refundable Principal Installments with respect to Commercial Paper Notes or Medium-Term Notes, in accordance with the then current Commercial Paper Payment Plan or Medium-Term Note Payment Plan, as applicable, with respect thereto, and (b) the principal and interest portions of the Accreted Value of Capital Appreciation Bonds or the Appreciated Value of Deferred Income Bonds shall be included in the calculation of Adjusted Aggregate Debt Service at the times and in the manner provided in the District Energy System Resolution. Interest deemed payable in any Fiscal Year after the actual due date of any Refundable Principal Installment of any Series of Bonds shall be calculated at such rate of interest as JEA, or a banking or financial institution or financial advisory firm selected by JEA, determines would be a reasonable estimate of the rate of interest that would be borne on Bonds maturing at the times determined in accordance with the provisions of the preceding sentence, determined as of the date of such calculation.

Aggregate Debt Service for any period shall mean, as of any date of calculation, the sum of the amounts of Debt Service for such period with respect to all Series; *provided*, *however*, that (a) for purposes of estimating Aggregate Debt Service for any future period (i) any Variable Rate Bonds, Commercial Paper Notes and Medium-Term Notes Outstanding during such period shall be assumed to bear interest during such period at the greater of (X) the actual rate of interest then borne by such Variable Rate Bonds or (Y) the Certified Interest Rate applicable thereto and (ii) any Option Bonds Outstanding during such period shall be assumed to mature on the stated maturity date thereof and (b) the principal and interest portions of the Accreted Value of Capital Appreciation Bonds or the Appreciated Value of Deferred

Income Bonds shall be included in the calculation of Aggregate Debt Service at the times and in the manner provided in the District Energy System Resolution; and *provided*, *further*, that if the calculation of the Debt Service Reserve Requirement for any separate subaccount in the Debt Service Reserve Account in the Debt Service Fund takes into account Aggregate Debt Service, then, for purposes of such calculation, Aggregate Debt Service shall be calculated only with respect to the Bonds of the Series secured thereby.

Annual Net Revenues shall mean, with respect to any Fiscal Year, the Revenues during such Fiscal Year, determined on an accrual basis, minus the sum of (a) Operation and Maintenance Expenses during such Fiscal Year, determined on an accrual basis, to the extent paid or to be paid from Revenues, (b) the Aggregate Debt Service with respect to such Fiscal Year, and (c) debt service payable during such Fiscal Year with respect to all other obligations issued by JEA (including, without limitation, Subordinated Indebtedness) in connection with the System, determined on an accrual basis.

Appreciated Value shall mean, with respect to any Deferred Income Bond, (i) as of any date of computation prior to the Current Interest Commencement Date with respect to such Deferred Income Bond, an amount equal to the principal amount of such Bond plus the interest accrued on such Bond from the date of original issuance of such Bond to the periodic date specified in the Supplemental Resolution authorizing such Deferred Income Bond on which interest on such Bond is to be compounded (hereinafter, a "Periodic Compounding Date") next preceding the date of computation or the date of computation if a Periodic Compounding Date, such interest to accrue at the interest rate per annum of the Deferred Income Bonds set forth in the Supplemental Resolution authorizing such Bonds, compounded periodically on each Periodic Compounding Date, plus, if such date of computation shall not be a Periodic Compounding Date, a portion of the difference between the Appreciated Value as of the immediately preceding Periodic Compounding Date (or the date of original issuance if the date of computation is prior to the first Periodic Compounding Date succeeding the date of original issuance) and the Appreciated Value as of the immediately succeeding Periodic Compounding Date, calculated based upon an assumption that, unless otherwise provided in the Supplemental Resolution authorizing such Deferred Income Bonds, Appreciated Value accrues in equal daily amounts on the basis of a year consisting of twelve 30-day months and (ii) as of any date of computation on and after the Current Interest Commencement Date, the Appreciated Value on the Current Interest Commencement Date.

Average Annual Adjusted Aggregate Debt Service shall mean, as of any date of calculation, the arithmetic average of the Adjusted Aggregate Debt Service for the then current and each future Bond Year.

Bond or *Bonds* shall mean any bonds, notes or other obligations or evidences of indebtedness, as the case may be, authenticated and delivered under and Outstanding pursuant to the District Energy System Resolution but shall not mean Subordinated Indebtedness or Bond Anticipation Notes.

Bond Anticipation Notes shall mean notes or other evidences of indebtedness from time to time issued in anticipation of the issuance of Bonds, the proceeds of which have been or are required to be applied to one or more of the purposes for which Bonds may be issued, the payment of which notes is to be made from the proceeds of the Bonds in anticipation of the issuance of which said notes are issued.

Bond Year shall mean the 12 month period commencing on October 1 in any year and ending on September 30 of the following year.

Capital Lease Obligations shall mean all Bonds issued pursuant to the District Energy System Resolution as capital lease obligations and any Bonds thereafter authenticated and delivered in lieu of or in substitution for such Bonds pursuant to the District Energy System Resolution and the Supplemental Resolution authorizing such Capital Lease Obligations.

Certified Interest Rate shall mean, as of any date of determination:

(i) with respect to (A) any Commercial Paper Notes or Medium-Term Notes or (B) any Variable Rate Bonds maturing on a particular date that were, at the date of the original issuance thereof, the subject of a Counsel's Opinion to the effect that the interest thereon is excluded from gross income for federal income tax purposes pursuant to Section 103 of the Code, a rate of interest equal to the lesser of (1) the average of the Variable Rate Tax-Exempt Index for the five years preceding such date of determination and (2) the average rate of interest borne by such Commercial Paper Notes, Medium-Term Notes or Variable Rate Bonds, as the case may be, for the 12 months preceding such date of determination; *provided*, *however*, if such Commercial Paper Notes, Medium-Term Notes or Variable Rate Bonds, as the case may be are then being issued or shall not have been Outstanding for 12 months, then the rate of interest determined pursuant to this clause (i) shall be the rate determined pursuant to the foregoing subclause (1),

(ii) with respect to (A) any Commercial Paper Notes or Medium-Term Notes or (B) any Variable Rate Bonds maturing on a particular date that were not, at the date of the original issuance thereof, the subject of a Counsel's Opinion to the effect that the interest thereon is excluded from gross income for federal income tax purposes pursuant to Section 103 of the Code, a rate of interest equal to the lesser of (a) the average of the Variable Rate Taxable Index for the five years preceding such date of determination and (b) the average rate of interest borne by such Commercial Paper Notes, Medium-Term Notes or Variable Rate Bonds, as the case may be, for the 12 months preceding such date of determination; *provided*, *however*, if such Commercial Paper Notes, Medium-Term Notes or Variable Rate Bonds, as the case may be, are then being issued or shall not have been Outstanding for 12 months, then the rate of interest determined pursuant to this clause (ii) shall be the rate determined pursuant to the foregoing subclause (a); and

(iii) for purposes of calculating the Debt Service Reserve Requirement for any particular subaccount in the Debt Service Reserve Account in the Debt Service Fund and with respect to (A) any Commercial Paper Notes or Medium-Term Notes or (B) any Variable Rate Bonds maturing on a particular date, the interest rate set forth in a certificate of an Authorized Officer of JEA executed on or prior to the date of the initial issuance of such Commercial Paper Notes, Medium-Term Notes or Variable Rate Bonds, as the case may, as determined as follows: a Certified Interest Rate shall be that rate of interest determined by JEA, or a banking or financial institution or financial advisory firm selected by JEA, as the rate of interest such Commercial Paper Notes, Medium-Term Notes or Variable Rate Bonds, as the case may be, would bear if, assuming the same maturity date, terms and provisions (other than interest rate) as such proposed Commercial Paper Notes, Medium-Term Notes or Variable Rate Bonds, as the case may be, and on the basis of JEA's credit ratings with respect to the Bonds (other than Bonds for which credit enhancement is provided by a third party), such proposed Commercial Paper Notes, Medium-Term Notes or Variable Rate Bonds, as the case may be, were issued at a fixed interest rate.

Commercial Paper Payment Plan shall mean, with respect to any Series of Commercial Paper Notes and as of any time, the then current Commercial Paper Payment Plan for such Notes contained in a certificate of an Authorized Officer of JEA setting forth the sources of funds expected to be utilized by JEA to pay the principal of and interest on such Commercial Paper Notes; *provided*, *however*, that if any Commercial Paper Payment Plan provides for the refunding of any Commercial Paper Note with proceeds of Bonds other than Commercial Paper Notes or Medium-Term Notes that JEA intends to pay from Revenues, the principal of such Commercial Paper Notes shall, for purposes of the Commercial Paper Payment Plan, be assumed to come due over a period commencing with the due date of the Commercial Paper Note and ending not later than the earlier of (x) the 40th anniversary of the first issuance of Commercial Paper Notes of such Series or (y) the 30th anniversary of the due date of the Commercial Paper Note to be refunded, in installments such that the principal and interest payable on such Commercial Paper Notes in each Fiscal Year in such period will be equal to the principal and interest payable on such Commercial Paper Notes in each other Fiscal Year in such period.

Contract Debts shall mean any obligations of JEA under a contract, lease, installment sale agreement, bulk purchase agreement or otherwise to make payments out of Revenues for property, services or commodities whether or not the same are made available, furnished or received.

Costs shall mean, the costs, expenses and liabilities paid or incurred or to be paid or incurred by JEA in connection with the planning, engineering, designing, acquiring, constructing, installing, financing, repairing, extending, improving, reconstructing, retiring and disposing of the System or any part thereof and the obtaining of all governmental approvals, certificates, permits and licenses with respect thereto (including, for this purpose, any acquisition by JEA of an interest in an existing facility), including, but not limited to, any good faith or other similar payment or deposits required in connection with the acquisition or construction of such part of the System, the cost of acquisition by or for JEA of real and personal property or any interests therein, costs of physical construction or acquisition of such part of the System, and costs of JEA incidental to such construction or acquisition, all costs relating to injury and damage claims relating to such part of the System, all costs relating to the settlement or renegotiation of any contract entered into in connection with any such part of the System, the cost of any indemnity or surety bonds and premiums on insurance, preliminary investigation and development costs, engineering fees and expenses, contractors' fees and expenses, the costs of labor, materials, equipment and utility services and supplies, legal and financial advisory fees and expenses, interest and financing costs, including, without limitation, bank commitment and letter of credit fees, bond insurance and indemnity premiums, discounts to the underwriters or other purchasers thereof, if any, amounts required to be paid under any interest rate exchanges or swaps, cash flow exchanges, options, caps, floors or collars, in each case made in connection with the issuance of Bonds, Subordinated Indebtedness or other evidences of indebtedness of JEA relating to the System, fees and expenses of the Fiduciaries, administration and general overhead expense and costs of keeping accounts and making reports required by the District Energy System Resolution, amounts, if any, required by the District Energy System Resolution to be paid into the Debt Service Fund to provide, among other things, for interest accruing on Bonds and to provide for the Debt Service Reserve Requirement or to be paid into the Revenue Fund or the Renewal and Replacement Fund for any of the respective purposes thereof, payments when due (whether at the maturity of principal or the due date of interest or upon redemption) on any indebtedness of JEA, including Bonds, Bond Anticipation Notes and Subordinated Indebtedness, issued to finance or refinance any of the foregoing, and all federal, state and local taxes and payments in lieu of taxes in connection with the System, or any part thereof, and working capital and reserves for any of the foregoing and shall include reimbursements to JEA for any of the above items theretofore paid by or on behalf of JEA. It is intended that this definition be broadly construed to encompass all costs, expenses and liabilities of JEA related to the System which on the date of the District Energy System Resolution or in the future shall be permitted to be funded with the proceeds of Bonds pursuant to the provisions of Florida law.

Credit Enhancement shall mean, with respect to the Bonds of a Series, a maturity within a Series or an interest rate within a maturity, the issuance of an insurance policy, letter of credit, surety bond or any other similar obligation, whereby the issuer thereof becomes unconditionally obligated to pay when due, to the extent not paid by JEA or otherwise, the principal of and interest on such Bonds.

Credit Enhancer shall mean any person or entity which, pursuant to a Supplemental Resolution, is designated as a Credit Enhancer and which provides Credit Enhancement for the Bonds of a Series, a maturity within a Series or an interest rate within a maturity.

Current Interest Commencement Date shall mean, with respect to any particular Deferred Income Bonds, the date specified in the Supplemental Resolution authorizing such Deferred Income Bonds (which date must be prior to the maturity date for such Deferred Income Bonds) after which interest accruing on such Deferred Income Bonds shall be payable periodically on dates specified in such Supplemental Resolution, with the first such payment date being the first such periodic date immediately succeeding such Current Interest Commencement Date.

Debt Service for any period shall mean, as of any date of calculation and with respect to any Series, an amount equal to the sum of (i) interest accruing during such period on Bonds of such Series, except to the extent that such interest is to be paid from deposits into the Debt Service Account in the Debt Service Fund made from the proceeds of Bonds, Subordinated Indebtedness or other evidences of indebtedness of JEA (including amounts, if any, transferred thereto from the Construction Fund) and (ii) that portion of each Principal Installment for such Series which would accrue during such period if such Principal Installment were deemed to accrue daily in equal amounts from the next preceding Principal Installment due date for such Series (or, (x) in the case of Bonds other than Reimbursement Obligations, if (1) there shall be no such preceding Principal Installment due date or (2) such preceding Principal Installment due date is more than one year prior to the due date of such Principal Installment, then, from a date one year preceding the due date of such Principal Installment or from the Date of Issuance of Bonds of such Series, whichever date is later, and (y) in the case of Reimbursement Obligations, in accordance with the terms thereof and the Supplemental Resolution authorizing such Reimbursement Obligations), except to the extent that such Principal Installment is paid or to be paid from the proceeds of Bonds, Subordinated Indebtedness or other evidences of indebtedness of JEA. Such interest and Principal Installments for such Series shall be calculated on the assumption that (x) no Bonds (except for Option Bonds actually tendered for payment prior to the stated maturity thereof and paid, or to be paid, from Revenues) of such Series Outstanding at the date of calculation will cease to be Outstanding except by reason of the payment of each Principal Installment on the due date thereof, (y) the principal amount of Option Bonds tendered for payment before the stated maturity thereof and paid, or to be paid, from Revenues, shall be deemed to accrue on the date required to be paid pursuant to such tender and (z) the principal and interest portions of the Accreted Value of Capital Appreciation Bonds or the Appreciated Value of Deferred Income Bonds shall be included in the calculation of Debt Service at the times and in the manner provided in the District Energy System Resolution; *provided*, *however*, that if the calculation of the Debt Service Reserve Requirement for any separate subaccount in the Debt Service Reserve Account in the Debt Service Fund takes into account Debt Service, then, for purposes of such calculation, Debt Service shall be calculated only with respect to the Bonds of the Series secured thereby.

Notwithstanding anything to the contrary contained in the District Energy System Resolution, (a) if JEA has in connection with any Bonds entered into a Designated Swap Obligation which provides that, in respect of a notional amount corresponding to the principal amount or issue price of such Bonds, JEA is to pay to a Designated Swap Obligation Provider an amount determined based upon a variable rate of interest and the Designated Swap Obligation Provider is to pay to JEA an amount determined based upon a fixed rate of interest, then, for purposes of calculating Debt Service with respect to such Bonds for purposes of the additional bonds test and the rate covenant contained in the District Energy System Resolution, it will be assumed that such Bonds bear interest at a rate equal to the sum of (1) the lesser of (A) the average of the variable rate payable by JEA pursuant to such Designated Swap Obligation for the five years preceding the date of determination, calculating such rate based upon the method, formula or index with respect thereto set forth in such Designated Swap Obligation and (B) the average of the actual rates paid by JEA pursuant to such Designated Swap Obligation for the 12 months preceding such date of determination; *provided*, *however*, if such Designated Swap Obligation shall not have been in effect for 12 months, then the rate of interest determined pursuant to this clause (1) shall be the rate determined pursuant to the foregoing subclause (A) and (2) the difference (whether positive or negative) between (X) the fixed rate of interest on such Bonds and (Y) the fixed rate of interest payable to JEA pursuant to such Designated Swap Obligation and (b) if JEA has in connection with any Variable Rate Bonds, Commercial Paper Notes or Medium-Term Notes entered into a Designated Swap Obligation which provides that, in respect of a notional amount of such Variable Rate Bonds, Commercial Paper Notes or Medium-Term Notes, as the case may be, JEA is to pay to a Designated Swap Obligation Provider an amount determined based upon a fixed rate of interest and the Designated Swap Obligation Provider is to pay to JEA an amount determined based upon a variable rate of interest, then, for purposes of calculating Debt Service with respect to such Variable Rate Bonds, Commercial Paper Notes or Medium-Term Notes, as the case may be, for purposes of the additional bonds test and the rate covenant contained in the District Energy System Resolution, it will be assumed that such Variable Rate Bonds, Commercial Paper Notes or Medium-Term Notes, as the case may be, bear interest at the fixed rate of interest payable by JEA pursuant to such Designated Swap Obligation.

Debt Service Reserve Requirement shall mean, with respect to each separate subaccount in the Debt Service Reserve Account in the Debt Service Fund, unless otherwise specified in the Supplemental Resolution establishing such subaccount, as of any date of calculation, an amount equal to the lesser of (a) 10 percent of the original principal amount of the Bonds of all issues (as defined for federal income tax purposes) secured thereby (or, if the Bonds of any such issue are issued at an issue price (as computed for federal income tax purposes) of greater than 102 percent or less than 98 percent of the principal amount thereof, ten percent of such issue price), and (b) the maximum amount of interest included in Aggregate Debt Service on the Bonds of all Series secured thereby then Outstanding for the current or any future Bond Year (excluding interest (other than accrued interest paid in connection with the initial issuance thereof) on such Bonds to be paid from deposits in the Debt Service Account in the Debt Service Fund made from the proceeds of Bonds, Subordinated Indebtedness or other evidences of indebtedness of JEA); *provided*, *however*, that in no event may an increase in the Debt Service Reserve Requirement for any subaccount resulting from the issuance of an additional issue (as defined for federal income tax purposes) of Bonds exceed ten percent of the original principal amount of the Bonds of such issue (or, if the Bonds of such issue are issued at an issue price (as computed for federal income tax purposes) of greater than 102 percent or less than 98 percent of the principal amount thereof, ten percent of such issue price).

Defeasance Securities shall mean, unless otherwise provided with respect to the Bonds of a Series in the Supplemental Resolution authorizing such Bonds, (a) any bonds or other obligations which constitute direct obligations of, or as to principal and interest are unconditionally guaranteed by, the United States of America, including obligations of any of the federal agencies set forth in clause (c) below to the extent unconditionally guaranteed by the United States of America, which shall not be subject to redemption prior to their maturity other than at the option of the holder thereof or as to which an irrevocable notice of redemption of such securities on a specified redemption date has been given and such securities are not otherwise subject to redemption prior to such specified date other than at the option of the holder thereof, (b) any bonds or other obligations of any state of the United States of America or of any agency, instrumentality or local governmental unit of any such state (i) which are not callable prior to maturity, or which have been duly called for redemption by the obligor on a date or dates specified and as to which irrevocable instructions have been given to a trustee in respect of such bonds or other obligations by the obligor to give due notice of such redemption on such date or dates, which date or dates shall be also specified in such instructions, (ii) which are secured as to principal and interest and redemption premium, if any, by a fund consisting only of cash or bonds or other obligations of the character described in clause (a) above which fund may be applied only to the payment of such principal of and interest and redemption premium, if any, on such bonds or other obligations on the maturity date or dates thereof or the redemption date or dates specified in the irrevocable instructions referred to in subclause (i) of this clause (b), as appropriate, (iii) as to which the principal of and interest on the bonds and obligations of the character described in clause (a) above on deposit in such fund along with any cash on deposit in such fund are sufficient to pay principal of and interest and redemption premium, if any, on the bonds or other obligations described in this clause (b) on the maturity date or dates thereof or on the redemption date or dates specified in the irrevocable instructions referred to in subclause (i) of this clause (b), as appropriate and (iv) which at the time of their purchase hereunder are rated "AAA" by Standard & Poor's Credit Market Services, a business of Standard & Poor's Financial Services LLC, a limited liability company, organized and existing under the laws of the State of Delaware ("S&P"), and, if rated by Moody's Investors Service ("Moody's"), are rated "Aaa" by such agency, (c) obligations of any state of the United States of America or any political subdivision thereof or any agency or instrumentality of any state or political subdivision which are not callable for redemption prior to maturity, or which have been duly called for redemption by the obligor on a date or dates specified and as to which irrevocable instructions have been given to a trustee in respect of such obligations by the obligor to give due notice of such redemption on such date or dates, which date or dates shall also be specified in such instructions, and which shall be rated in the highest whole rating category by two nationally recognized rating agencies, (d) certificates that evidence ownership of the right to payments of principal and/or interest on obligations described in clauses (a) and (c) of this definition provided that such obligations shall be held in trust by a bank or trust company or a national banking association authorized to exercise corporate trust powers and subject to supervision or examination by federal, state, or territorial or District of Columbia authority and having a combined capital, surplus and undivided profits of not less than $50,000,000, or obligations described in the foregoing clause (c), in any such case, which shall not be subject to redemption prior to their maturity other than at the option of the holder thereof or as to which an irrevocable notice of redemption of such obligations on a specified redemption date has been given and such obligations are not otherwise subject to redemption prior to such specified date other than at the option of the holder thereof, (e) deposits in interest-bearing time deposits or certificates of deposit which shall not be subject to redemption or repayment prior to their maturity or due date other than at the option of the depositor or holder thereof or as to which an irrevocable notice of redemption or repayment of such time deposits or certificates of deposit on a specified redemption or repayment date has been given and such time deposits or certificates of deposit are not otherwise subject to redemption or repayment prior to such specified date other than at the option of the depositor or holder thereof, and which are fully secured by obligations described in clause (a) or clause (b) of the definition to the extent not insured by the Federal Deposit Insurance Corporation, (f) agreements or contracts with insurance companies or other financial institutions, or subsidiaries or affiliates thereof (hereinafter in this paragraph referred to as "Providers"), (i) whose outstanding unsecured senior indebtedness or claims-paying ability, as the case may be, shall be rated, or who shall have a "financial programs rating" or other equivalent rating, in the highest whole rating category by at least two nationally recognized statistical rating organizations or (ii) whose obligations under such agreements or contracts shall be unconditionally guaranteed by another insurance company or other financial institution, or subsidiary or affiliate thereof, whose outstanding unsecured senior indebtedness or claims-paying ability, as the case may be, shall be rated, or who shall have a "financial programs rating" or other equivalent rating, in the highest whole rating category by at least two nationally recognized statistical rating organizations, pursuant to which agreements or contracts the Provider shall be absolutely, unconditionally and irrevocably obligated to repay the moneys invested by JEA and interest thereon at a guaranteed rate, without any right of recoupment, counterclaim or set off. The Provider may have the right to assign its obligations under any Investment Agreement to any other insurance company or other financial institution, or subsidiary or affiliate thereof; *provided, however*, that such assignee also shall be an insurance company or other financial institution, or subsidiary or affiliate thereof, satisfying the requirements set forth in either clause (i) or clause (ii) of the preceding sentence, and (g) upon compliance with the applicable provisions of the District Energy System Resolution, such securities (I) as are described in clause (a) of this definition and (II) as are described in clause (d) of this definition so long as such securities evidence ownership of the right to payments of principal and/or interest on obligations described in clause (a) of such definition; in each case *provided* that, notwithstanding such clauses, such securities which are subject to redemption prior to maturity at the option of the issuer thereof on a specified date or dates.

Deferred Income Bonds shall mean any Bonds issued under the District Energy System Resolution as to which interest accruing prior to the Current Interest Commencement Date is (i) compounded periodically on dates specified in the Supplemental Resolution authorizing such Deferred Income Bonds and (ii) payable only at the maturity, earlier redemption or other payment thereof pursuant to the District Energy System Resolution or the Supplemental Resolution authorizing such Deferred Income Bonds.

Designated Swap Obligation shall mean, to the extent from time to time permitted by law, any interest rate swap transaction (i) which is entered into by JEA for the purpose of converting synthetically the interest rate on any particular Bonds from a fixed rate to a variable rate or from a variable rate to a fixed rate (regardless of whether such Designated Swap Obligation shall have a term equal to the remaining term of such Bonds) and (ii) which has been designated in a certificate of an Authorized Officer of JEA filed with the records of JEA as such (which certificate shall specify the Bonds with respect to which such Designated Swap Obligation is entered into).

Highest Rating Category shall mean (i) if the Bonds are rated by a Rating Agency, that each Rating Agency has assigned a rating in the highest rating given by that Rating Agency for that general category of security or obligation, and (ii) if the Bonds are not rated (and, consequently, there is no Rating Agency), that Standard and Poor's or Moody Ratings Service has assigned a rating in the highest rating given by that rating agency for that general category of security or obligation.

Investment Securities shall mean and include any securities, obligations or investments that, at the time, shall be permitted by Florida law for investment of JEA's funds.

Medium-Term Note Payment Plan shall mean, with respect to any Series of Medium-Term Notes and as of any time, the then current Medium-Term Note Payment Plan for such Notes contained in a certificate of an Authorized Officer of JEA delivered pursuant to the District Energy Resolution and setting forth the sources of funds expected to be utilized by JEA to pay the principal of and interest on such Medium-Term Notes; *provided*, *however*, that if any Medium-Term Note Payment Plan provides for the refunding of any Medium-Term Note with proceeds of Bonds other than Commercial Paper Notes or Medium-Term Notes, that JEA intends to pay from Revenues, the principal of such Medium-Term Notes shall, for purposes of the Medium-Term Note Payment Plan, be assumed to come due over a period commencing with the due date of the Medium-Term Note and ending not later than the earlier of (x) the 40th anniversary of the first issuance of Medium-Term Notes of such Series or (y) the 30th anniversary of the due date of the Medium-Term Note to be refunded, in installments such that the principal and interest payable on such Medium-Term Notes in each Fiscal Year in such period will be equal to the principal and interest payable on such Medium-Term Notes in each other Fiscal Year in such period.

Net Revenues shall mean, for any period, the Revenues during such period, determined on an accrual basis, minus the Operation and Maintenance Expenses during such period, determined on an accrual basis, to the extent paid or to be paid from Revenues.

One-Month LIBOR Rate shall mean, as of any date of determination, the offered rate for deposits in U.S. dollars for a one-month period which appears on the Telerate Page 3750 at approximately 11:00 A.M., London time, on such date, or if such date is not a date on which dealings in U.S. dollars are transacted in the London interbank market, then on the next preceding day on which such dealings were transacted in such market.

Operation and Maintenance Expenses shall mean the current expenses, paid or accrued, of operation, maintenance and repair of the System, including administration costs, as calculated in accordance with generally accepted accounting principles, and shall include all Contract Debts. Notwithstanding the foregoing, Operation and Maintenance Expenses shall not include any reserve for renewals or replacements or any allowance for depreciation or amortization and there shall be included in Operation and Maintenance Expenses only that portion of the total administrative, general and other expenses of JEA which are properly allocable to the System.

Option Bonds shall mean Bonds which by their terms may be tendered by and at the option of the Holder thereof for payment by JEA prior to the stated maturity thereof, or the maturities of which may be extended by and at the option of the Holder thereof.

Principal Installment shall mean, as of any date of calculation and with respect to any Series, so long as any Bonds thereof are Outstanding, (i) the principal amount of Bonds (including, in the case of any Option Bond, the principal amount thereof tendered for payment prior to the stated maturity thereof and paid, or to be paid, from Revenues) of such Series due (or so tendered for payment and paid, or to be so paid) on a certain future date for which no Sinking Fund Installments have been established, or (ii) the unsatisfied balance (determined as provided in the District Energy System Resolution) of any Sinking Fund Installments due on a certain future date for Bonds of such Series, plus the amount of the sinking fund redemption premiums, if any, which would be applicable upon redemption of such Bonds on such future date in a principal amount equal to said unsatisfied balance of such Sinking Fund Installments, or (iii) if such future dates coincide as to different Bonds of such Series, the sum of such principal amount of Bonds and of such unsatisfied balance of Sinking Fund Installments due on such future date plus such applicable redemption premiums, if any.

Refundable Principal Installment shall mean any Principal Installment for any Series of Bonds which JEA intends to pay with moneys which are not Revenues; *provided* that (i) in the case of Bonds other than Commercial Paper Notes or Medium-Term Notes, such intent shall have been expressed in the Supplemental Resolution authorizing such Series of Bonds, (ii) in the case of Commercial Paper Notes, such intent shall be expressed in the then current Commercial Paper Payment Plan for such Commercial Paper Notes and (iii) in the case of Medium-Term Notes, such intent shall be expressed in the then current Medium-Term Note Payment Plan for such Medium-Term Notes; and *provided*, *further*, that such Principal Installment shall be a Refundable Principal Installment only through the penultimate day of the month preceding the month in which such Principal Installment comes due or such earlier time as JEA no longer intends to pay such Principal Installment with moneys which are not Revenues.

Reimbursement Obligations shall mean all Bonds issued to evidence JEA's obligation to repay any advances or loans made to, or on behalf of, JEA in connection with any Credit Enhancement or liquidity support for the Bonds of a Series (or a maturity or maturities or interest rate within a maturity thereof).

Renewal and Replacement Requirement shall mean, at any date of calculation, either (i) an amount equal to 10 percent of the sum of (a) the aggregate amount of Bonds Outstanding under the District Energy System Resolution, and (b) the aggregate amount of all other obligations issued by JEA in connection with the System (including, without limitation, Subordinated Indebtedness) outstanding and unpaid (or as to which provision for payment has not been made in accordance with the terms thereof) or (ii) such greater or lesser amount as the Consulting Engineer shall certify as reasonable and necessary for the purposes of the Renewal and Replacement Fund.

Revenues shall mean (i) all revenues, income, rents, service fees and receipts properly allocable to the System resulting from ownership and operation of the System, excluding customer deposits and any other deposits subject to refund unless such deposits have become property of JEA, (ii) the proceeds of any insurance covering business interruption loss relating to the System and (iii) interest received or to be received on any moneys or securities held pursuant to the District Energy System Resolution and paid or required to be paid into the Revenue Fund. For any purpose of the District Energy System Resolution that requires the computation of Revenues with respect to any period of time, "Revenues" shall include such amounts resulting, received or to be received, as the case may be, during such period, determined on an accrual basis, plus (x) the amounts, if any, paid from the Rate Stabilization Fund into the Revenue Fund during such period, but only to the extent provided that such amounts originally were deposited to the Rate Stabilization Fund from Revenues (excluding from (x) amounts included in the Revenues for such period representing interest earnings transferred from the Rate Stabilization Fund to the Revenue Fund pursuant to the District Energy System Resolution and minus (y) the amounts, if any, paid from the Revenue Fund into the Rate Stabilization Fund during such period.

Second Highest Rating Category shall means (i) if the Bonds are rated by a Rating Agency, that each Rating Agency has assigned a rating not lower than the second highest rating category given by that Rating Agency for that general category of security or obligation and (ii) if the Bonds are not rated (and, consequently, there is no Rating Agency), that Standard and Poor's or Moody Ratings Service has assigned a rating not lower than the second highest rating given by that rating agency for that general category of security or obligation.

System shall mean each and every part of the district energy facilities owned and operated by JEA for supply, transmission and distribution of chilled water, process steam or similar thermal energy, now existing or hereafter acquired by lease, contract, purchase or otherwise or constructed, including any interest or participation of JEA in any facilities in connection with said system, together with all additions, betterments, extensions and improvements to said system or any part thereof hereafter constructed or acquired and together with all lands, easements, licenses and rights of way and all other works, property or structures and contract rights and other tangible and intangible assets now or hereafter owned or used in connection with or related to said System; *provided, however,* that upon compliance with the provisions of the District Energy System Resolution, the term System shall be deemed to include other utility functions added to the System that are, in accordance with Prudent Utility Practice, reasonably related to the services provided by the System. Notwithstanding the foregoing definition of the term System, such term shall not include the existing electric system or water and sewer system owned by JEA or any bulk power supply utilities or systems now owned or hereafter acquired by JEA (other than facilities transferred from the existing system upon establishment of the district energy system as provided by District Energy System Resolution of JEA), nor shall it include any properties or interests in properties of JEA (a) which JEA determines shall not constitute a part of the System for the purpose of the District Energy System Resolution at the time of the acquisition thereof by JEA or (b) as to which there shall be filed with the records of JEA a certificate of the Consulting Engineer stating, in its opinion, that the exclusion of such properties or interests in properties from the System will not materially impair the ability of JEA to comply during the current or any future Fiscal Year with the provisions of Section 710.

Trust Estate shall mean (i) the proceeds of the sale of the Bonds, (ii) the Revenues, and (iii) all Funds and Accounts established by the District Energy System Resolution (other than the Debt Service Reserve Account in the Debt Service Fund and the Renewal and Replacement Fund), including the investments and investment income, if any, thereof.

Variable Rate Bond shall mean any Bond not bearing interest throughout its term at a specified rate or specified rates determined at the time of issuance of the Series of Bonds of which such Bond is one.

Variable Rate Taxable Index shall mean the One-Month LIBOR Rate or, if the One-Month LIBOR Rate no longer shall be available, the Alternate Variable Rate Taxable Index.

Variable Rate Tax-Exempt Index shall mean the BMA Municipal Swap Index or, if the BMA Municipal Swap Index no longer shall be available, the Alternate Variable Rate Tax-Exempt Index.

Pledge

The Bonds are special obligations of JEA payable from and secured by the funds pledged therefor. Pursuant to the District Energy System Resolution, there is pledged for the payment of the principal and Redemption Price of, and interest on, the Bonds in accordance with their terms and the provisions of the District Energy System Resolution, subject only to the provisions of the District Energy System Resolution permitting or requiring the application thereof for the purposes and on the terms and conditions set forth in the District Energy System Resolution, the Trust Estate.

Pursuant to the District Energy System Resolution, there are also pledged, as additional security for the payment of the principal or sinking fund Redemption Price, if any, of, and interest on, the Bonds of each Additionally Secured Series secured thereby, subject only to the provisions of the District Energy System Resolution permitting the application thereof for the purposes and on the terms and conditions set forth in the District Energy System Resolution, amounts on deposit in any separate subaccount established in the Debt Service Reserve Account in the Debt Service Fund, including the investments and investment income, if any, thereof.

Application of Revenues

Revenues are pledged by the District Energy System Resolution to payment of principal of and interest and redemption premium on the Bonds of all series, subject to the provisions of the District Energy System Resolution permitting application for other purposes. For application of the Revenues, the District Energy System Resolution establishes a Revenue Fund; Debt Service Fund, which shall consist of a Debt Service Account and a Debt Service Reserve Account, and with in such Debt Service Reserve Account an Initial Subaccount; Subordinated Indebtedness Fund; Rate Stabilization Fund; and Renewal and Replacement Fund; all of such funds are held by JEA; *provided* that if and to the extent provided in a Supplemental Resolution authorizing Subordinated Indebtedness, the Subordinated Indebtedness Fund shall be held by the entity specified in such Supplemental Resolution.

Revenues and Revenue Fund. Pursuant to the District Energy System Resolution, Revenues are to be deposited promptly by JEA to the credit of the Revenue Fund.

After payment of Operation and Maintenance Expenses, the District Energy System Resolution provides that the Revenue Fund should be applied monthly to the extent available in the following order:

> (a) in the Debt Service Fund, (i) for credit to the Debt Service Account, an amount at least equal to the amount, if any, required so that the balance in said Account shall equal the Accrued Aggregate Debt Service as of the last day of the then current month; provided that (A) for the purposes of computing the amount to be deposited in said Account, there shall be excluded from the balance in said Account the amount, if any, set aside in said Account from the proceeds of Bonds, Subordinated Indebtedness or other evidences of indebtedness of JEA (including amounts, if any, transferred thereto from the Construction Fund) for the payment of interest on Bonds less that amount of such proceeds to be applied in accordance with the District Energy System Resolution to the payment of interest accrued and unpaid and to accrue on Bonds to the last day of the then current calendar month; and (B) any amount deposited into said Account during any month that is in excess of the minimum amount required to be deposited therein during such month may, upon written determination of an Authorized Officer of JEA, be deemed to be accumulated therein with respect to

(1) any Sinking Fund Installment or (2) any principal amount of Bonds (including, in the case of any Option Bond, the principal amount thereof tendered for payment prior to the stated maturity thereof) due (or so tendered for payment) on a certain future date for which no Sinking Fund Installments have been established or (3) some combination of (1) and (2), and interest thereon; and (ii) thereafter, for deposit in each separate subaccount in the Debt Service Reserve Account, the amount, if any, required so that the balance in each such subaccount shall equal the Debt Service Reserve Requirement related thereto as of the last day of the then current month (or, if the amount on deposit in the Revenue Fund shall not be sufficient to make the deposits required to be made pursuant to this clause (ii) with respect to all of the separate subaccounts in the Debt Service Reserve Account, then such amount on deposit in the Revenue Fund shall be applied ratably, in proportion to the amount necessary for deposit into each such subaccount);

(b) in the Subordinated Indebtedness Fund, an amount at least equal to the amount, if any, as shall be required to be deposited therein in the then current month to pay principal or sinking fund installments of and premiums, if any, and interest on each issue of Subordinated Indebtedness coming due in such month, whether as a result of maturity or prior call for redemption, and to provide reserves therefor, as required by the Supplemental Resolution authorizing such issue of Subordinated Indebtedness;

(c) in the Rate Stabilization Fund, the amount, if any, budgeted for deposit into such Fund for the then current month as set forth in the then current Annual Budget or the amount otherwise determined by JEA to be credited to such Fund for the month; and

(d) in the Renewal and Replacement Fund, an amount at least equal to the sum of (i) one-twelfth (1/12th) of 10 percent of the Annual Net Revenues of the System for the preceding Fiscal Year and (ii) such additional amount as shall make the total annual payment into such Fund during the Fiscal Year of which such month shall be a part equal to at least five percent of the Revenues of the System for the preceding Fiscal Year; *provided, however,* that so long as there shall be held in the Renewal and Replacement Fund an amount which shall be at least equal to the Renewal and Replacement Requirement, no deposits shall be required to be made into the Renewal and Replacement Fund; and *provided, further,* however, that the failure of JEA to make such payment into the Renewal and Replacement Fund in any month shall not constitute an Event of Default under the District Energy System Resolution; *provided* that any deficiencies therefor shall have been restored prior to the end of the Fiscal Year of which such month shall be a part; and *provided, further*, that the full amount required to be deposited in said Renewal and Replacement Fund in such Fiscal Year shall have been deposited therein by the end of such Fiscal Year.

The balance of any moneys remaining in the Revenue Fund after the above required payments have been made may be used by JEA for any lawful purpose of JEA (including, but not limited to, (a) the purchase, redemption or provision for payment of any of the Bonds and (b) transfers to any utility system owned and/or operated by JEA currently or in the future) not otherwise prohibited by the District Energy System Resolution; *provided, however*, that none of the remaining moneys shall be used for any purpose other than those specified above unless all current payments, including all deficiencies in prior payments, if any, have been made in full and unless JEA shall have complied fully with all the covenants and provisions of the District Energy System Resolution.

Notwithstanding the provisions above, so long as there shall be held in the Debt Service Fund an amount sufficient to pay in full all Outstanding Bonds in accordance with their terms (including the maximum amount of principal or applicable sinking fund Redemption Price and interest which could become payable thereon), no deposits shall be required to be made into the Debt Service Fund.

Construction Fund. There shall be paid into the Construction Fund the amounts required to be so paid by the provisions of any Supplemental Resolution and there may be paid into the Construction Fund, at the option of JEA, any moneys received for or in connection with the System by JEA from any other source, unless required to be otherwise applied as provided by the District Energy System Resolution. Amounts in the Construction Fund shall be applied to the payment of the Costs of the System in the manner provided in the District Energy System Resolution or for any other lawful purpose of JEA relating to the System.

The proceeds of insurance maintained pursuant to the District Energy System Resolution against physical loss of or damage to the System or of contractors' performance bonds or other assurances of completion with respect thereto, pertaining to the period of construction or acquisition thereof, shall, upon receipt by JEA, be paid into the Construction Fund.

JEA shall withdraw amounts from the Construction Fund for the payment of amounts due and owing on account of the Costs of the System upon determination of an Authorized Officer of JEA (or such officer's designee) that an obligation in the amount to be paid from the Construction Fund has been incurred by JEA and that each item thereof is a proper and reasonable charge against the Construction Fund, and that such amount has not been paid theretofore.

To the extent that other moneys are not available therefor, amounts in the Construction Fund shall be applied to the payment of the principal of and interest on the Bonds when due.

Amounts credited to the Construction Fund which JEA determines at any time to be in excess of the amounts required for the purposes thereof shall be deposited in the Debt Service Reserve Account in the Debt Service Fund, if and to the extent necessary to make the amount in any separate subaccount therein equal to the Debt Service Reserve Requirement related thereto (or, if such excess shall be less than the amount necessary to make up the deficiencies with respect to all of the separate subaccounts in the Debt Service Reserve Account, then such excess shall be applied ratably, in proportion to the deficiency in each such subaccount), and any balance of such excess, upon written determination of an Authorized Officer of JEA, shall be deposited in the Revenue Fund and may be used by JEA for any lawful purpose of JEA, subject to the limitations contained in the District Energy System Resolution; *provided, however*, that the amount of any such deposit to the Revenue Fund shall not constitute or be deemed to constitute Revenues for any purpose of the District Energy System Resolution.

JEA may permanently discontinue the acquisition or construction of any portion of the System, the Costs of which are at the time being paid out of the Construction Fund, if the Governing Body determines by resolution that such discontinuance is necessary or desirable in the conduct of the business of JEA and not disadvantageous to the Holders of the Bonds.

Debt Service Fund - Debt Service Reserve Account and 2013 Series A Bonds Subaccount

Debt Service Reserve Account

There shall be established in the Debt Service Reserve Account in the Debt Service Fund one or more separate subaccounts, each of which subaccounts shall be for the benefit and security of one or more Series of Bonds, in the manner and to the extent provided in the District Energy System Resolution or the Supplemental Resolution establishing such subaccount, as the case may be.

If on any day on which the principal or sinking fund Redemption Price of or interest on the Bonds shall be due the amount on deposit in the Debt Service Account in the Debt Service Fund (exclusive of amounts, if any, set aside in said Account from the proceeds of Bonds, Subordinated Indebtedness or other evidences of indebtedness of JEA (including amounts, if any, transferred thereto from the Construction Fund) for the payment of interest on Bonds on a future date) shall be less than the amount required to pay such principal, Redemption Price or interest, then JEA shall apply amounts from each separate subaccount in the Debt Service Reserve Account to the extent necessary to cure the deficiency that exists with respect to the Additionally Secured Series of the Bonds secured thereby.

Whenever the moneys on deposit in any subaccount established in the Debt Service Reserve Account shall exceed the Debt Service Reserve Requirement related thereto, and after giving effect to any surety bond, insurance policy, letter of credit or other similar obligation that may be credited to such subaccount in accordance with the provisions of the Supplemental Resolution establishing such subaccount or the District Energy System Resolution, as the case may be, such excess shall be deposited in the Revenue Fund and applied for any lawful purpose of JEA, subject to the limitations contained in the District Energy System Resolution; *provided*, *however*, that the amount of any such deposit to the Revenue Fund shall not constitute or be deemed to constitute Revenues for any purpose of the District Energy System Resolution.

Whenever the amount in the Debt Service Reserve Account, together with the amount in the Debt Service Account, is sufficient to pay in full all Outstanding Bonds in accordance with their terms (including the maximum amount of principal or applicable sinking fund Redemption Price and interest which could become payable thereon), the funds on deposit in the Debt Service Reserve Account shall be transferred to the Debt Service Account. Prior to said transfer, all investments held in the Debt Service Reserve Account shall be liquidated to the extent necessary in order to provide for the timely payment of principal or Redemption Price, if applicable, and interest on the Bonds.

In the event of the refunding or defeasance of any Bonds of an Additionally Secured Series, JEA may withdraw from the separate subaccount in the Debt Service Reserve Account established for the benefit of the Bonds of such Additionally Secured Series all or any portion of the amounts accumulated therein and deposit such amounts with the Escrow Agent for the Bonds being refunded or defeased to be held for the payment of the principal or Redemption Price, if applicable, and interest on the Bonds being refunded or defeased; *provided* that such withdrawal shall not be made unless (a) immediately thereafter the Bonds being refunded or defeased shall be deemed to have been paid pursuant to the District Energy System Resolution, and (b) the amount remaining in such separate subaccount in the Debt Service Reserve Account, after giving effect to any surety bond, insurance policy, letter of credit or other similar obligation that may be credited to such subaccount in accordance with the provisions of the Supplemental Resolution establishing such subaccount, and after giving effect to the issuance of any obligations being issued to refund any Bonds being refunded and the disposition of the proceeds thereof, shall not be less than the Debt Service Reserve Requirement related thereto. In the event of such refunding or defeasance, JEA may also withdraw from such separate subaccount in the Debt Service Reserve Account all or any portion of the amounts accumulated therein and deposit such amounts in any Fund or Account under the District Energy System Resolution; *provided* that such withdrawal shall not be made unless items (a) and (b) referred to above have been satisfied; and *provided*, *further*, that, at the time of such withdrawal, there shall exist no deficiency in any Fund or Account held under the District Energy System Resolution.

In addition to or in lieu of maintaining moneys or investments in a subaccount in the Debt Service Reserve Account JEA, in the Supplemental Resolution or Supplemental Resolutions authorizing the Series of Bonds additionally secured by such subaccount, may provide for the deposit into such subaccount of other available monies of JEA, from the sources and otherwise subject to such limitations as shall be provided in such Supplemental Resolution or Supplemental Resolutions.

2013 Series A Bonds Subaccount

The payment of the principal of and interest on the 2013 Series A Bonds is additionally payable from amounts on deposit in the 2013 Series A Bonds Subaccount established in the Debt Service Reserve Account. Amounts on deposit in the 2013 Series A Bonds Subaccount shall be pledged solely for the benefit of the 2013 Series A Bonds. The 2013 Series A Bonds Subaccount will be funded under the circumstances described below solely from amounts on deposit in the Revenue Fund established under the Water and Sewer System Resolution and available for use by JEA pursuant to the provisions of the Water and Sewer System Resolution from the amounts remaining in the Revenue Fund (as defined in the Water and Sewer System Resolution) (collectively, "Available Water and Sewer System Revenues").

JEA has covenanted to deposit into the 2013 Series A Bonds Subaccount from Available Water and Sewer System Revenues an amount equal to the Aggregate DES Debt Service Deficiency that exists with respect to the 2013 Series A Bonds, in the event that the amount on deposit in the Debt Service Account in the Debt Service Fund in accordance with the District Energy System Resolution is less than Accrued Aggregate Debt Service as of the last Business Day of the then current month. "Aggregate DES Debt Service Deficiency" is defined under the Third Supplemental Resolution to mean an amount equal to Accrued Aggregate Debt Service for the 2013 Series A Bonds less the sum of (a) the amount on deposit in the Debt Service Account in the Debt Service Fund to be applied to the payment of Debt Service on the 2013 Series A Bonds and (b) the amount on deposit in the 2013 Series A Bonds Subaccount in the Debt Service Reserve Account in the Debt Service Fund.

If on the last Business Day of the month preceding any date on which principal or Sinking Fund Installments of and Redemption Price, including premium, if any, and interest on 2013 Series A Bonds is due and payable the amount on deposit in the Debt Service Account in the Debt Service Fund shall be less than Accrued Aggregate Debt Service with respect to the 2013 Series A Bonds, JEA shall withdraw from the 2013 Series A Bonds Subaccount for transfer to the Debt Service Account in the Debt Service Fund monies in an amount sufficient to make the balance in said Debt Service Account equal the Accrued Aggregate Debt Service as of the last day of the then current month.

The Third Supplemental Resolution provides that Section 710 of the District Energy System Resolution (summarized below under the caption "Covenant as to Rates, Fees and Charges") is not applicable to the 2013 Series A Bonds so long as JEA is obligated under the Third Supplemental Resolution and remains in compliance with its obligations to make deposits of Available Water and Sewer System Revenues to the 2013 Series A Bonds Subaccount in the Debt Service Reserve Account of the Debt Service Fund.

There is no Debt Service Reserve Requirement with respect to the 2013 Series A Bonds, and the 2013 Series A Bonds do not constitute an Additionally Secured Series under the District Energy System Resolution.

Establishment of Initial Subaccount in the
Debt Service Reserve Account and Application Thereof

The District Energy System Resolution establishes an Initial Subaccount in the Debt Service Reserve Account in the Debt Service Fund. Amounts held by JEA in the Initial Subaccount shall constitute a trust fund for the benefit of the Holders of the Bonds of any Series, if and to the extent that the Supplemental Resolution authorizing such Bonds provides that such Bonds shall be additionally secured by amounts on deposit in the Initial Subaccount; *provided*, *however*, that if the Bonds of any Series hereafter issued are to be additionally secured by amounts on deposit in the Initial Subaccount, then it shall be a condition precedent to the authentication and delivery of such Bonds that the amount on deposit in the Initial Subaccount, after giving effect to any surety bond, insurance policy or letter of credit that may be credited to the Initial Subaccount in accordance with the provisions of paragraph 3 of this Section, and after giving effect to the issuance of such Bonds, shall not be less than the Debt Service Reserve Requirement for the Initial Subaccount. The Bonds of any Series that are additionally secured by amounts on deposit in the Initial Subaccount as aforesaid are referred to collectively as the "Initial Subaccount Additionally Secured Bonds."

The 2013 Series A Bonds are not additionally secured by amounts on deposit in the Initial Subaccount.

If on any day on which the principal or sinking fund Redemption Price of or interest on the Bonds shall be due the amount on deposit in the Debt Service Account in the Debt Service Fund (exclusive of amounts, if any, set aside in said Account from the proceeds of Bonds, Subordinated Indebtedness or other evidences of indebtedness of JEA (including amounts, if any, transferred thereto from the Construction Fund) for the payment of interest on Bonds on a future date) shall be less than the amount required to pay such principal, Redemption Price or interest, then JEA shall apply amounts from the Initial Subaccount to the extent necessary to cure the deficiency that exists with respect to the Initial Subaccount Additionally Secured Bonds.

In lieu of maintaining moneys or investments in the Initial Subaccount, JEA at any time may cause to be deposited into the Initial Subaccount for the benefit of the Holders of the Initial Subaccount Additionally Secured Bonds an irrevocable surety bond, an insurance policy or a letter of credit (referred to in the District Energy System Resolution as a "reserve fund credit instrument") satisfying the requirements set forth below in an amount equal to the difference between the Debt Service Reserve Requirement for the Initial Subaccount and the sums of moneys or value of Investment Securities then on deposit in the Initial Subaccount, if any.

> (a) A surety bond or insurance policy issued by a company licensed to issue an insurance policy guaranteeing the timely payment of debt service on the Initial Subaccount Additionally Secured Bonds (a "municipal bond insurer") may be deposited in the Initial Subaccount to meet the Debt Service Reserve Requirement for the Initial Subaccount if the claims paying ability of the issuer thereof shall be rated in the Highest Rating Category by each Rating Agency.
>
> (b) A surety bond or insurance policy issued by an entity other than a municipal bond insurer may be deposited in the Initial Subaccount to meet the Debt Service Reserve Requirement for the Initial Subaccount.
>
> (c) An unconditional irrevocable letter of credit issued by a bank may be deposited in the Initial Subaccount to meet the Debt Service Reserve Requirement for the Initial Subaccount if the issuer thereof is rated at least the Second Highest Rating Category by each Rating Agency. The letter of credit shall be payable in one or more draws upon presentation by the beneficiary thereof of a sight draft accompanied by its certificate that it then holds insufficient funds to make a required payment of principal or interest on the Initial Subaccount Additionally Secured Bonds. The draws shall be payable within two days of presentation of the sight draft. The letter of credit shall be for a term of not less than three years. The issuer of the letter of credit shall be required to notify JEA and the beneficiary thereof, not later than 30 months prior to the stated expiration date of the letter of credit, as to whether such expiration date shall be extended, and if so, shall indicate the new expiration date.

(d) If such notice indicates that the expiration date shall not be extended, JEA shall deposit in the Initial Subaccount an amount sufficient to cause the cash or Investment Securities on deposit in the Initial Subaccount, together with any other qualifying reserve fund credit instruments, to equal the Debt Service Reserve Requirement for the Initial Subaccount, such deposit to be paid in equal installments on at least a semi-annual basis over the remaining term of the letter of credit, unless the reserve fund credit instrument is replaced by a reserve fund credit instrument meeting the requirements in any of clauses (a) through (c) above. The letter of credit shall permit a draw in full not less than two weeks prior to the expiration or termination of such letter of credit if the letter of credit has not been replaced or renewed. The beneficiary of the letter of credit shall draw upon the letter of credit prior to its expiration or termination unless an acceptable replacement is in place or the Initial Subaccount is fully funded in its required amount.

(e) The use of any reserve fund credit instrument pursuant to this paragraph 3 shall be subject to receipt of an opinion of counsel to JEA as to the due authorization, execution, delivery and enforceability of such instrument in accordance with its terms, subject to applicable laws affecting creditors' rights generally, and, in the event the issuer of such credit instrument is not a domestic entity, an opinion of foreign counsel. In addition, the use of an irrevocable letter of credit shall be subject to receipt of an opinion of counsel acceptable to JEA and the Credit Enhancer, if any, for the Bonds Additionally Secured by the Initial Subaccount and in form and substance satisfactory to JEA and the Credit Enhancer, if any, for the Bonds Additionally Secured by the Initial Subaccount to the effect that payments under such letter of credit would not constitute avoidable preferences under Section 547 of the U.S. Bankruptcy Code or similar state laws with avoidable preference provisions in the event of the filing of a petition for relief under the U.S. Bankruptcy Code or similar state laws by or against JEA.

(f) The obligation to reimburse the issuer of a reserve fund credit instrument for any fees, expenses, claim or draws upon such reserve fund credit instrument shall be subordinate to the payment of debt service on the Bonds. Subject to the second and third succeeding sentences, the right of the issuer of a reserve fund credit instrument to payment or reimbursement for claims or draws under such reserve fund credit instrument and to payment or reimbursement of its fees and expenses shall be on a parity with the cash replenishment of the Initial Subaccount. The reserve fund credit instrument shall provide for a revolving feature under which the amount available thereunder will be reinstated to the extent of any reimbursement of draws or claims paid. If the revolving feature is suspended or terminated for any reason, the right of the issuer of the reserve fund credit instrument to reimbursement will be subordinated to cash replenishment of the Initial Subaccount to an amount equal to the difference between the full original amount available under the reserve fund credit instrument and the amount then available for further draws or claims. If (i) the issuer of a reserve fund credit instrument becomes insolvent or (ii) the issuer of a reserve fund credit instrument defaults in its payment obligations thereunder or (iii) the claims-paying ability of the issuer of the insurance policy or surety bond falls below the Highest Rating Category (as rated by any Rating Agency) or (iv) the rating of the issuer of the letter of credit falls below the Second Highest Rating Category (as rated by any Rating Agency), the obligation to reimburse the issuer of the reserve fund credit instrument shall be subordinate to the cash replenishment of the Initial Subaccount.

(g) If (i) the revolving reinstatement feature described in the preceding clause (f) is suspended or terminated or (ii) the rating of the claims paying ability of the issuer of the surety bond or insurance policy falls below the Highest Rating Category (as rated by any Rating Agency) or (iii) the rating of the issuer of the letter of credit falls below the Second Highest Rating Category (as rated by any Rating Agency), JEA shall either (X) deposit into the Initial Subaccount an amount sufficient to cause the cash or Investment Securities on deposit in the Initial Subaccount to equal the Debt Service Reserve Requirement for the Initial Subaccount, such amount to be paid over the ensuing five years in equal installments deposited at least semi-annually or (Y) replace such instrument with a surety bond, insurance policy or letter of credit meeting the requirements in any of clauses (a) through (c) above within six months of such occurrence. In the event (1) the rating of the claims-paying ability of the issuer of the surety bond or insurance policy falls below "A" or (2) the rating of the issuer of the letter of credit falls below "A" or (3) the issuer of the reserve fund credit instrument defaults in its payment obligations or (4) the issuer of the reserve fund credit instrument becomes insolvent, JEA shall either (X) deposit into the Initial Subaccount an amount sufficient to cause the cash or Investment Securities on deposit in the Initial Subaccount to equal to Debt Service Reserve Requirement for the Initial Subaccount, such amount to be paid over the ensuing year in equal installments on at least a monthly basis or (Y) replace such instrument with a surety bond, insurance policy or letter of credit meeting the requirements in any of clauses (a) through (c) above within six months of such occurrence.

(h) Where applicable, the amount available for draws or claims under the reserve fund credit instrument may be reduced by the amount of cash or value of Investment Securities deposited in the Initial Subaccount pursuant to clause (X) of the final sentence of the preceding clause (g).

(i) In the event that a reserve fund credit instrument shall be deposited into the Initial Subaccount as aforesaid, any amounts owed by JEA to the issuer of such reserve fund credit instrument as a result of a draw thereon or a claim thereunder, as appropriate, shall be included in any calculation of debt service requirements required to be made pursuant to the District Energy System Resolution for purposes of the additional bonds test and the rate covenant contained in the District Energy System Resolution.

(j) The beneficiary of any reserve fund credit instrument shall ascertain the necessity for a claim or draw upon such reserve fund credit instrument and provide notice to the issuer of the reserve fund credit instrument in accordance with its terms prior to each interest payment date for the Bonds of any Initial Subaccount Additionally Secured Bonds.

(k) Cash on deposit in the Initial Subaccount shall be used (or investments purchased with such cash shall be liquidated and the proceeds applied as required) prior to any drawing on any reserve fund credit instrument. If and to the extent that more than one reserve fund credit instrument is deposited in the Initial Subaccount, drawings thereunder and repayments of costs associated therewith shall be made on a pro rata basis, calculated by reference to the maximum amounts available thereunder.

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Rate Stabilization Fund

Each month JEA shall transfer from the Rate Stabilization Fund to the Revenue Fund the amount budgeted for transfer into such Fund for the then current month as set forth in the then current Annual Budget or the amount otherwise determined by JEA to be deposited into such Fund for the month.

At any time and from time to time JEA may transfer for deposit in the Rate Stabilization Fund from any source such amounts as JEA deems necessary or desirable; such amounts to be applied for purposes of the Rate Stabilization Fund in accordance with the District Energy System Resolution; *provided*, *however*, any such amounts deposited into the Rate Stabilization Fund pursuant to this paragraph shall not constitute or be deemed to constitute Revenues for any purpose of the District Energy System Resolution.

JEA may, from time to time, withdraw amounts on deposit in the Rate Stabilization Fund and (i) transfer such amounts to any other Fund or Account established under the District Energy System Resolution, (ii) use such amounts to purchase or redeem Bonds, or (iii) use such amounts to otherwise provide for the payment of Bonds or interest thereon.

Renewal and Replacement Fund

Amounts in the Renewal and Replacement Fund shall be applied to the Costs of the System, the payment of extraordinary operation and maintenance costs and contingencies and payments with respect to the prevention or correction of any unusual loss or damage in connection with all or part of the System, all to the extent not paid as Operation and Maintenance Expenses or from the proceeds of Bonds, Subordinated Indebtedness or other evidences of indebtedness of JEA. Amounts in the Renewal and Replacement Fund also may be applied (a) to the purchase, redemption, payment or provision for payment of Bonds or interest thereon or (b) upon determination of the Governing Body, to the payment of the costs of enlargements, extensions, improvements and replacements of capital assets of any other utility system owned and operated by JEA and not constituting a part of the System.

If and to the extent provided in the Supplemental Resolution authorizing Bonds of a Series or Subordinated Indebtedness, amounts from the proceeds of such Bonds or Subordinated Indebtedness may be deposited in the Renewal and Replacement Fund for any purpose of such Fund.

No payments shall be made from the Renewal and Replacement Fund if and to the extent that the proceeds of insurance or other moneys recoverable as the result of damage, if any, are available to pay the costs otherwise payable from such Fund.

If at any time the amounts in the Debt Service Account or any separate subaccount in the Debt Service Reserve Account in the Debt Service Fund shall be less than the current requirements of such Account or subaccount, respectively, then JEA shall transfer from the Renewal and Replacement Fund for deposit in the Debt Service Account or such separate subaccount(s) in the Debt Service Reserve Account, as the case may be, the amount necessary to make up such deficiency (or, if the amount in said Fund shall be less than the amount necessary to make up the deficiencies with respect to the Debt Service Account and all of the separate subaccounts in the Debt Service Reserve Account, then the amount in said Fund shall be applied first to make up the deficiency in the Debt Service Account, and any balance remaining shall be applied ratably to make up the deficiencies with respect to the separate subaccounts in the Debt Service Reserve Account, in proportion to the deficiency in each such subaccount).

If at any time the amounts in the Subordinated Indebtedness Fund shall be less than the current requirement of such Fund and the amounts on deposit in the Debt Service Account and each separate subaccount in the Debt Service Reserve Account in the Debt Service Fund shall equal the current requirements of such Account and subaccounts, respectively, and such amounts are not required for the payment of Operation and Maintenance Expenses, then JEA shall transfer from the Renewal and Replacement Fund for deposit in the Subordinated Indebtedness Fund the amount necessary (or all the moneys in the Renewal and Replacement Fund if less than the amount necessary) to make up such deficiency.

Additional Bonds

JEA may issue one or more series of additional Bonds for any lawful purpose of JEA relating to the System. All such Bonds will be payable from the Trust Estate pledged pursuant to the District Energy System Resolution and secured thereby on a parity with all other Bonds. In addition, each series of Bonds may be additionally secured by amounts on deposit in a separate subaccount in the Debt Service Reserve Account in the Debt Service Fund established under the District Energy System Resolution (which may be the Initial Subaccount therein). Set forth below are certain conditions applicable to the issuance of additional Bonds:

Certificates of Authorized Officers. The issuance of each series of additional Bonds (other than Refunding Bonds and Reimbursement Obligations) is conditioned upon the execution by an Authorized Officer of JEA of a certificate: (1) setting forth the amounts of Net Revenues for any 12 consecutive month period within the 24 consecutive months immediately preceding the date of issuance of the additional Bonds of the series with respect to which such certificate is being given; and (2) stating that such Net Revenues for such 12 consecutive month period is at least equal to the greater of (X) 115 percent of the Average Annual Aggregate Adjusted System Debt Service (calculating such Average Annual Aggregate Adjusted System Debt Service with respect to the Bonds of all series then Outstanding and the additional Bonds of the series with respect to which such certificate is given) or (Y) the sum of (i) the Average Annual Aggregate Adjusted Debt Service (calculated as aforesaid) and (ii) the amount most recently determined to be required to be deposited in the Renewal and Replacement Fund for the then current, or a previous, Fiscal Year; *provided, however*, that the Net Revenues for such 12 month period may be adjusted for the purposes of such certificate (a) to reflect for such period revisions in the rates, fees, rentals and other charges of JEA for the product and services of the System made after the commencement of such period and preceding the date of issuance of such additional Bonds; (b) to reflect any increase in Net Revenues due to any new facilities of the System having been placed into use and operation subsequent to the commencement of such period and prior to the date of issuance of such additional Bonds; and (c) to include an amount equal to the average annual contribution to Net Revenues for the first three full Fiscal Years commencing after the date of acquisition thereof, estimated to be made by facilities anticipated to be acquired and expected to be placed into use and operation within two years of the date of such certificate.

Debt Service Reserve. If, at JEA's option, any series of additional Bonds is to be additionally secured by amounts on deposit in the Initial Subaccount in the Debt Service Reserve Account in the Debt Service Fund established under the District Energy System Resolution, the issuance of the additional Bonds of such series is further conditioned upon the deposit to the Initial Subaccount of moneys or reserve fund credit instruments, or a combination thereof, in an amount such that the balance in such Subaccount equals the Debt Service Reserve Requirement for such Subaccount calculated immediately after the delivery of such Bonds.

No Default. In addition, Bonds of any series other than Refunding Bonds may be issued only if JEA certifies that upon the issuance of such series JEA will not be in default in the performance of any of the covenants, conditions, agreements or provisions contained in the District Energy System Resolution.

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Subordinated Indebtedness

JEA may, at any time, or from time to time, issue Subordinated Indebtedness for any lawful purpose of JEA related to the System, which Subordinated Indebtedness shall be payable out of, and may be secured by a pledge of, such amounts in the Subordinated Indebtedness Fund as may from time to time be available for the purpose of payment thereof; *provided*, *however*, that any pledge shall be, and shall be expressed to be, subordinate in all respects to the pledge of the Trust Estate created by the District Energy System Resolution as security for the Bonds.

Investment of Certain Funds

Unless further limited as to maturity by the provisions of a Supplemental Resolution, moneys held in the Funds and Accounts established under the District Energy System Resolution may be invested and reinvested by JEA in Investment Securities which will provide moneys not later than such times as shall be needed for payments to be made from such Funds and Accounts. In making any investment in any Investment Securities with moneys in any Fund or Account established under the District Energy System Resolution and held by JEA, JEA may combine such moneys with moneys in any other Fund or Account held by JEA, but solely for purposes of making such investment in such Investment Securities.

Interest (net of that which represents a return of accrued interest paid in connection with the purchase of any investment) earned on any moneys or investments in such Funds and Accounts, other than the Construction Fund, shall be paid into the Revenue Fund. Interest earned on any moneys or investments in the Construction Fund shall be held in such Fund for the purposes thereof or, upon written determination of an Authorized Officer of JEA, paid into the Revenue Fund.

Nothing contained in the District Energy System Resolution shall prevent JEA, to the extent permitted by law, from entering into securities lending agreements or bonds borrowed agreements ("lending agreements") with banks which are members of the Federal Deposit Insurance Corporation, having capital stock, surplus and undivided earnings aggregating at least $25,000,000 and government bond dealers recognized as primary dealers by the Federal Reserve Bank of New York, secured by securities, which are obligations described in the definition of Investment Securities; *provided* that each such lending agreement (i) is in commercially reasonable form and is for a commercially reasonable period, and (ii) results in a transfer to JEA of legal title to, or a grant to JEA of a prior perfected security interest in, identified securities which are obligations described in the definition of Investment Securities and which are free and clear of any claims by third parties and are segregated in a custodial or trust account held by a third party (other than the borrower) as the agent solely of, or in trust solely for the benefit of, JEA; *provided* that such securities acquired or pledged pursuant to such lending agreements shall have a current market value not less than 102 percent of the market value of the securities loaned by JEA under such agreement. Any Investment Securities loaned by JEA under any such agreement shall be released from the lien of the pledge of the Trust Estate created under the District Energy System Resolution, but only if all rights of JEA under the lending agreement (including, but not limited to, the monetary obligations to JEA of the bank and/or government bond dealer party to such agreement) and any related collateral agreement and all rights of JEA to the identified securities transferred or pledged to JEA in connection therewith are substituted for the securities loaned, and such rights of JEA are declared to be subject to the lien of the pledge of the Trust Estate created under the District Energy System Resolution to the same extent that the loaned Investment Securities formerly were subject.

Redemption

In the case of any redemption of Bonds, JEA shall give written notice to the Bond Registrar(s) therefor and the Paying Agents of the redemption date, of the Series, and of the principal amounts of the Bonds of each maturity of such Series and of the Bonds of each interest rate within a maturity to be redeemed (which Series, maturities, interest rates within a maturity and principal amounts thereof to be redeemed shall be determined by JEA in its sole discretion, subject to any limitations with respect thereto contained in the District Energy System Resolution or any Supplemental Resolution authorizing the Series of which such Bonds are a part). Such notice shall be filed with such Bond Registrars and the Paying Agents for the Bonds to be redeemed at least 40 days prior to the redemption date (or such shorter period (a) as shall be specified in the Supplemental Resolution authorizing the Series of the Bonds to be redeemed or (b) as shall be acceptable to such Bond Registrars and Paying Agents). In the event notice of redemption shall have been given, and unless such notice shall have been revoked or shall cease to be in effect in accordance with the terms thereof, there shall be paid on or prior to the redemption date to the appropriate Paying Agents an amount which, in addition to other moneys, if any, available therefor held by such Paying Agents, will be sufficient to redeem on the redemption date at the Redemption Price thereof, plus interest accrued and unpaid to the redemption date, all of the Bonds to be redeemed.

Covenant as to Rates, Fees and Other Charges

JEA shall at all times fix, establish, maintain, charge and collect rates, fees and charges for the use or the sale of the output, capacity or service of the System which shall be sufficient to provide Net Revenues in each Bond Year which shall be at least equal to the greater of (i) 115 percent of the Aggregate Debt Service for such Bond Year; *provided, however,* that any Principal Installment which is a Refundable Principal Installment may be excluded from Aggregate Debt Service for purposes of the foregoing but only to the extent that JEA intends to pay such Principal Installment from sources other than Revenues, and (ii) the amount which, together with other available funds, shall be sufficient for the payment of: (a) the amount to be paid during such Bond Year into the Debt Service Account in the Debt Service Fund (other than amounts required to be paid into such Account out of the proceeds of Bonds, Subordinated Indebtedness or other evidences of indebtedness of JEA); (b) the amount, if any, to be paid during such Bond Year into each separate subaccount in the Debt Service Reserve Account in the Debt Service Fund (other than amounts required to be paid into any such subaccount out of the proceeds of Bonds, Subordinated Indebtedness or other evidences of indebtedness of JEA); (c) the amount, if any, to be paid during such Bond Year into the Subordinated Indebtedness Fund (other than amounts required to be paid into such Fund out of the proceeds of Bonds, Subordinated Indebtedness or other evidences of indebtedness of JEA); (d) the amount, if any, to be paid during such Bond Year into the Renewal and Replacement Fund (other than amounts required to be paid into such Fund out of the proceeds of Bonds, Subordinated Indebtedness or other evidences of indebtedness of JEA); and (e) all other charges and liens whatsoever payable out of Revenues during such Bond Year.

JEA will not furnish or supply or cause to be furnished or supplied any use, output, capacity or service of the System, free of charge to any person, firm or corporation, public or private. However, JEA shall not be required to charge the City, including its departments, agencies or instrumentalities, for any use, output, capacity or service of the System to the extent (and only to the extent) that the cost of such use, output, capacity or service is included in the rates, fees or charges imposed by JEA on all customers of the System or a specified class or classes or category or categories thereof. Except as provided in the preceding sentence, whenever the City, including its departments, agencies and instrumentalities, shall avail itself of the product, facilities or services provided by the System, or any part thereof, the same rates, fees or charges applicable to other customers receiving like services under similar circumstances shall be charged to the City and any such department, agency or instrumentality. Such charges shall be paid as they accrue, and the City shall transfer to JEA sufficient sums to pay such charges. Such charges shall be paid as they accrue, and the City shall transfer to JEA sufficient sums to pay such charges. Whenever JEA shall avail itself of the product, facilities or services provided by the System, or any part thereof, for the use or benefit of another of JEA's utility systems JEA shall fairly allocate the costs of such product, facilities or services and charge to such other utility system such costs. The revenues so received from the City or charged by JEA to such other utility system shall be deemed to be Revenues derived from the operation of the System, and shall be applied, deposited and accounted for in the same manner as other Revenues derived from operation of the System.

The rate covenant provision of the District Energy System Resolution described above will not apply to the 2013 Series A Bonds prior to certain events. See "Excluded Provisions" herein.

Certain Other Covenants

Creation of Liens and Sales and Lease of Property. JEA shall not issue any bonds, notes, debentures or other evidences of indebtedness of similar nature, other than the Bonds, payable out of or secured by a security interest in or pledge of the Trust Estate or any portion thereof, any separate subaccount in the Debt Service Reserve Account in the Debt Service Fund or other moneys, securities or funds held or set aside by JEA or by the Fiduciaries under the District Energy System Resolution and shall not create or cause to be created any lien or charge on the Trust Estate or any portion thereof, any separate subaccount in the Debt Service Reserve Account in the Debt Service Fund or such moneys, securities or funds; *provided*, *however*, that nothing contained in the District Energy System Resolution shall prevent JEA from issuing, if and to the extent permitted by law, (a) Bond Anticipation Notes or other evidences of indebtedness payable out of, and which may be secured by a pledge of (i) the proceeds of sale of Bonds or investment income therefrom, or (ii) amounts in the Construction Fund derived from the proceeds of sale of said Bond Anticipation Notes or investment income therefrom as may from time to time be available for payment of such Bond Anticipation Notes or other evidences of indebtedness (including redemption premiums, if any, and interest thereon) as part of the Costs of the System, or (iii) Revenues to be derived on and after such date as the pledge of the Revenues provided in the District Energy System Resolution shall be discharged and satisfied as provided in the District Energy System Resolution, or (b) Subordinated Indebtedness.

No part of the System shall be sold, mortgaged, leased or otherwise disposed of, except as follows:

(a) JEA may dispose of, sell or exchange at any time and from time to time any property or facilities constituting part of the System only if (i) JEA shall determine that such property or facilities are not needed or useful in the operation of the System, or (ii) the net book value of the property or facilities disposed of, sold or exchanged is not more than 15 percent of the net book value of the property and facilities of the System, or (iii) there shall be filed with the records of JEA a certificate of the Consulting Engineer stating, in its opinion, that the disposal, sale or exchange of such property or facilities will not materially impair the ability of JEA to comply during the current or any future Fiscal Year with the rate covenant described under "Covenant as to Rates, Fees and Other Charges." The proceeds of any sale or exchange of any property or facilities constituting a part of the System not used to acquire other property necessary or desirable for the safe or efficient operation of the System shall forthwith be deposited in the Revenue Fund; *provided, however*, that the amount of any such deposit to the Revenue Fund shall not constitute or be deemed to constitute Revenues for any purpose of the District Energy System Resolution;

(b) JEA may lease or make contracts or grant licenses for the operation of, or make arrangements for the use of, or grant easements or other rights with respect to, any part of the System; *provided* that any such lease, contract, license, arrangement, easement or right (i) does not impede the operation by JEA or its agents of the System and (ii) does not materially adversely affect the rights or security of the Holders of the Bonds under the District Energy System Resolution. Any payments received by JEA under or in connection with any such lease, contract, license, arrangement, easement or right in respect of the System or any part thereof shall constitute Revenues.

(c) The limitations imposed upon JEA by clauses (a) and (b) above shall not apply to any disposition of property by JEA where: (i) such property is leased back to JEA under a lease having a term of years (including renewal options) (X) of not less than 75 percent of the remaining useful life of the property as estimated by JEA computed from the date of disposition and lease if such property is disposed of by sale or a lease for more than 90 percent of the remaining estimated useful life or any other means of disposition except as set forth in the following clause (Y), or (Y) 75 percent of the term of the lease out by JEA if such property is disposed of by a lease for less than 90 percent of the useful life of the property so estimated, (ii) fair value to JEA (as determined by JEA) is received by JEA for the property subject to such transaction, and (iii) there shall have been delivered to the Governing Body a Counsel's Opinion to the effect that the disposition and lease will not have a material adverse effect on the interests of the Holders of Outstanding Bonds (in rendering such opinion, such counsel may rely on such certifications of (a) any banking or financial institution serving as financial advisor to JEA, as to financial and economic matters, (b) the Consulting Engineer, as to matters within its field of expertise and (c) such other experts, as to matters within their fields of expertise as it, in its reasonable judgment, determines necessary or appropriate). The proceeds of any such transaction not used to acquire other property necessary or desirable for the safe or efficient operation of the System shall forthwith be deposited in the Revenue Fund; *provided*, *however*, that the amount of any such deposit to the Revenue Fund shall not constitute or be deemed to constitute Revenues for any purpose of the District Energy System Resolution;

(d) JEA may permanently discontinue the acquisition or construction of any portion of the System as provided in the District Energy System Resolution; and

(e) JEA may acquire by lease or lease purchase additions and improvements to the System. The agreement pursuant to which such lease or lease purchase is made may provide that upon termination of such lease or lease purchase JEA shall be obligated to return the property subject to such lease or lease purchase, or such portion thereof as has not been fully paid for, to the lessor or its designee.

Insurance. JEA shall at all times keep or cause to be kept the properties of the System which are of an insurable nature and of the character usually insured by those operating properties similar to such properties of the System insured against loss or damage by fire and from other causes customarily insured against and in such relative amounts as are usually obtained. JEA shall at all times maintain or cause to be maintained insurance or reserves against loss or damage from such hazards and risks to the person and property of others as are usually insured or reserved against by those operating properties similar to the properties of the System. JEA shall also use its best efforts to maintain or cause to be maintained any additional or other insurance which it shall deem necessary or advisable to protect its interests and those of the Holders of the Bonds. Any such insurance shall be in the form of policies or contracts for insurance with insurers of good standing and shall be payable to JEA.

Reconstruction; Application of Insurance Proceeds; ***Condemnation Awards***. If any useful portion of the System shall be damaged or destroyed or taken by any governmental authority under the power of eminent domain or otherwise ("Condemnation"), JEA shall, as expeditiously as possible, continuously and diligently prosecute or cause to be prosecuted the reconstruction or replacement thereof, unless there shall be filed with the records of JEA a certificate of an Authorized Officer of JEA setting forth a determination by JEA that, taking into account all relevant facts and circumstances, including, if and to the extent JEA deems appropriate, the advice of the Consulting Engineer as to engineering matters, its attorneys as to legal matters and other consultants and advisors, such reconstruction or replacement is not in the interest of JEA and the Holders of the Bonds. Except as provided in the District Energy System Resolution, the proceeds of any insurance paid or award received on account of such damage, destruction (other than any business interruption loss insurance or insurance proceeds deposited in the Construction Fund pursuant to the District Energy System Resolution) or Condemnation shall be held by JEA in a special account and made available for, and to the extent necessary be applied to, the cost of such reconstruction or replacement. Pending such application, such proceeds may be invested by JEA in Investment Securities which mature not later than such times as shall be necessary to provide moneys when needed to pay such costs of reconstruction or replacement. Interest earned on such account or investments shall be deposited in the Revenue Fund. Any such proceeds not applied within 36 months after receipt thereof by JEA to repairing or replacing damaged, destroyed or taken property, or in respect of which notice in writing of intention to apply the same to the work of repairing or replacing the property damaged, destroyed or taken shall not have been filed with the records of JEA within such 36 months, or which JEA shall at any time determine are not to be so applied, unless otherwise applied, shall, upon written determination of an Authorized Officer of JEA, be deposited in the Revenue Fund; *provided*, *however*, that the amount of any such deposit to the Revenue Fund shall not constitute or be deemed to constitute Revenues for any purpose of the District Energy System Resolution. Notwithstanding the foregoing, in the event that payments for any such repairing or replacing of property damaged, destroyed or taken prior to the availability of proceeds of insurance or Condemnation therefor are made from the Renewal and Replacement Fund, or from other funds of JEA not held in any Fund or Account established pursuant to the District Energy System Resolution, such proceeds when received shall be deposited in the Renewal and Replacement Fund to the extent of such payments therefrom, or shall be paid over to JEA, free and clear of any trust, lien or pledge securing the Bonds or otherwise existing under the District Energy System Resolution, as appropriate.

If the proceeds of insurance or Condemnation authorized by this Section to be applied to the reconstruction or replacement of any portion of the System are insufficient for such purpose, the deficiency may be supplied out of moneys in the Renewal and Replacement Fund.

The proceeds of business interruption loss insurance, if any, shall be paid into the Revenue Fund.

Additional Utility Functions. JEA may expand the utility functions of the System as permitted by the proviso contained in the definition of "System," only if JEA files with the books and records of JEA a certified copy of resolutions of the Governing Body to the effect that the addition of such utility functions (a) will not impair the ability of JEA to comply during the current or any future Fiscal Year with the provisions of the District Energy System Resolution, including specifically the rate covenant described under "Covenant as to Rates, Fees and other Charges" above and (b) will not materially adversely affect the rights of the Holders of the Bonds. In making the determinations to be set forth in such resolutions, the Governing Body may rely upon such certificates and opinions of its Consulting Engineer, independent certified public accountants, bond counsel, financial advisors or other appropriate advisors as the Governing Body shall deem necessary or appropriate.

Events of Defaults; Remedies

If one or more of the following Events of Default shall happen: (i) if default shall be made in the due and punctual payment of the principal or Redemption Price of any Bond when and as the same shall become due and payable, whether at maturity or by call for redemption, or otherwise (determined without giving effect to any payments made with funds provided by any Credit Enhancer pursuant to any Credit Enhancement); (ii) if default shall be made in the due and punctual payment of any installment of interest on any Bond or the unsatisfied balance of any Sinking Fund Installment therefor (except when such Sinking Fund Installment is due on the maturity date of such Bond), when and as such interest installment or Sinking Fund Installment shall become due and payable (determined without giving effect to any payments made with funds provided by any Credit Enhancer pursuant to any Credit Enhancement) and such default shall continue for a period of 30 days; (iii) if default shall be made by JEA in the performance or observance of any other of the covenants, agreements or conditions on its part in the District Energy System Resolution or in the Bonds contained, and such default shall continue for a period of 60 days after written notice thereof to JEA by the Holders of not less than 10 percent in principal amount of the Bonds Outstanding; (iv) if there shall occur the dissolution (without a successor being named to assume the rights and obligations) or liquidation of JEA or the filing by JEA of a voluntary petition in bankruptcy, or adjudication of JEA as a bankrupt, or assignment by JEA for the benefit of its creditors, or the entry by JEA into an agreement of composition with its creditors, or the approval by a court of competent jurisdiction of a petition applicable to JEA in any proceeding for its reorganization instituted under the provisions of the Bankruptcy Code, as amended, or under any similar act in any jurisdiction which may now be in effect or hereafter enacted; or (v) if an order or decree shall be entered, with the consent or acquiescence of JEA, appointing a receiver or receivers of the System, or any part thereof, or of the rents, fees, charges or other revenues therefrom, or if such order or decree, having been entered without the consent or acquiescence of JEA, shall not be vacated or discharged or stayed within 90 days after the entry thereof; then, and in each and every such case, so long as such Event of Default shall not have been remedied, unless the principal of all the Bonds shall have already become due and payable, the Holders of not less than 25 percent in principal amount of the Bonds Outstanding (by notice in writing to JEA), may declare the principal of all the Bonds then Outstanding, and the interest accrued thereon, to be due and payable immediately, and upon any such declaration the same shall become and be immediately due and payable, anything contained to the contrary in the District Energy System Resolution or in any of the Bonds notwithstanding; *provided*, *however*, that in the event that a Supplemental Resolution authorizing Bonds for which Credit Enhancement is being provided provides that the principal of such Bonds, and the accrued interest thereon, may not be declared due and payable immediately (nor such declaration be rescinded and annulled, as provided in the following sentence) without the consent in writing of the Credit Enhancer therefor, then such Bonds, and the interest accrued thereon, shall not become due and payable immediately as aforesaid (nor may such declaration be rescinded and annulled, as provided in the following sentence) without such written consent, and, in that event, the remedies available to the Holders of such Bonds (or such Credit Enhancer, on behalf of such Holders) shall be limited to those set forth in the District Energy System Resolution. The right of the Holders of not less than 25 percent in principal amount of the Bonds to make such declaration as aforesaid, however, is subject to the condition that if, at any time after such declaration, but before the Bonds shall have matured by their terms, all overdue installments of interest upon the Bonds, together with interest on such overdue installments of interest to the extent permitted by law and all other sums then payable by JEA under the District Energy System Resolution (except the principal of, and interest accrued since the next preceding interest date on, the Bonds due and payable solely by virtue of such declaration) shall either be paid by or for the account of JEA or provision shall be made for such payment, and all defaults under the Bonds or under the District Energy System Resolution (other than the payment of principal and interest due and payable solely by reason of such declaration) shall be made good or adequate provision shall be made therefor, then and in every such case the Holders of 25 percent in principal amount of the Bonds Outstanding, by written notice to JEA, may rescind such declaration and annul such default in its entirety, but no such rescission or annulment shall extend to or affect any subsequent default or impair or exhaust any right or power consequent thereon. See "Action by Credit Enhancer When Action by Holders of Bonds Required" herein.

During the continuance of an Event of Default, JEA, shall apply all moneys, securities, funds and Revenues held or received by JEA under the District Energy System Resolution (other than amounts on deposit in any separate subaccount in the Debt Service Reserve Account in the Debt Service Fund) as follows and in the following order: (i) to the payment of the amounts required for Operation and Maintenance Expenses and for the reasonable renewals, repairs and replacements of the System necessary in the judgment of JEA to prevent a loss of Revenues; (ii) to the payment of the interest and principal or Redemption Price then due on the Bonds, as follows: (a) unless the principal of all the Bonds shall have become or have been declared due and payable (1) first to the payment to the persons entitled thereto of all installments of interest then due in the order of the maturity of such installments, together with accrued and unpaid interest on the Bonds theretofore called for redemption, and, if the amount available shall not be sufficient to pay in full any installment or installments maturing on the same date, then to the payment thereof ratably, according to the amounts due thereon, to the persons entitled thereto, without any discrimination or preference; and (2) second to the payment to the persons entitled thereto of the unpaid principal or Redemption Price of any Bonds which shall have become due, whether at maturity or by call for redemption, in the order of their due dates, and, if the amount available shall not be sufficient to pay in full all the Bonds due on any date, then to the payment thereof ratably, according to the amounts of principal or Redemption Price due on such date, to the persons entitled thereto, without any discrimination or preference; or (b) if the principal of all the Bonds shall have become or have been declared due and payable, to the payment of the principal and interest then due and unpaid upon the Bonds without preference or priority of principal over interest or of interest over principal, or of any installment of interest over any other installment of interest, or of any Bond over any other Bond, ratably, according to the amounts due respectively for principal and interest, to the persons entitled thereto without any discrimination or preference except as to any difference in the respective rates of interest specified in the Bonds; and (iii) to the payment of principal, redemption price and interest then due on Subordinated Indebtedness in accordance with the Supplemental Resolution(s) authorizing such Subordinated Indebtedness.

During the continuance of an Event of Default, JEA shall apply all amounts on deposit in each separate subaccount in the Debt Service Reserve Account in the Debt Service Fund as follows and in the following order: (a) unless the principal of all of the Bonds shall have become or have been declared due and payable, (1) first to the payment to the persons entitled thereto of all installments of interest then due on the Bonds of each Additionally Secured Series secured by such separate subaccount in the order of the maturity of such installments, together with accrued and unpaid interest on the Bonds of such Additionally Secured Series theretofore called for redemption, and, if the amount available shall not be sufficient to pay in full any such installment or installments maturing on the same date, then to the payment thereof ratably, according to the amounts due thereon, to the persons entitled thereto, without any discrimination or preference; and (2) second to the payment to the persons entitled thereto of the unpaid principal or sinking fund Redemption Price of any Bonds of such Additionally Secured Series which shall have become due, whether at maturity or by call for redemption, in the order of their due dates, and, if the amount available shall not be sufficient to pay in full all such Bonds due on any date, then to the payment thereof ratably, according to the amounts of principal or sinking fund Redemption Price due on such date, to the persons entitled thereto, without any discrimination or preference; or (b) if the principal of all of the Bonds shall have become or have been declared due and payable, to the payment of the principal and interest then due and unpaid upon the Bonds of each Additionally Secured Series secured by such separate subaccount without preference or priority of principal over interest or of interest over principal, or of any installment of interest over any other installment of interest, or of any such Bond over any other such Bond, ratably, according to the amounts due respectively for principal and interest, to the persons entitled thereto without any discrimination or preference except as to any difference in the respective rates of interest specified in such Bonds.

If and whenever all overdue installments of interest on all Bonds, together with the reasonable and proper charges, expenses and liabilities of the Fiduciaries, and all other sums payable by JEA under the District Energy System Resolution including the principal and Redemption Price of and accrued unpaid interest on all Bonds which shall then be payable by declaration or otherwise, shall either be paid by or for the account of JEA, and all defaults under the District Energy System Resolution or the Bonds shall be made good, JEA and the Holders shall be restored, respectively, to their former positions and rights under the District Energy System Resolution. No such restoration of JEA and the Holders to their former positions and rights shall extend to or affect any subsequent default under the District Energy System Resolution or impair any right consequent thereon.

Powers of Amendment

Any modification or amendment of the District Energy System Resolution and of the rights and obligations of JEA and of the Holders of the Bonds thereunder, in any particular, may be made by a Supplemental Resolution, with the written consent given as provided in the District Energy System Resolution (i) of the Holders of not less than a majority in principal amount of the Bonds affected by such modification or amendment Outstanding at the time such consent is given, and (ii) in case the modification or amendment changes the terms of any Sinking Fund Installment, of the Holders of not less than a majority in principal amount of the Bonds of the particular Series and maturity entitled to such Sinking Fund Installment and Outstanding at the time such consent is given; *provided*, *however,* that if such modification or amendment will, by its terms, not take effect so long as any Bonds of any specified like Series and maturity remain Outstanding, the consent of the Holders of such Bonds shall not be required and such Bonds shall not be deemed to be Outstanding for the purpose of any calculation of Outstanding Bonds under this Section. No such modification or amendment shall permit a change in the terms of redemption or maturity of the principal of any Outstanding Bond or of any installment of interest thereon or a reduction in the principal amount or the Redemption Price thereof or in the rate of interest thereon without the consent of the Holder of such Bond, or shall reduce the percentages or otherwise affect the classes of Bonds the consent of the Holders of which is required to effect any such modification or amendment, or shall change or modify any of the rights or obligations of any Fiduciary without its written assent thereto. For the purpose of this Section, a Series shall be deemed to be affected by a modification or amendment of the District Energy System Resolution if the same adversely affects or diminishes the rights of the Holders of Bonds of such Series. JEA may in its discretion determine whether or not in accordance with the foregoing powers of amendment Bonds of any particular Series or maturity or any particular Commercial Paper Notes or Medium-Term Notes would be affected by any modification or amendment of the District Energy System Resolution and any such determination shall, absent manifest error, be binding and conclusive on JEA and all Holders of Bonds. For the purpose of this Section, a change in the terms of redemption of any Outstanding Bond shall be deemed only to affect such Bond, and shall be deemed not to affect any other Bond. For the purpose of this Section, the Holders of any Bonds may include the initial Holders thereof, regardless of whether such Bonds are being held for resale. See "Action by Credit Enhancer When Action by Holders of Bonds Required" herein.

Amendment to District Energy System Resolution

For any one or more of the following purposes and at any time or from time to time, a Supplemental Resolution of JEA may be adopted, which, upon its adoption and compliance with the applicable provisions of the District Energy System Resolution, shall be fully effective in accordance with its terms: (a) to close the District Energy System Resolution against, or provide limitations and restrictions in addition to the limitations and restrictions contained in the District Energy System Resolution on, the authentication and delivery of Bonds or the issuance of other evidences of indebtedness; (b) to add to the covenants and agreements of JEA in the District Energy System Resolution other covenants and agreements to be observed by JEA which are not contrary to or inconsistent with the District Energy System Resolution as theretofore in effect; (c) to add to the limitations and restrictions in the District Energy System Resolution other limitations and restrictions to be observed by JEA which are not contrary to or inconsistent with the District Energy System Resolution as theretofore in effect; (d) to authorize Bonds of a Series and, in connection therewith, specify and determine the matters and things referred to in Article II, and also any other matters and things relative to such Bonds which are not contrary to or inconsistent with the District Energy System Resolution as theretofore in effect, or to amend, modify or rescind any such authorization, specification or determination at any time prior to the first authentication and delivery of such Bonds; (e) to provide for the issuance, execution, delivery, authentication, payment, registration, transfer and exchange of Bonds in coupon form payable to bearer or in uncertificated form, and, in connection therewith, to specify and determine any matters and things relative thereto; (f) to confirm, as further assurance, any security interest or pledge under, and the subjection to any security interest or pledge created or to be created by, the District Energy System Resolution of the Revenues or of any other moneys, securities or funds; (g) if and to the extent authorized in a Supplemental Resolution authorizing an Additionally Secured Series of Bonds, to specify the qualifications of any provider of an obligation similar to a surety bond, insurance policy or letter of credit for deposit into the particular subaccount in the Debt Service Reserve Account securing the Bonds of such Additionally Secured Series; (h) to modify any of the provisions of the District Energy System Resolution in any other respect whatever; *provided* that (i) such modification shall be, and be expressed to be, effective only after all Bonds of each Series Outstanding at the date of the adoption of such Supplemental Resolution shall cease to be Outstanding, and (ii) such Supplemental Resolution shall be specifically referred to in the text of all Bonds of any Series authenticated and delivered after the date of the adoption of such Supplemental Resolution and of Bonds issued in exchange therefor or in place thereof; and (j) to authorize Subordinated Indebtedness and, in connection therewith, specify and determine any matters and things relative to such Subordinated Indebtedness which are not contrary to or inconsistent with the District Energy System Resolution as theretofore in effect, or to amend, modify or rescind any such authorization, specification or determination at any time prior to the first authentication and delivery of such Subordinated Indebtedness.

Supplemental Resolutions Effective Upon Delivery of Counsel's Opinion as to No Material Adverse Effect

For any one or more of the following purposes and at any time or from time to time, a Supplemental Resolution may be adopted, which, upon (i) delivery of a Counsel's Opinion to the effect that the provisions of such Supplemental Resolution will not have a material adverse effect on the interests of the Holders of Outstanding Bonds (in rendering such opinion, such counsel may rely on such certifications of (a) any banking or financial institution serving as financial advisor to JEA, as to financial and economic matters, (b) the Consulting Engineer, as to matters within its field of expertise and (c) such other experts, as to matters within their fields of expertise as it, in its reasonable judgment, determines necessary or appropriate) and (ii) compliance with the applicable provision of the District Energy System Resolution, shall be fully effective in accordance with its terms: to cure any ambiguity, supply any omission, or cure or correct any defect or inconsistent provision in the District Energy System Resolution; to insert such provisions clarifying matters or questions arising under the District Energy System Resolution as are necessary or desirable and are not contrary to or inconsistent with the District Energy System Resolution as theretofore in effect; or to make any other modification to or amendment of the District Energy System Resolution which such counsel in its reasonable judgment shall determine will not have a material adverse effect on the interests of Holders of the Bonds.

Notwithstanding any other provision of the District Energy System Resolution, in determining whether the interests of the Holders of Outstanding Bonds are materially adversely affected, such counsel shall consider the effect on the Holders of any Bonds for which Credit Enhancement has been provided without regard to such Credit Enhancement.

Defeasance

The pledge of moneys and securities created by the District Energy System Resolution and all covenants, agreements and other obligations of JEA to the Holders will cease, terminate and become void and be discharged and satisfied whenever all Bonds and interest due or to become due thereon are paid in full. If any Bonds are paid in full, such Bonds shall cease to be entitled to any lien, benefit or security under the District Energy System Resolution, and all covenants, agreements and obligations of

JEA to the Holders of such Bonds will cease, terminate and become void and be discharged and satisfied. Bonds are deemed to have been paid and are not entitled to the lien, benefit and security of the District Energy System Resolution whenever the following conditions (or such other conditions as may be set forth in the Supplemental Subordinated Resolution authorizing such Bonds) are met: (i) in case any Bonds are to be redeemed prior to their maturity, JEA has given to the Escrow Agent therefor instructions to give notice of redemption therefor, (ii) there has been deposited with such Escrow Agent either moneys or Defeasance Securities the principal of and interest on which when due will provide moneys which, together with other moneys, if any, also deposited, will be sufficient to pay when due the principal or Redemption Price, if applicable, and interest due and to become due on such Bonds, and (iii) in the event such Bonds are not to be redeemed or paid at maturity within the next succeeding 60 days, JEA has given such Escrow Agent instructions to give a notice to the Holders of such Bonds that the above deposit has been made and that such Bonds are deemed to have been paid and stating the maturity or redemption date upon which moneys are expected to be available for the payment of the principal or Redemption Price, if applicable, on said Bonds.

For purposes of determining whether Variable Rate Bonds shall be deemed to have been paid prior to the maturity or redemption date thereof, as the case may be, by the deposit of moneys, or Defeasance Securities and moneys, if any, in accordance with the provisions of the District Energy System Resolution, the interest to come due on such Variable Rate Bonds on or prior to the maturity date or redemption date thereof, as the case may be, shall be calculated at the maximum rate permitted by the terms thereof; *provided, however*, that if on any date, as a result of such Variable Rate Bonds having borne interest at less than such maximum rate for any period, the total amount of moneys and Defeasance Securities on deposit with the Escrow Agent for the payment of interest on such Variable Rate Bonds is in excess of the total amount which would have been required to be deposited with the Escrow Agent on such date in respect of such Variable Rate Bonds in order to satisfy the provisions of the District Energy System Resolution, the Escrow Agent shall, if requested by JEA, pay the amount of such excess to JEA free and clear of any trust, lien or pledge securing the Bonds or otherwise existing under the provisions of the District Energy System Resolution.

Option Bonds shall be deemed to have been paid in accordance with the provisions of the District Energy System Resolution only if, in addition to satisfying the requirements described in clauses (i) and (ii) of the first paragraph hereof, there shall have been deposited with the Escrow Agent moneys in an amount which shall be sufficient to pay when due the maximum amount of principal of and premium, if any, and interest on such Bonds which could become payable to the Holders of such Bonds upon the exercise of any options provided to the Holders of such Bonds; *provided, however*, that if, at the time a deposit is made with the Escrow Agent pursuant to provisions of the District Energy System Resolution, the options originally exercisable by the Holder of an Option Bond are no longer exercisable, such Bond shall not be considered an Option Bond for purposes of this paragraph. If any portion of the moneys deposited with the Escrow Agent for the payment of the principal of and premium, if any, and interest on Option Bonds is not required for such purpose the Escrow Agent shall, if requested by JEA, pay the amount of such excess to JEA free and clear of any trust, lien or pledge securing said Bonds or otherwise existing under the Subordinated Electric System.

Action by Credit Enhancer When Action by Holders of Bonds Required

Except as otherwise provided in a Supplemental Resolution authorizing Bonds for which Credit Enhancement is being provided, if not in default in respect of any of its obligations with respect to Credit Enhancement for the Bonds of a Series, or a maturity within a Series, the Credit Enhancer for, and not the actual Holders of, the Bonds of a Series, or a maturity within a Series or an interest rate within a maturity, for which such Credit Enhancement is being provided, shall be deemed to be the Holder of Bonds of any Series, or maturity within a Series or an interest rate within a maturity, as to which it is the Credit Enhancer at all times for the purpose of (i) giving any approval or consent to the effectiveness of any Supplemental Resolution or any amendment, change or modification of the District Energy System Resolution, which requires the written approval or consent of Holders; *provided*, *however*, that the provisions of this Section shall not apply to any change in the terms of redemption or maturity of the principal of any Outstanding Bond or of any installment of interest thereon or a reduction in the principal amount or the Redemption Price thereof or in the rate of interest thereon, or shall reduce the percentages or otherwise affect the classes of Bonds the consent of the Holders of which is required to effect any such modification or amendment, or shall change or modify any of the rights or obligations of any Fiduciary without its written assent thereto and (ii) giving any approval or consent, exercising any remedies or taking any other action following the occurrence of an Event of Default under the District Energy System Resolution.

Special Provisions Relating to Capital Appreciation Bonds, Deferred Income Bonds and Reimbursement Obligations

The principal and interest portions of the Accreted Value of Capital Appreciation Bonds or the Appreciated Value of Deferred Income Bonds becoming due at maturity or by virtue of a Sinking Fund Installment shall be included in the calculations of accrued and unpaid and accruing interest or Principal Installments made under the definitions of Debt Service, Accrued Aggregate Debt Service, Adjusted Aggregate Debt Service and Aggregate Debt Service only from and after the date (the "Calculation Date") which is one year prior to the date on which such Accreted Value or Appreciated Value, as the case may be, becomes so due, and the principal and interest portions of such Accreted Value or Appreciated Value shall be deemed to accrue in equal daily installments from the Calculation Date to such due date.

For the purposes of (i) receiving payment of the Redemption Price if a Capital Appreciation Bond is redeemed prior to maturity, or (ii) receiving payment of a Capital Appreciation Bond if the principal of all Bonds is declared immediately due and payable following an Event of Default or (iii) computing the principal amount of Bonds held by the Holder of a Capital Appreciation Bond in giving to JEA any notice, consent, request, or demand pursuant to the District Energy System Resolution for any purpose whatsoever, the principal amount of a Capital Appreciation Bond shall be deemed to be its then current Accreted Value.

For the purposes of (i) receiving payment of the Redemption Price if a Deferred Income Bond is redeemed prior to maturity, or (ii) receiving payment of a Deferred Income Bond if the principal of all Bonds is declared immediately due and payable following an Event of Default or (iii) computing the principal amount of Bonds held by the Holder of a Deferred Income Bond in giving to JEA any notice, consent, request, or demand pursuant to the District Energy System Resolution for any purpose whatsoever, the principal amount of a Deferred Income Bond shall be deemed to be its then current Appreciated Value.

Except as otherwise provided in a Supplemental Resolution authorizing a Series of Reimbursement Obligations, for the purposes of (i) receiving payment of a Reimbursement Obligation, whether at maturity, upon redemption or if the principal of all Bonds is declared immediately due and payable following an Event of Default or (ii) computing the principal amount of Bonds held by the Holder of a Reimbursement Obligation in giving to JEA any notice, consent, request, or demand pursuant to the District Energy System Resolution for any purpose whatsoever, the principal amount of a Reimbursement Obligation shall be deemed to be the actual principal amount that JEA shall owe thereon, which shall equal the aggregate of the amounts advanced to, or on behalf of, JEA in connection with the Bonds of the Series or maturity or interest rate within a maturity for which such Reimbursement Obligation has been issued to evidence JEA's obligation to repay any advances or loans made in respect of the Credit Enhancement or liquidity support provided for such Bonds, less any prior repayments thereof.

JEA WATER AND SEWER SYSTEM AND DISTRICT ENERGY SYSTEM BONDS SUBJECT TO CONTINUING DISCLOSURE UNDERTAKINGS*

JEA has entered into continue disclosure undertakings with respect to the following bonds to provide certain information to the Municipal Securities Rulemaking Board not later than the June 1 following the end of each Fiscal Year.

WATER AND SEWER SYSTEM REVENUE BONDS

Water and Sewer System Revenue Bonds, 2006 Series B

Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number	Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number
2019	$5,740,000	Variable	46613P SX5	2021	$4,860,000	Variable	46613P SZ0
2020	9,195,000	Variable	46613P SY3	2022	5,055,000	Variable	46613P TA4

Water and Sewer System Revenue Bonds, 2009 Series B

Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number
2019	$8,915,000	3.750%	46613P XJ0

Water and Sewer System Revenue Bonds, 2010 Series A

Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number
2033	$27,550,000	6.210%	46613P XS0
2044	55,565,000	6.310	46613P XT8

Water and Sewer System Revenue Bonds, 2010 Series B

Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number	Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number
2019	$1,730,000	5.200%	46613P YB6	2023	$1,730,000	5.600%	46613P YF7
2020	1,730,000	5.300	46613P YC4	2024	1,730,000	5.650	46613P YG5
2021	1,730,000	5.400	46613P YD2	2025	1,730,000	5.700	46613P YH3
2022	1,730,000	5.500	46613P YE0				

Water and Sewer System Revenue Bonds, 2010 Series D

Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number	Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number
2019	$5,015,000	5.000%	46613P YU4	2026	$ 3,190,000	4.000%	46613P 5C6
2023	1,110,000	5.000	46613P 5F9	2027	330,000	4.000	46613P 5G7
2024	1,165,000	5.000	46613P 5H5	2039	13,315,000	5.000	46613P 5D4

* Note: The CUSIP numbers listed in this APPENDIX E are provided for the convenience of bondholders. JEA is not responsible for the accuracy or completeness of such numbers.

Water and Sewer System Revenue Bonds, 2010 Series E

Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number	Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number
2023	$1,235,000	5.000%	46613P 6M3	2029	$ 115,000	4.125%	46613P 6C5
2025	675,000	5.000	46613P 5Y8	2029	955,000	5.000	46613P 6J0
2027	75,000	4.000	46613P 6A9	2030	155,000	4.200	46613P 6D3
2027	690,000	5.000	46613P 6G6	2030	740,000	5.000	46613P 6K7
2028	65,000	4.000	46613P 6B7	2039	2,895,000	4.500	46613P 5Z5
2028	970,000	5.000	46613P 6H4				

Water and Sewer System Revenue Bonds, 2010 Series F

Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number	Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number
2019	$2,395,000	3.900%	46613P C46	2025	$ 1,385,000	5.000%	46613P D29
2020	1,035,000	4.000	46613P C53	2026	2,975,000	5.287	46613P D60
2021	330,000	4.150	46613P C61	2027	3,070,000	5.487	46613P D78
2022	490,000	4.300	46613P C79	2030	5,360,000	5.637	46613P D52
2023	250,000	4.550	46613P C87	2040	24,305,000	5.887	46613P D37
2024	500,000	4.700	46613P C95				

Water and Sewer System Revenue Bonds, 2012 Series A

Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number	Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number
2019	$ 1,070,000	4.000%	46613P H66	2029	$ 5,420,000	5.000%	46613P 7Z3
2023	4,345,000	4.000	46613P 7J9	2029	250,000	3.625	46613P J80
2024	2,205,000	3.000	46613P J31	2030	95,000	4.000	46613P 7S9
2024	4,410,000	5.000	46613P 7T7	2030	4,655,000	5.000	46613P 8A7
2025	970,000	4.000	46613P 7M2	2030	325,000	3.750	46613P J98
2025	1,450,000	5.000	46613P 7U4	2031	50,000	4.000	46613P L46
2026	5,000	4.000	46613P 7N0	2031	11,105,000	5.000	46613P 8B5
2026	3,270,000	5.000	46613P 7V2	2031	65,000	3.800	46613P K21
2027	195,000	3.375	46613P 7P5	2032	2,915,000	4.000	46613P K39
2027	4,730,000	4.250	46613P 7X8	2032	9,190,000	5.000	46613P 7W0
2028	95,000	4.000	46613P 7Q3	2033	4,160,000	5.000	46613P 8C3
2028	5,095,000	4.250	46613P 7Y6	2037	7,510,000	4.125	46613P K88
2028	140,000	3.500	46613P 7K6	2037	21,085,000	4.500	46613P 8D1
2029	20,000	4.000	46613P 7R1	2041	58,350,000	4.250	46613P 7L4

Water and Sewer System Revenue Bonds, 2012 Series B

Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number	Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number
2019	$1,280,000	4.000%	46613P P91	2027	$ 1,700,000	3.000%	46613P Q90
2021	1,365,000	2.250	46613P Q33	2032	1,175,000	3.375	46613P R24
2022	1,400,000	2.500	46613P Q41	2032	960,000	5.000	46613P 8L3
2023	1,445,000	2.750	46613P Q58	2034	20,000,000	3.700	46613P R57
2024	545,000	5.000	46613P 8J8	2034	6,565,000	5.000	46613P 8M1
2025	575,000	5.000	46613P 8K5	2037	34,610,000	3.850	46613P R65
2026	1,650,000	3.000	46613P Q82				

Water and Sewer System Revenue Bonds, 2013 Series A

Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number	Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number
2019	$12,580,000	5.000%	46613P T97	2025	$490,000	4.500%	46615S AH1
2023	3,005,000	5.000	46615S AF5	2026	510,000	4.500	46615S AJ7
2024	460,000	4.500	46615S AG3	2027	530,000	4.500	46615S AK4

Water and Sewer System Revenue Bonds, 2014 Series A

Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number	Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number
2019	$ 2,875,000	5.000%	46613P 2R6	2029	$11,250,000	5.000%	46615S BE7
2019	2,750,000	4.000	46613P Y34	2029	560,000	3.500	46615S BL1
2020	5,610,000	2.000	46613P Y42	2030	17,505,000	4.000	46613P 2L9
2021	5,255,000	2.250	46613P Y59	2030	85,000	3.625	46615S BM9
2022	4,415,000	2.500	46613P Y67	2031	8,010,000	4.000	46613P 2S4
2023	2,585,000	5.000	46613P 2D7	2031	70,000	3.625	46613P Z74
2023	3,535,000	2.750	46613P Y75	2032	8,025,000	4.000	46613P 2T2
2024	14,980,000	5.000	46613P 2E5	2032	445,000	3.750	46613P Z82
2024	3,850,000	3.000	46615S BF4	2033	8,385,000	4.000	46613P 2U9
2025	8,860,000	5.000	46615S BA5	2033	500,000	3.800	46613P Z90
2025	2,065,000	3.125	46615S BG2	2034	9,180,000	4.000	46613P 2V7
2026	9,825,000	5.000	46615S BB3	2034	145,000	3.850	46613P 2A3
2026	450,000	3.250	46615S BH0	2035	10,450,000	4.000	46613P 2W5
2027	9,875,000	5.000	46615S BC1	2036	2,935,000	4.000	46615S AZ1
2027	685,000	3.300	46615S BJ6	2040	27,620,000	4.000	46613P 2C9
2028	10,490,000	5.000	46615S BD9	2040	18,970,000	4.000	46613P 2M7
2028	720,000	3.375	46615S BK3				

Water and Sewer System Revenue Bonds, 2017 Series A

Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number	Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number
2022	$14,005,000	5.000%	46613P 3B0	2033	$11,230,000	4.000%	46613P 3N4
2023	23,905,000	5.000	46613P 3C8	2034	1,900,000	3.125	46613P 3P9
2024	15,480,000	5.000	46613P 3D6	2034	9,000,000	4.000	46613P 3Q7
2025	23,215,000	5.000	46613P 3E4	2035	8,940,000	3.250	46613P 3R5
2026	23,490,000	5.000	46613P 3F1	2035	10,545,000	4.000	46613P 3S3
2027	24,780,000	5.000	46613P 3G9	2036	23,235,000	3.250	46613P 3T1
2028	24,665,000	5.000	46613P 3H7	2037	16,160,000	3.375	46613P 3U8
2029	26,025,000	5.000	46613P 3J3	2037	1,625,000	4.000	46613P 3V6
2030	11,435,000	5.000	46613P 3K0	2039	29,305,000	4.000	46613P 3W4
2031	17,455,000	5.000	46613P 3L8	2041	15,000,000	3.500	46613P 4P8
2032	16,175,000	5.000	46613P 3M6	2041	13,205,000	3.375	46613P 3X2

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WATER AND SEWER SYSTEM SUBORDINATED REVENUE BONDS

Water and Sewer System Subordinated Revenue Bonds, 2010 Series A

Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number
2019	$2,790,000	5.000%	46613P B39

Water and Sewer System Subordinated Revenue Bonds, 2010 Series B

Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number
2023	$490,000	5.000%	46615S BW7
2024	780,000	5.000	46615S BX5
2025	300,000	4.000	46615S BY3
2025	490,000	5.000	46615S BZ0

Water and Sewer System Subordinated Revenue Bonds, 2012 Series B

Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number
2030	$ 565,000	3.250%	46613P R99
2030	1,335,000	5.000	46615S CD8
2032	525,000	3.500	46613P S23
2032	600,000	5.000	46615S CE6
2034	1,455,000	5.000	46615S CF3
2037	13,605,000	3.875	46613P S31
2043	11,600,000	4.000	46613P 2Y1

Water and Sewer System Subordinated Revenue Bonds, 2013 Series A

Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number	Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number
2019	$2,595,000	2.125%	46613P V78	2025	$2,475,000	4.000%	46615S CT3
2019	2,770,000	5.000	46613P W85	2026	700,000	4.125	46615S CU0
2021	5,310,000	5.000	46613P X27	2027	1,335,000	4.250	46615S CV8
2022	5,120,000	5.000	46613P X35	2028	1,350,000	5.000	46615S CW6
2023	1,795,000	3.375	46615S CR7	2029	1,410,000	5.000	46615S CX4
2024	350,000	3.750	46615S CS5				

Water and Sewer System Subordinated Revenue Bonds, 2017 Series A

Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number	Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number
2021	$ 950,000	5.000%	46613P 3Y0	2028	$3,770,000	5.000%	46613P 4G8
2022	2,975,000	5.000	46613P 3Z7	2029	5,930,000	5.000	46613P 4H6
2023	8,170,000	5.000	46613P 4A1	2030	2,125,000	5.000	46613P 4J2
2024	5,500,000	5.000	46613P 4B9	2031	1,745,000	5.000	46613P 4K9
2025	3,500,000	2.750	46613P 4D5	2032	3,595,000	5.000	46613P 4L7
2025	8,050,000	5.000	46613P 4C7	2033	5,815,000	5.000	46613P 4M5
2026	1,920,000	5.000	46613P 4E3	2034	1,190,000	3.250	46613P 4N3
2027	3,705,000	5.000	46613P 4F0				

DISTRICT ENERGY SYSTEM BONDS

District Energy System Refunding Revenue Bonds, 2013 Series A (Federally Taxable)

Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number	Maturity Date (October 1)	Principal Amount	Interest Rate	CUSIP Number
2019	$1,690,000	2.065%	46615M AJ0	2024	$ 1,930,000	3.394%	46615M AP6
2020	1,725,000	2.415	46615M AK7	2025	1,995,000	3.544	46615M AQ4
2021	1,770,000	2.694	46615M AL5	2026	2,065,000	3.694	46615M AR2
2022	1,815,000	3.000	46615M AM3	2030	9,135,000	4.238	46615M AS0
2023	1,870,000	3.244	46615M AN1	2034	10,830,000	4.538	46615M AT8

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Quarterly Analysis of Financial Performance

March 2019

Management's Discussion and Analysis of Financial Performance for the Quarter and Six Months Ended March 31, 2019

JEA is a municipal utility operating in Jacksonville, Florida (Duval County) and parts of three adjacent counties. The operation is comprised of three enterprise funds: the Electric Enterprise Fund (Electric Enterprise), the Water and Sewer Enterprise Fund (W&S), and the District Energy System (DES). Electric Enterprise is comprised of the JEA Electric System, Bulk Power Supply System (Scherer) and St. Johns River Power Park System (SJRPP). Electric Enterprise, W&S, and DES are presented on a combined basis in the statements of net position, statements of revenue, expenses and changes in net position, and statements of cash flows.

Quarter Operating Results

Electric Enterprise

Operating Revenues

Total operating revenues decreased approximately $97 million (25.1 percent) and total MWh sales decreased 164,743 megawatt hours (MWh) (5.8 percent) over the prior year comparable quarter. Revenues from territorial sales decreased $20 million and territorial MWh sales were down 166,074 MWh (5.9 percent). The territorial sales decrease resulted from a 7.7 percent reduction in average MWhs per customer, partially offset by a 2.0 percent increase in customers. Off system revenues increased by approximately $1 million and MWh sales increased by 1,331 MWh. Fuel stabilization fund transfers decreased $23 million. Other operating revenue decreased $55 million due to cycling of prior year revenues received from Florida Power & Light (FPL) related to the closure of SJRPP.

Operating Expenses

Total operating expenses decreased approximately $75 million (23.3 percent) over the prior year comparable quarter.

Fuel and purchased power expense decreased $31 million (21.8 percent), primarily driven by:

- an $18 million decrease in generation costs driven by the closure of SJRPP;
- a $5 million decrease in purchased power cost; and
- an $8 million decrease resulting from a reduction in MWh generated and purchased of 197,593 (6.7 percent) to 2,767,525

As commodity prices fluctuate, the mix between generation and purchased power shifts, with JEA taking advantage of the most economical source of power. JEA's power supply mix is detailed below.

	Quarter Ended March 31	
	FY 2019	**FY 2018**
Natural gas	38.4%	45.2%
Purchased power	28.0%	23.6%
Coal	20.3%	15.9%
Petroleum coke	13.3%	14.0%
Oil	0.0%	1.3%
Total	100.0%	100.0%

Operating expenses, other than fuel and purchased power, decreased $44 million over the prior year comparable quarter, primarily due to:

- a $46 million decrease in maintenance and other operating expenses driven by lower SJRPP expenses resulting from the shutdown;

- a $1 million decrease in recognition of deferred costs and revenues, net, due to lower amortization of the regulatory asset related to the SJRPP plant shutdown; and

- a $1 million decrease in state utility and franchise taxes as a result of a decrease in tax-based revenues; partially offset by

- a $4 million increase in depreciation expense due to a higher depreciable base.

Water & Sewer Enterprise

Operating Revenues

Total operating revenues increased approximately $3 million (2.5 percent) over the prior year comparable quarter. Water consumption decreased 359,653 thousands of gallons (kgals) to 8,174,691 kgals, with decreases in all lines of business. However, water revenues were flat as the decrease in consumption was offset by a 2.2 percent increase in customer accounts. Sewer sales decreased 124,234 kgals (1.9 percent) to 6,348,987 kgals, with decreases in all lines of business. However, sewer revenues were flat as the decrease in consumption was offset by a 2.6 percent increase in sewer accounts. Reuse sales decreased 99,841 kgals (14.6 percent) to 585,916 kgals. However, reuse revenues were flat as the decrease in consumption was offset by a 24.8 percent increase in reuse accounts. There was an increase of $2 million in environmental stabilization transfers and an increase of $1 million in other operating revenue.

Operating Expenses

Operating expenses increased $5 million (5.9 percent) over the prior year comparable quarter, primarily driven by:

- an increase of $3 million in maintenance and other operating expenses due to higher interfund charges;

- a $1 million increase in depreciation expense due to a larger depreciable base; and

- a $1 million increase in recognition of deferred costs and revenues, net, due to higher environmental project costs.

District Energy System

Operating revenues and expenses remained flat when compared to the prior period at $2 million, respectively.

Six Months Operating Results

Electric Enterprise

Operating Revenues

Total operating revenues decreased approximately $118 million (16.4 percent) and total MWh sales decreased 488,826 MWh (8.1 percent) over the prior year comparable period. Revenues from territorial sales decreased $20 million and territorial MWh sales were down 199,161 MWh (3.5 percent). The territorial sales decrease resulted from a 5.3 percent reduction in average MWhs per customer, partially offset by a 1.9 percent increase in customers. SJRPP saleback and off system revenues decreased by $26 million. FPL MWh sales decreased by 332,467 MWh, driven by the SJRPP plant shutdown, and off-system sales increased by 42,802 MWh. Stabilization fund transfers decreased $18 million, driven by fuel stabilization. Other operating revenue decreased $54 million primarily due to cycling of prior year revenues received from FPL related to the closure of SJRPP.

Operating Expenses

Total operating expenses decreased approximately $82 million (14.1 percent) over the prior year comparable six months.

Fuel and purchased power expense decreased approximately $35 million (13.4 percent), primarily driven by:

- a $25 million decrease in generation costs driven by the closure of SJRPP;
- a $7 million decrease in purchased power cost;
- a $3 million decrease due to a reduction in MWh generated and purchased of 146,033 (2.5 percent) to 5,798,023.

As commodity prices fluctuate, the mix between generation and purchased power shifts, with JEA taking advantage of the most economical source of power. JEA's power supply mix is detailed below.

	Six Months Ended March 31	
	FY 2019	**FY 2018**
Natural gas	46.4%	42.8%
Purchased power	25.4%	16.5%
Coal	18.1%	29.2%
Petroleum coke	10.0%	10.9%
Oil	0.1%	0.6%
Total	100.0%	100.0%

Operating expenses, other than fuel and purchased power decreased approximately $47 million over the prior year comparable six months, primarily due to:

- a $44 million decrease in maintenance and other operating expenses due to expenses related to SJRPP plant shutdown and dismantlement activities, which were offset by increases in legal and other professional services and compensation and benefits;
- an $11 million decrease in depreciation expense due to the SJRPP impairment write-down of those plant assets expected to be dismantled, which was partially offset by higher depreciation of other electric enterprise assets whose depreciable base increased over the prior year; partially offset by
- a $5 million increase in recognition of deferred costs and revenues, net, due to higher amortization of the regulatory asset related to the SJRPP plant shutdown.

Water & Sewer Enterprise

Operating Revenues

Total operating revenues increased approximately $6 million (3.0 percent) over the prior year comparable period. Water consumption decreased 404,349 kgals to 17,041,501 kgals, with decreases in all lines of business. However, water revenues were flat as the decrease in consumption was offset by a 2.2 percent increase in customer accounts. Sewer sales increased 71,693 kgals (0.6 percent) to 12,992,465 kgals, with increases in all lines of business. Sewer revenues increased $2 million due primarily to a 2.6 percent increase in sewer accounts. Reuse sales increased 7,348 kgals (0.5 percent) to 1,451,809 kgals. Reuse revenues increased $1 million primarily due to a 24.4 percent increase in reuse accounts. There was an increase of $2 million in environmental stabilization transfers and an increase of $1 million in other operating revenue.

Operating Expenses

Operating expenses increased $9 million (6.3 percent), primarily due to:

- a $6 million increase in maintenance and other operating expenses driven by higher compensation and benefits and maintenance costs;
- a $1 million increase in depreciation expense due to a larger depreciable base; and
- a $2 million increase in recognition of deferred costs and revenues, net, due to higher environmental project costs.

District Energy System

Operating revenues and expenses remained flat when compared to the prior period at $4 million and $3 million, respectively.

Nonoperating Revenues (Expenses)

Total nonoperating expenses, net decreased $14 million (38.5 percent) and $30 million (40.6 percent) over the prior year comparable quarter and six months, respectively. The drivers of the changes are detailed below.

(Dollars in millions)

Changes in nonoperating expenses, net	Quarter	Six Months
Investment income - fair market value adjustments	$ (7)	$ (10)
Decrease in interest on debt	(4)	(11)
Increase in investment income - realized	(2)	(10)
Increase in allowance for funds used during construction	(1)	(2)
Decrease in earnings from The Energy Authority	-	2
Cycling of prior year land sale	-	1
Total change in nonoperating expenses, net	$ (14)	$ (30)

Debt Administration

Debt outstanding at March 31, 2019 was $3,621 million, a decrease of approximately $379 million from the prior fiscal year end.

JEA's debt ratings and outlooks on its long-term debt per Standard & Poor's and Fitch remained unchanged during the six months ended March 31, 2019. On October 11, 2018, Moody's downgraded the long term ratings of JEA Electric System senior lien bonds, St. Johns River Power Park System and Bulk Power Supply System bonds to "A2" from "Aa2" and downgraded JEA Electric System subordinated lien bonds to "A3" from "Aa3." At the same time, Moody's downgraded JEA W&S senior and subordinated lien bonds to "A2" from "Aa2," downgraded DES bonds to "A3" from "Aa3" and lowered its outlook on those bonds to negative from stable. All ratings and outlooks as of March 31, 2019 are detailed below.

	Moody's		Standard & Poor's		Fitch	
	Rating	Outlook	Rating	Outlook	Rating	Outlook
JEA Electric System						
Senior	A2	negative	A+	negative	AA	stable
Subordinated	A3	negative	A	negative	AA	stable
SJRPP	A2	negative	A+	negative	AA	stable
Scherer	A2	negative	A+	negative	AA	stable
W&S						
Senior	A2	negative	AAA	stable	AA	stable
Subordinated	A2	negative	AA+	stable	AA	stable
DES	A3	negative	AA+	stable	AA	stable

As of March 31, 2019, there was $5 million in outstanding bank draws under the revolving lines of credit.

Debt service coverage ratios for JEA Electric System and W&S bonds are as follows:

	Quarter Ended March 31		Six Months Ended March 31	
	FY 2019	FY 2018	FY 2019	FY 2018
JEA Electric System				
Senior	4.95 x	6.57 x	5.35 x	6.76 x
Senior and subordinated	2.13 x	2.29 x	2.30 x	2.36 x
W&S				
Senior	3.16 x	3.09 x	3.26 x	3.22 x
Senior and subordinated	2.66 x	2.59 x	2.74 x	2.7 x

The decrease in the JEA Electric System senior coverage ratio for the quarter and six months was due to lower net revenues and higher debt service requirements. The decrease in the JEA Electric System senior and subordinated coverage ratio for the quarter and six months was due to lower net revenues, which were partially offset by lower debt service requirements.

The increase in W&S debt service coverage ratios for the quarter were due to higher net revenues and lower debt service requirements. The increase in W&S debt service coverage ratios for the six months were due to higher net revenues, which were partially offset by higher debt service requirements.

Capital Assets

JEA's total investment in capital assets and capital expenditures for the quarter and six months ended March 31, 2019 are detailed below. The cost of ongoing capital improvement programs is planned to be provided from revenues generated from operations and existing fund balances.

	Total Investment	Expenditures	
(Dollars in millions)	March 31, 2019	Quarter Ended March 31, 2019	Six Months Ended March 31, 2019
Electric Enterprise	$ 2,672	$ 42	$ 126
Water and Sewer Enterprise	2,678	39	86
District Energy System	34	1	1
Total	$ 5,384	$ 82	$ 213

JEA
Statements of Net Position
(in thousands)

	March 2019 (unaudited)	September 2018
Assets		
Current assets:		
Cash and cash equivalents	$ 221,893	$ 441,206
Investments	248,733	85,310
Accounts and interest receivable, net of allowance ($1,556 and $1,830, respectively	194,763	251,148
Inventories:		
Fuel	35,134	36,871
Materials and supplies	57,312	59,204
Total current assets	757,835	873,739
Noncurrent assets:		
Restricted assets:		
Cash and cash equivalents	121,931	114,576
Investments	395,998	731,627
Accounts and interest receivable	51	62
Total restricted assets	517,980	846,265
Costs to be recovered from future revenues	791,731	808,096
Investment in The Energy Authority	7,075	7,030
Other assets	20,386	15,656
Total noncurrent assets	1,337,172	1,677,047
Net capital assets	5,384,295	5,380,259
Total assets	7,479,302	7,931,045
Deferred outflows of resources		
Unrealized pension contributions and losses	171,367	171,367
Unamortized deferred losses on refundings	138,265	143,722
Accumulated decrease in fair value of hedging derivatives	112,315	86,356
Unrealized asset retirement obligation	27,250	29,173
Unrealized OPEB contributions and losses	4,078	4,078
Total deferred outflows of resources	453,275	434,696
Total assets and deferred outflows of resources	$ 7,932,577	$ 8,365,741
Liabilities		
Current liabilities:		
Accounts and accrued expenses payable	$ 124,470	$ 147,361
Customer deposits	60,544	59,883
Total current liabilities	185,014	207,244
Current liabilities payable from restricted assets:		
Debt due within one year	192,555	185,790
Renewal and replacement reserve	50,686	54,370
Interest payable	64,918	73,737
Construction contracts and accounts payable	20,743	53,369
Total current liabilities payable from restricted assets	328,902	367,266
Noncurrent liabilities:		
Net pension liability	544,203	544,203
Net OPEB liability	18,835	18,835
Asset retirement obligation	7,429	22,526
Other liabilities	47,109	49,227
Total other noncurrent liabilities	617,576	634,791
Long-term debt:		
Debt payable, less current portion	3,428,080	3,813,680
Unamortized premium, net	128,872	152,891
Fair value of debt management strategy instruments	112,315	86,356
Total long-term debt	3,669,267	4,052,927
Total liabilities	4,800,759	5,262,228
Deferred inflows of resources		
Revenues to be used for future costs	255,986	286,832
Unrealized pension gains	50,124	50,124
Unrealized OPEB gains	8,712	8,712
Accumulated increase in fair value of hedging derivatives	4,353	2,536
Total deferred inflows of resources	319,175	348,204
Net position		
Net investment in capital assets	2,242,545	1,856,725
Restricted for:		
Debt service	97,156	187,374
Other purposes	168,592	354,663
Unrestricted	304,350	356,547
Total net position	2,812,643	2,755,309
Total liabilities, deferred inflows of resources, and net position	$ 7,932,577	$ 8,365,741

Statements of Revenues, Expenses and Changes in Net Position

(in thousands - unaudited)

	Quarter March 2019	Quarter March 2018	Year-to-Date March 2019	Year-to-Date March 2018
Operating revenues				
Electric	$ 281,262	$ 323,219	$ 582,169	$ 645,634
Water and sewer	104,246	102,100	211,750	206,427
District energy system	1,719	1,707	3,777	3,905
Other	7,541	62,163	16,161	69,822
Total operating revenues	394,768	489,189	813,857	925,788
Operating expenses				
Operations and maintenance:				
Fuel	80,389	107,994	166,319	213,544
Purchased power	30,506	33,751	62,463	50,595
Maintenance and other operating expenses	101,470	144,765	195,865	233,605
Depreciation	92,232	86,627	183,140	188,996
State utility and franchise taxes	16,242	17,622	34,336	34,671
Recognition of deferred costs and revenues, net	5,651	6,098	9,846	3,086
Total operating expenses	326,490	396,857	651,969	724,497
Operating income	68,278	92,332	161,888	201,291
Nonoperating revenues (expenses)				
Interest on debt	(38,692)	(45,750)	(77,230)	(88,445)
Investment income, net	11,021	949	22,524	3,154
Allowance for funds used during construction	3,603	2,519	7,036	4,867
Other nonoperating income, net	2,092	2,508	3,854	4,531
Earnings from The Energy Authority	216	1,831	743	2,541
Other interest, net	(356)	(178)	(944)	(706)
Total nonoperating expenses, net	(22,116)	(38,121)	(44,017)	(74,058)
Income before contributions and special item	46,162	54,211	117,871	127,233
Contributions (to) from				
General Fund, City of Jacksonville, Florida	(44,567)	(29,155)	(73,979)	(58,310)
Developers and other	21,017	18,307	40,029	31,003
Reduction of plant cost through contributions	(14,728)	(12,777)	(26,587)	(19,331)
Total contributions	(38,278)	(23,625)	(60,537)	(46,638)
Change in net position	7,884	30,586	57,334	80,595
Net position, beginning of year	2,804,759	2,678,831	2,755,309	2,628,822
Net position, end of period	$ 2,812,643	$ 2,709,417	$ 2,812,643	$ 2,709,417

JEA

Statements of Cash Flows
(in thousands - unaudited)

	Quarter March 2019	Quarter March 2018	Year-to-Date March 2019	Year-to-Date March 2018
Operating activities				
Receipts from customers	$ 381,644	$ 439,916	$ 823,239	$ 920,588
Payments to suppliers	(166,194)	(230,780)	(377,089)	(439,427)
Payments to employees	(52,635)	(72,398)	(121,115)	(145,859)
Other operating activities	10,871	60,300	19,464	63,877
Net cash provided by operating activities	173,686	197,038	344,499	399,179
Noncapital and related financing activities				
Contribution to General Fund, City of Jacksonville, Florida	(44,577)	(29,313)	(73,890)	(58,253)
Net cash used in noncapital and related financing activities	(44,577)	(29,313)	(73,890)	(58,253)
Capital and related financing activities				
Defeasance of debt	(195,045)	(128,280)	(195,045)	(993,690)
Proceeds from issuance of debt	-	-	2,000	821,000
Acquisition and construction of capital assets	(81,600)	(60,599)	(212,755)	(171,170)
Interest paid on debt	(11,547)	(8,651)	(91,243)	(104,646)
Repayment of debt principal	-	-	(185,790)	(229,095)
Capital contributions	6,289	5,530	13,442	11,672
Other capital financing activities	(9,127)	(5,136)	(8,851)	41,811
Net cash used in capital and related financing activities	(291,030)	(197,136)	(678,242)	(624,118)
Investing activities				
Purchase of investments	(216,816)	(257,953)	(371,356)	(672,493)
Proceeds from sale and maturity of investments	373,907	246,612	552,831	746,222
Investment income	8,759	5,238	13,502	4,907
Distributions from The Energy Authority	251	2,131	698	2,785
Net cash provided by (used in) investing activities	166,101	(3,972)	195,675	81,421
Net change in cash and cash equivalents	4,180	(33,383)	(211,958)	(201,771)
Cash and cash equivalents at beginning of year	339,644	445,646	555,782	614,034
Cash and cash equivalents at end of period	$ 343,824	$ 412,263	$ 343,824	$ 412,263
Reconciliation of operating income to net cash provided by operating activities				
Operating income	$ 68,278	$ 92,332	$ 161,888	$ 201,291
Adjustments:				
Depreciation and amortization	92,534	86,944	183,758	189,644
Recognition of deferred costs and revenues, net	5,651	6,098	9,846	3,086
Other nonoperating income, net	331	733	384	991
Changes in noncash assets and noncash liabilities:				
Accounts receivable	13,036	29,453	57,222	72,910
Inventories	10,987	(1,319)	3,629	5,896
Other assets	(8,130)	8,232	(1,851)	2,945
Accounts and accrued expenses payable	1,065	3,884	(38,717)	(35,476)
Current liabilities payable from restricted assets	(1,191)	10,415	(2,453)	76
Other noncurrent liabilities and deferred inflows	(8,875)	(39,734)	(29,207)	(42,184)
Net cash provided by operating activities	$ 173,686	$ 197,038	$ 344,499	$ 399,179
Noncash activity				
Contribution of capital assets from developers	$ 14,728	$ 12,777	$ 26,587	$ 19,331
Unrealized gains (losses) on fair value of investments, net	$ 4,009	$ (3,376)	$ 9,268	$ (856)

JEA
Combining Statement of Net Position
(in thousands - unaudited) March 2019

	Electric System and Bulk Power Supply System	SJRPP System	Elimination of intercompany transactions	Total Electric Enterprise Fund	Water and Sewer Enterprise Fund	District Energy System Fund	Total JEA
Assets							
Current assets:							
Cash and cash equivalents	$ 116,287	$ 61,108	$ -	$ 177,395	$ 40,278	$ 4,220	$ 221,893
Investments	197,500	6,910	-	204,410	44,323	-	248,733
Accounts and interest receivable, net of allowance ($1,556)	142,562	474	(2,545)	140,491	53,935	337	194,763
Inventories:							
Fuel	35,134	-	-	35,134	-	-	35,134
Materials and supplies	2,284	385	-	2,669	54,643	-	57,312
Total current assets	493,767	68,877	(2,545)	560,099	193,179	4,557	757,835
Noncurrent assets:							
Restricted assets:							
Cash and cash equivalents	201	89,565	-	89,766	29,781	2,384	121,931
Investments	226,132	10,882	-	237,014	158,984	-	395,998
Accounts and interest receivable	7	36	-	43	8	-	51
Total restricted assets	226,340	100,483	-	326,823	188,773	2,384	517,980
Costs to be recovered from future revenues	296,959	254,177	-	551,136	240,568	27	791,731
Investment in The Energy Authority	7,075	-	-	7,075	-	-	7,075
Other assets	16,864	-	-	16,864	3,514	8	20,386
Total noncurrent assets	547,238	354,660	-	901,898	432,855	2,419	1,337,172
Net capital assets	2,662,248	9,939	-	2,672,187	2,678,121	33,987	5,384,295
Total assets	3,703,253	433,476	(2,545)	4,134,184	3,304,155	40,963	7,479,302
Deferred outflows of resources							
Unrealized pension contributions and losses	83,649	34,238	-	117,887	53,480	-	171,367
Unamortized deferred losses on refundings	81,206	4,079	-	85,285	52,792	188	138,265
Accumulated decrease in fair value of hedging derivatives	89,771	-	-	89,771	22,544	-	112,315
Unrealized asset retirement obligation	-	27,250	-	27,250	-	-	27,250
Unrealized OPEB contributions and losses	2,488		-	2,488	1,590	-	4,078
Total deferred outflows of resources	257,114	65,567	-	322,681	130,406	188	453,275
Total assets and deferred outflows of resources	$ 3,960,367	$ 499,043	$ (2,545)	$ 4,456,865	$ 3,434,561	$ 41,151	$ 7,932,577

JEA
Combining Statement of Net Position
(in thousands - unaudited) March 2019

	Electric System and Bulk Power Supply System	SJRPP System	Elimination of intercompany transactions	Total Electric Enterprise Fund	Water and Sewer Enterprise Fund	District Energy System Fund	Total JEA
Liabilities							
Current liabilities:							
Accounts and accrued expenses payable	$ 86,413	$ 20,521	$ (241)	$ 106,693	$ 17,723	$ 54	$ 124,470
Customer deposits	44,586	-	-	44,586	15,958	-	60,544
Total current liabilities	130,999	20,521	(241)	151,279	33,681	54	185,014
Current liabilities payable from restricted assets:							
Debt due within one year	122,380	13,780	-	136,160	54,705	1,690	192,555
Renewal and replacement reserve	-	50,686	-	50,686	-	-	50,686
Interest payable	32,206	5,564	-	37,770	26,483	665	64,918
Construction contracts and accounts payable	6,036	2,973	(2,304)	6,705	14,038	-	20,743
Total current liabilities payable from restricted assets	160,622	73,003	(2,304)	231,321	95,226	2,355	328,902
Noncurrent liabilities:							
Net pension liability	321,885	16,523	-	338,408	205,795	-	544,203
Net OPEB liability	11,489	-	-	11,489	7,346	-	18,835
Asset retirement obligation	-	7,429	-	7,429	-	-	7,429
Other liabilities	38,853	-	-	38,853	8,238	18	47,109
Total other noncurrent liabilities	372,227	23,952	-	396,179	221,379	18	617,576
Long-term debt:							
Debt payable, less current portion	1,796,880	265,105	-	2,061,985	1,332,960	33,135	3,428,080
Unamortized premium, net	62,505	1,953	-	64,458	64,445	(31)	128,872
Fair value of debt management strategy instruments	89,771	-	-	89,771	22,544	-	112,315
Total long-term debt	1,949,156	267,058	-	2,216,214	1,419,949	33,104	3,669,267
Total liabilities	2,613,004	384,534	(2,545)	2,994,993	1,770,235	35,531	4,800,759
Deferred inflows of resources							
Revenues to be used for future costs	215,833	10,624	-	226,457	29,529	-	255,986
Unrealized pension gains	26,250	7,091	-	33,341	16,783	-	50,124
Unrealized OPEB gains	5,314		-	5,314	3,398	-	8,712
Accumulated increase in fair value of hedging derivatives	4,353		-	4,353	-	-	4,353
Total deferred inflows of resources	251,750	17,715	-	269,465	49,710	-	319,175
Net position							
Net investment in capital assets	792,719	(4,137)	-	788,582	1,454,582	(619)	2,242,545
Restricted for:							
Debt service	60,653	7,056	-	67,709	28,602	845	97,156
Other purposes	68,048	25,698	2,304	96,050	71,669	873	168,592
Unrestricted	174,193	68,177	(2,304)	240,066	59,763	4,521	304,350
Total net position	1,095,613	96,794	-	1,192,407	1,614,616	5,620	2,812,643
Total liabilities, deferred inflows of resources, and net position	$ 3,960,367	$ 499,043	$ (2,545)	$ 4,456,865	$ 3,434,561	$ 41,151	$ 7,932,577

JEA
Combining Statement of Net Position
(in thousands) September 2018

	Electric System and Bulk Power Supply System	SJRPP System	Elimination of intercompany transactions	Total Electric Enterprise Fund	Water and Sewer Enterprise Fund	District Energy System Fund	Total JEA
Assets							
Current assets:							
Cash and cash equivalents	$ 285,611	$ 65,840	$ -	$ 351,451	$ 86,219	$ 3,536	$ 441,206
Investments	83,268	2,042	-	85,310	-	-	85,310
Accounts and interest receivable, net of allowance ($1,830)	197,041	790	(1,912)	195,919	54,369	860	251,148
Inventories:							
Fuel	35,856	1,015	-	36,871	-	-	36,871
Materials and supplies	2,189	665	-	2,854	56,350	-	59,204
Total current assets	603,965	70,352	(1,912)	672,405	196,938	4,396	873,739
Noncurrent assets:							
Restricted assets:							
Cash and cash equivalents	203	74,113	-	74,316	36,842	3,418	114,576
Investments	419,536	23,330	-	442,866	288,761	-	731,627
Accounts and interest receivable	7	47	-	54	8	-	62
Total restricted assets	419,746	97,490	-	517,236	325,611	3,418	846,265
Cost to be recovered from future revenues	301,805	261,277	-	563,082	244,987	27	808,096
Investment in The Energy Authority	7,030	-	-	7,030	-	-	7,030
Other assets	11,813	-	-	11,813	3,843	-	15,656
Total noncurrent assets	740,394	358,767	-	1,099,161	574,441	3,445	1,677,047
Net capital assets	2,652,224	10,144	-	2,662,368	2,682,864	35,027	5,380,259
Total assets	3,996,583	439,263	(1,912)	4,433,934	3,454,243	42,868	7,931,045
Deferred outflows of resources							
Unrealized pension contributions and losses	83,649	34,238	-	117,887	53,480	-	171,367
Unamortized deferred losses on refundings	85,165	4,185	-	89,350	54,178	194	143,722
Accumulated decrease in fair value of hedging derivatives	70,103	-	-	70,103	16,253	-	86,356
Unamortized asset retirement obligation	-	29,173	-	29,173	-	-	29,173
Unrealized OPEB contributions and losses	2,488	-	-	2,488	1,590	-	4,078
Total deferred outflows of resources	241,405	67,596	-	309,001	125,501	194	434,696
Total assets and deferred outflows of resources	$ 4,237,988	$ 506,859	$ (1,912)	$ 4,742,935	$ 3,579,744	$ 43,062	$ 8,365,741

JEA
Combining Statement of Net Position
(in thousands) September 2018

	Electric System and Bulk Power Supply System	SJRPP System	Elimination of intercompany transactions	Total Electric Enterprise Fund	Water and Sewer Enterprise Fund	District Energy System Fund	Total JEA
Liabilities							
Current liabilities:							
Accounts and accrued expenses payable	$ 118,901	$ 7,668	$ (796)	$ 125,773	$ 21,485	$ 103	$ 147,361
Customer deposits	44,267	-	-	44,267	15,616	-	59,883
Total current liabilities	163,168	7,668	(796)	170,040	37,101	103	207,244
Current liabilities payable from restricted assets:							
Debt due within one year	130,690	1,720	-	132,410	51,720	1,660	185,790
Renewal and replacement reserve	-	54,370	-	54,370	-	-	54,370
Interest payable	37,613	5,603	-	43,216	29,841	680	73,737
Construction contracts and accounts payable	16,596	1,742	(1,116)	17,222	35,886	261	53,369
Total current liabilities payable from restricted assets	184,899	63,435	(1,116)	247,218	117,447	2,601	367,266
Noncurrent liabilities:							
Net pension liability	321,885	16,523	-	338,408	205,795	-	544,203
Net OPEB liability	11,489	-	-	11,489	7,346	-	18,835
Asset retirement obligation	-	22,526	-	22,526	-	-	22,526
Other liabilities	40,344	-	-	40,344	8,849	34	49,227
Total noncurrent liabilities	373,718	39,049	-	412,767	221,990	34	634,791
Long-term debt:							
Debt payable, less current portion	2,019,350	278,885	-	2,298,235	1,480,620	34,825	3,813,680
Unamortized premium (discount), net	76,748	2,474	-	79,222	73,703	(34)	152,891
Fair value of debt management strategy instruments	70,103	-	-	70,103	16,253	-	86,356
Total long-term debt	2,166,201	281,359	-	2,447,560	1,570,576	34,791	4,052,927
Total liabilities	2,887,986	391,511	(1,912)	3,277,585	1,947,114	37,529	5,262,228
Deferred inflows of resources							
Revenues to be used for future costs	249,085	10,624	-	259,709	27,123	-	286,832
Unrealized pension gains	26,250	7,091	-	33,341	16,783	-	50,124
Unrealized OPEB gains	5,314	-	-	5,314	3,398	-	8,712
Accumulated increase in fair value of hedging derivatives	2,536	-	-	2,536	-	-	2,536
Total deferred inflows of resources	283,185	17,715	-	300,900	47,304	-	348,204
Net position							
Net investment in capital assets	530,479	2,138	-	532,617	1,325,600	(1,492)	1,856,725
Restricted for:							
Debt service	130,072	1,843	-	131,915	53,799	1,660	187,374
Other purposes	186,628	24,321	1,116	212,065	141,520	1,078	354,663
Unrestricted	219,638	69,331	(1,116)	287,853	64,407	4,287	356,547
Total net position	1,066,817	97,633	-	1,164,450	1,585,326	5,533	2,755,309
Total liabilities, deferred inflows of resources, and net position	$ 4,237,988	$ 506,859	$ (1,912)	$ 4,742,935	$ 3,579,744	$ 43,062	$ 8,365,741

JEA
Combining Statement of Revenue, Expenses and Changes in Net Position
(in thousands - unaudited) for the quarter ended March 2019

	Electric System and Bulk Power Supply System	SJRPP System	Elimination of intercompany transactions	Total Electric Enterprise Fund	Water and Sewer Enterprise Fund	District Energy System Fund	Eliminations	Total JEA
Operating revenues								
Electric	$ 284,453	$ 7,776	$ (7,149)	$ 285,080	$ -	$ -	$ (3,818)	$ 281,262
Water and sewer	-	-	-	-	104,368	-	(122)	104,246
District energy system	-	-	-	-	-	1,795	(76)	1,719
Other	5,044	143	-	5,187	3,186	1	(833)	7,541
Total operating revenues	289,497	7,919	(7,149)	290,267	107,554	1,796	(4,849)	394,768
Operating expenses								
Operations and maintenance:								
Fuel	78,709	1,680	-	80,389	-	-	-	80,389
Purchased power	37,655	-	(7,149)	30,506	-	-	-	30,506
Maintenance and other operating expenses	64,250	792	-	65,042	40,419	858	(4,849)	101,470
Depreciation	54,232	103	-	54,335	37,284	613	-	92,232
State utility and franchise taxes	13,710	-	-	13,710	2,532	-	-	16,242
Recognition of deferred costs and revenues, net	(398)	3,515	-	3,117	2,534	-	-	5,651
Total operating expenses	248,158	6,090	(7,149)	247,099	82,769	1,471	(4,849)	326,490
Operating income	41,339	1,829	-	43,168	24,785	325	-	68,278
Nonoperating revenues (expenses)								
Interest on debt	(21,764)	(2,609)	-	(24,373)	(13,982)	(337)	-	(38,692)
Investment income, net	6,152	846	-	6,998	3,986	37	-	11,021
Allowance for funds used during construction	1,251	-	-	1,251	2,345	7	-	3,603
Other nonoperating income, net	1,080	86	-	1,166	926	-	-	2,092
Earnings from The Energy Authority	216	-	-	216	-	-	-	216
Other interest, net	(346)	-	-	(346)	(10)	-	-	(356)
Total nonoperating expenses, net	(13,411)	(1,677)	-	(15,088)	(6,735)	(293)	-	(22,116)
Income before contributions	27,928	152	-	28,080	18,050	32	-	46,162
Contributions (to) from								
General Fund, City of Jacksonville, Florida	(23,238)	-	-	(23,238)	(21,329)	-	-	(44,567)
Developers and other	962	-	-	962	20,055	-	-	21,017
Reduction of plant cost through contributions	(962)	-	-	(962)	(13,766)	-	-	(14,728)
Total contributions	(23,238)	-	-	(23,238)	(15,040)	-	-	(38,278)
Change in net position	4,690	152	-	4,842	3,010	32	-	7,884
Net position, beginning of year	1,090,923	96,642	-	1,187,565	1,611,606	5,588	-	2,804,759
Net position, end of period	$ 1,095,613	$ 96,794	$ -	$ 1,192,407	$ 1,614,616	$ 5,620	$ -	$ 2,812,643

JEA
Combining Statement of Revenue, Expenses and Changes in Net Position
(in thousands - unaudited) for the quarter ended March 2018

	Electric System and Bulk Power Supply System	SJRPP System	Elimination of intercompany transactions	Total Electric Enterprise Fund	Water and Sewer Enterprise Fund	District Energy System Fund	Eliminations	Total JEA
Operating revenues								
Electric	$ 326,827	$ 13,431	$ (13,074)	$ 327,184	$ -	$ -	$ (3,965)	$ 323,219
Water and sewer	-	-	-	-	102,259	-	(159)	102,100
District energy system	-	-	-	-	-	1,782	(75)	1,707
Other	5,236	54,925	-	60,161	2,654	-	(652)	62,163
Total operating revenues	332,063	68,356	(13,074)	387,345	104,913	1,782	(4,851)	489,189
Operating expenses								
Operations and maintenance:								
Fuel	96,021	11,973	-	107,994	-	-	-	107,994
Purchased power	46,825	-	(13,074)	33,751	-	-	-	33,751
Maintenance and other operating expenses	64,016	46,777	-	110,793	37,877	946	(4,851)	144,765
Depreciation	49,849	102	-	49,951	36,086	590	-	86,627
State utility and franchise taxes	15,042	-	-	15,042	2,580	-	-	17,622
Recognition of deferred costs and revenues, net	(681)	5,142	-	4,461	1,637	-	-	6,098
Total operating expenses	271,072	63,994	(13,074)	321,992	78,180	1,536	(4,851)	396,857
Operating income	60,991	4,362	-	65,353	26,733	246	-	92,332
Nonoperating revenues (expenses)								
Interest on debt	(21,558)	(9,676)	-	(31,234)	(14,173)	(343)	-	(45,750)
Investment income, net	955	40	-	995	(68)	22	-	949
Allowance for funds used during construction	792	-	-	792	1,714	13	-	2,519
Other nonoperating income, net	1,091	791	-	1,882	626	-	-	2,508
Earnings from The Energy Authority	1,831	-	-	1,831	-	-	-	1,831
Other interest, net	(178)	-	-	(178)	-	-	-	(178)
Total nonoperating expenses, net	(17,067)	(8,845)	-	(25,912)	(11,901)	(308)	-	(38,121)
Income before contributions	43,924	(4,483)	-	39,441	14,832	(62)	-	54,211
Contributions (to) from								
General Fund, City of Jacksonville, Florida	(22,868)	-	-	(22,868)	(6,287)	-	-	(29,155)
Developers and other	298	-	-	298	18,009	-	-	18,307
Reduction of plant cost through contributions	(298)	-	-	(298)	(12,479)	-	-	(12,777)
Total contributions	(22,868)	-	-	(22,868)	(757)	-	-	(23,625)
Change in net position	21,056	(4,483)	-	16,573	14,075	(62)	-	30,586
Net position, beginning of year	1,006,261	144,338	-	1,150,599	1,523,015	5,217	-	2,678,831
Net position, end of period	$ 1,027,317	$ 139,855	$ -	$ 1,167,172	$ 1,537,090	$ 5,155	$ -	$ 2,709,417

JEA
Combining Statement of Revenue, Expenses and Changes in Net Position
(in thousands - unaudited) for the year-to-date ended March 2019

	Electric System and Bulk Power Supply System	SJRPP System	Elimination of intercompany transactions	Total Electric Enterprise Fund	Water and Sewer Enterprise Fund	District Energy System Fund	Eliminations	Total JEA
Operating revenues								
Electric	$ 588,544	$ 15,767	$ (14,328)	$ 589,983	$ -	$ -	$ (7,814)	$ 582,169
Water and sewer	-	-	-	-	212,035	-	(285)	211,750
District energy system	-	-	-	-	-	3,952	(175)	3,777
Other	11,253	457	-	11,710	6,118	3	(1,670)	16,161
Total operating revenues	599,797	16,224	(14,328)	601,693	218,153	3,955	(9,944)	813,857
Operating expenses								
Operations and maintenance:								
Fuel	161,869	4,450	-	166,319	-	-	-	166,319
Purchased power	76,791	-	(14,328)	62,463	-	-	-	62,463
Maintenance and other operating expenses	123,751	2,219	-	125,970	77,777	2,062	(9,944)	195,865
Depreciation	107,504	205	-	107,709	74,208	1,223	-	183,140
State utility and franchise taxes	29,175	-	-	29,175	5,161	-	-	34,336
Recognition of deferred costs and revenues, net	(901)	7,030	-	6,129	3,717	-	-	9,846
Total operating expenses	498,189	13,904	(14,328)	497,765	160,863	3,285	(9,944)	651,969
Operating income	101,608	2,320	-	103,928	57,290	670	-	161,888
Nonoperating revenues (expenses)								
Interest on debt	(43,253)	(5,219)	-	(48,472)	(28,084)	(674)	-	(77,230)
Investment income, net	12,518	1,888	-	14,406	8,045	73	-	22,524
Allowance for funds used during construction	2,394	-	-	2,394	4,624	18	-	7,036
Other nonoperating income, net	2,136	172	-	2,308	1,546	-	-	3,854
Earnings from The Energy Authority	743	-	-	743	-	-	-	743
Other interest, net	(874)	-	-	(874)	(70)	-	-	(944)
Total nonoperating expenses, net	(26,336)	(3,159)	-	(29,495)	(13,939)	(583)	-	(44,017)
Income before contributions	75,272	(839)	-	74,433	43,351	87	-	117,871
Contributions (to) from								
General Fund, City of Jacksonville, Florida	(46,476)	-	-	(46,476)	(27,503)	-	-	(73,979)
Developers and other	2,124	-	-	2,124	37,905	-	-	40,029
Reduction of plant cost through contributions	(2,124)	-	-	(2,124)	(24,463)	-	-	(26,587)
Total contributions	(46,476)	-	-	(46,476)	(14,061)	-	-	(60,537)
Change in net position	28,796	(839)	-	27,957	29,290	87	-	57,334
Net position, beginning of year	1,066,817	97,633	-	1,164,450	1,585,326	5,533	-	2,755,309
Net position, end of period	$ 1,095,613	$ 96,794	$ -	$ 1,192,407	$ 1,614,616	$ 5,620	$ -	$ 2,812,643

JEA
Combining Statement of Revenue, Expenses and Changes in Net Position
(in thousands - unaudited) for the year-to-date ended March 2018

	Electric System and Bulk Power Supply System	**SJRPP System**	Elimination of intercompany transactions	**Total Electric Enterprise Fund**	**Water and Sewer Enterprise Fund**	**District Energy System Fund**	Eliminations	**Total JEA**
Operating revenues								
Electric	$ 625,390	$ 76,030	$ (47,670)	$ 653,750	$ -	$ -	$ (8,116)	$ 645,634
Water and sewer	-	-	-	-	206,709	-	(282)	206,427
District energy system	-	-	-	-	-	4,075	(170)	3,905
Other	11,039	54,925	-	65,964	5,162	-	(1,304)	69,822
Total operating revenues	636,429	130,955	(47,670)	719,714	211,871	4,075	(9,872)	925,788
Operating expenses								
Operations and maintenance:								
Fuel	164,686	48,858	-	213,544	-	-	-	213,544
Purchased power	98,265	-	(47,670)	50,595	-	-	-	50,595
Maintenance and other operating expenses	115,297	54,485	-	169,782	71,579	2,116	(9,872)	233,605
Depreciation	104,356	10,791	-	115,147	72,660	1,189	-	188,996
State utility and franchise taxes	29,523	-	-	29,523	5,148	-	-	34,671
Recognition of deferred costs and revenues, net	(1,362)	2,443	-	1,081	2,005	-	-	3,086
Total operating expenses	510,765	116,577	(47,670)	579,672	151,392	3,305	(9,872)	724,497
Operating income	125,664	14,378	-	140,042	60,479	770	-	201,291
Nonoperating revenues (expenses)								
Interest on debt	(43,285)	(15,035)	-	(58,320)	(29,439)	(686)	-	(88,445)
Investment income, net	2,031	108	-	2,139	976	39	-	3,154
Allowance for funds used during construction	1,513	-	-	1,513	3,326	28	-	4,867
Other nonoperating income, net	2,167	883	-	3,050	1,481	-	-	4,531
Earnings from The Energy Authority	2,541	-	-	2,541	-	-	-	2,541
Other interest, net	(612)	-	-	(612)	(94)	-	-	(706)
Total nonoperating expenses, net	(35,645)	(14,044)	-	(49,689)	(23,750)	(619)	-	(74,058)
Income before contributions and special item	90,019	334	-	90,353	36,729	151	-	127,233
Contributions (to) from								
General Fund, City of Jacksonville, Florida	(45,736)	-	-	(45,736)	(12,574)	-	-	(58,310)
Developers and other	662	-	-	662	30,341	-	-	31,003
Reduction of plant cost through contributions	(662)	-	-	(662)	(18,669)	-	-	(19,331)
Total contributions	(45,736)	-	-	(45,736)	(902)	-	-	(46,638)
Change in net position	44,283	334	-	44,617	35,827	151	-	80,595
Net position, beginning of year	983,034	139,521	-	1,122,555	1,501,263	5,004	-	2,628,822
Net position, end of period	$ 1,027,317	$ 139,855	$ -	$ 1,167,172	$ 1,537,090	$ 5,155	$ -	$ 2,709,417

JEA
Combining Statement of Cash Flows
(in thousands - unaudited) for the quarter ended March 2019

	Electric System and Bulk Power Supply System	SJRPP System	Elimination of intercompany transactions	Total Electric Enterprise Fund	Water and Sewer Enterprise Fund	District Energy System Fund	Eliminations	Total JEA
Operating activities								
Receipts from customers	$ 279,151	$ 7,618	$ (7,452)	$ 279,317	$ 104,367	$ 1,976	$ (4,016)	$ 381,644
Payments to suppliers	(151,002)	(3,866)	7,452	(147,416)	(22,922)	(705)	4,849	(166,194)
Payments to employees	(37,884)	-	-	(37,884)	(14,620)	(131)	-	(52,635)
Other operating activities	9,865	143	-	10,008	1,695	1	(833)	10,871
Net cash provided by operating activities	100,130	3,895	-	104,025	68,520	1,141	-	173,686
Noncapital and related financing activities								
Contribution to General Fund, City of Jacksonville, Florida	(23,238)	-	-	(23,238)	(21,339)	-	-	(44,577)
Net cash used in noncapital and related financing activities	(23,238)	-	-	(23,238)	(21,339)	-	-	(44,577)
Capital and related financing activities								
Defeasance of debt	(100,090)	-	-	(100,090)	(94,955)	-	-	(195,045)
Acquisition and construction of capital assets	(42,086)	-	-	(42,086)	(39,368)	(146)	-	(81,600)
Interest paid on debt	(7,911)	2	-	(7,909)	(3,638)	-	-	(11,547)
Capital contributions	-	-	-	-	6,289	-	-	6,289
Other capital financing activities	(6,303)	172	-	(6,131)	(2,996)	-	-	(9,127)
Net cash provided by (used in) capital and related financing activities	(156,390)	174	-	(156,216)	(134,668)	(146)	-	(291,030)
Investing activities								
Purchase of investments	(127,013)	(47,218)	-	(174,231)	(42,585)	-	-	(216,816)
Proceeds from sale and maturity of investments	237,061	47,218	-	284,279	89,628	-	-	373,907
Investment income	4,947	862	-	5,809	2,913	37	-	8,759
Distributions from The Energy Authority	251	-	-	251	-	-	-	251
Net cash provided by investing activities	115,246	862	-	116,108	49,956	37	-	166,101
Net change in cash and cash equivalents	35,748	4,931	-	40,679	(37,531)	1,032	-	4,180
Cash and cash equivalents at beginning of year	80,740	145,742	-	226,482	107,590	5,572	-	339,644
Cash and cash equivalents at end of period	$ 116,488	$ 150,673	$ -	$ 267,161	$ 70,059	$ 6,604	$ -	$ 343,824
Reconciliation of operating income to net cash provided by operating activities								
Operating income	$ 41,339	$ 1,829	-	43,168	$ 24,785	$ 325	$ -	$ 68,278
Adjustments:								
Depreciation and amortization	54,232	103	-	54,335	37,586	613	-	92,534
Recognition of deferred costs and revenues, net	(398)	3,515	-	3,117	2,534	-	-	5,651
Other nonoperating income, net	24	-	-	24	307	-	-	331
Changes in noncash assets and noncash liabilities:								
Accounts receivable	14,916	(158)	-	14,758	(1,903)	181	-	13,036
Inventories	6,528	78	-	6,606	4,381	-	-	10,987
Other assets	(8,298)	-	-	(8,298)	147	21	-	(8,130)
Accounts and accrued expenses payable	621	(281)	-	340	723	2	-	1,065
Current liabilities payable from restricted assets	-	(1,191)	-	(1,191)	-	-	-	(1,191)
Other noncurrent liabilities and deferred inflows	(8,834)	-	-	(8,834)	(40)	(1)	-	(8,875)
Net cash provided by operating activities	$ 100,130	$ 3,895	$ -	$ 104,025	$ 68,520	$ 1,141	$ -	$ 173,686
Non-cash activity								
Contribution of capital assets from developers	$ 962	$ -	$ -	$ 962	$ 13,766	$ -	$ -	$ 14,728
Unrealized gains on fair value of investments, net	$ 2,180	$ 32	$ -	$ 2,212	$ 1,797	$ -	$ -	$ 4,009

JEA
Combining Statement of Cash Flows
(in thousands - unaudited) for the quarter ended March 2018

	Electric System and Bulk Power Supply System	SJRPP System	Elimination of intercompany transactions	Total Electric Enterprise Fund	Water and Sewer Enterprise Fund	District Energy System Fund	Elimination of intercompany transactions	Total JEA
Operating activities								
Receipts from customers	$ 320,158	$ 17,301	$ (718)	$ 336,741	$ 105,339	$ 2,035	$ (4,199)	$ 439,916
Payments to suppliers	(164,066)	(44,631)	718	(207,979)	(26,835)	(817)	4,851	(230,780)
Payments to employees	(35,502)	(22,039)	-	(57,541)	(14,704)	(153)	-	(72,398)
Other operating activities	3,170	54,925	-	58,095	2,857	-	(652)	60,300
Net cash provided by operating activities	123,760	5,556	-	129,316	66,657	1,065	-	197,038
Noncapital and related financing activities								
Contribution to General Fund, City of Jacksonville, Florida	(22,867)	-	-	(22,867)	(6,446)	-	-	(29,313)
Net cash used in noncapital and related financing activities	(22,867)	-	-	(22,867)	(6,446)	-	-	(29,313)
Capital and related financing activities								
Defeasance of debt	-	(128,280)	-	(128,280)	-	-	-	(128,280)
Acquisition and construction of capital assets	(27,291)	-	-	(27,291)	(33,278)	(30)	-	(60,599)
Interest paid on debt	(5,468)	(1,512)	-	(6,980)	(1,671)	-	-	(8,651)
Capital contributions	-	-	-	-	5,530	-	-	5,530
Other capital financing activities	1,245	(7,157)	-	(5,912)	776	-	-	(5,136)
Net cash used in capital and related financing activities	(31,514)	(136,949)	-	(168,463)	(28,643)	(30)	-	(197,136)
Investing activities								
Purchase of investments	(157,460)	-	-	(157,460)	(100,493)	-	-	(257,953)
Proceeds from sale and maturity of investments	110,743	62,162	-	172,905	73,707	-	-	246,612
Investment income	3,222	(244)	-	2,978	2,238	22	-	5,238
Distributions from The Energy Authority	2,131	-	-	2,131	-	-	-	2,131
Net cash provided by (used in) investing activities	(41,364)	61,918	-	20,554	(24,548)	22	-	(3,972)
Net change in cash and cash equivalents	28,015	(69,475)	-	(41,460)	7,020	1,057	-	(33,383)
Cash and cash equivalents at beginning of year	123,169	218,449	-	341,618	98,388	5,640	-	445,646
Cash and cash equivalents at end of period	$ 151,184	$ 148,974	$ -	$ 300,158	$ 105,408	$ 6,697	$ -	$ 412,263
Reconciliation of operating income to net cash provided by operating activities								
Operating income	$ 60,991	$ 4,362	$ -	$ 65,353	$ 26,733	$ 246	$ -	$ 92,332
Adjustments:								
Depreciation and amortization	49,849	102	-	49,951	36,403	590	-	86,944
Recognition of deferred costs and revenues, net	(681)	5,142	-	4,461	1,637	-	-	6,098
Other nonoperating income, net	30	701	-	731	2	-	-	733
Changes in noncash assets and noncash liabilities:								
Accounts receivable	25,039	2,985	-	28,024	1,176	253	-	29,453
Inventories	6,131	(6,038)	-	93	(1,412)	-	-	(1,319)
Other assets	7,713	-	-	7,713	515	4	-	8,232
Accounts and accrued expenses payable	14,649	(11,204)	-	3,445	437	2	-	3,884
Current liabilities payable from restricted assets	-	10,415	-	10,415	-	-	-	10,415
Other noncurrent liabilities and deferred inflows	(39,961)	(909)	-	(40,870)	1,166	(30)	-	(39,734)
Net cash provided by operating activities	$ 123,760	$ 5,556	$ -	$ 129,316	$ 66,657	$ 1,065	$ -	$ 197,038
Non-cash activity								
Contribution of capital assets from developers	$ 298	$ -	$ -	$ 298	$ 12,479	$ -	$ -	$ 12,777
Unrealized gains (losses) on fair value of investments, net	$ (1,978)	$ 490	$ -	$ (1,488)	$ (1,888)	$ -	$ -	$ (3,376)

JEA
Combining Statement of Cash Flows
(in thousands - unaudited) for the year-to-date ended March 2019

	Electric System and Bulk Power Supply System	SJRPP System	Elimination of intercompany transactions	Total Electric Enterprise Fund	Water and Sewer Enterprise Fund	District Energy System Fund	Elimination of intercompany transactions	Total JEA
Operating activities								
Receipts from customers	$ 609,954	$ 16,084	$ (15,516)	$ 610,522	$ 216,516	$ 4,475	$ (8,274)	$ 823,239
Payments to suppliers	(341,159)	(8,139)	15,516	(333,782)	(51,412)	(1,839)	9,944	(377,089)
Payments to employees	(87,246)	(12)	-	(87,258)	(33,561)	(296)	-	(121,115)
Other operating activities	16,019	457	-	16,476	4,655	3	(1,670)	19,464
Net cash provided by operating activities	197,568	8,390	-	205,958	136,198	2,343	-	344,499
Noncapital and related financing activities								
Contribution to General Fund, City of Jacksonville, Florida	(46,353)	-	-	(46,353)	(27,537)	-	-	(73,890)
Net cash used in noncapital and related financing activities	(46,353)	-	-	(46,353)	(27,537)	-	-	(73,890)
Capital and related financing activities								
Defeasance of debt	(100,090)	-	-	(100,090)	(94,955)	-	-	(195,045)
Proceeds from issuance of debt	-	-	-	-	2,000	-	-	2,000
Acquisition and construction of capital assets	(126,187)	-	-	(126,187)	(86,142)	(426)	-	(212,755)
Interest paid on debt	(50,028)	(5,601)	-	(55,629)	(34,934)	(680)	-	(91,243)
Repayment of debt principal	(130,690)	(1,720)	-	(132,410)	(51,720)	(1,660)	-	(185,790)
Capital contributions	-	-	-	-	13,442	-	-	13,442
Other capital financing activities	(6,038)	172	-	(5,866)	(2,985)	-	-	(8,851)
Net cash used in capital and related financing activities	(413,033)	(7,149)	-	(420,182)	(255,294)	(2,766)	-	(678,242)
Investing activities								
Purchase of investments	(217,499)	(85,713)	-	(303,212)	(68,144)	-	-	(371,356)
Proceeds from sale and maturity of investments	302,060	93,336	-	395,396	157,435	-	-	552,831
Investment income	7,233	1,856	-	9,089	4,340	73	-	13,502
Distributions from The Energy Authority	698	-	-	698	-	-	-	698
Net cash provided by investing activities	92,492	9,479	-	101,971	93,631	73	-	195,675
Net change in cash and cash equivalents	(169,326)	10,720	-	(158,606)	(53,002)	(350)	-	(211,958)
Cash and cash equivalents at beginning of year	285,814	139,953	-	425,767	123,061	6,954	-	555,782
Cash and cash equivalents at end of period	$ 116,488	$ 150,673	$ -	$ 267,161	$ 70,059	$ 6,604	$ -	$ 343,824
Reconciliation of operating income to net cash provided by operating activities								
Operating income	$ 101,608	$ 2,320	-	$ 103,928	$ 57,290	$ 670	$ -	$ 161,888
Adjustments:								
Depreciation and amortization	107,504	205	-	107,709	74,826	1,223	-	183,758
Recognition of deferred costs and revenues, net	(901)	7,030	-	6,129	3,717	-	-	9,846
Other nonoperating income, net	77	-	-	77	307	-	-	384
Changes in noncash assets and noncash liabilities:								
Accounts receivable	56,080	317	-	56,397	302	523	-	57,222
Inventories	627	1,295	-	1,922	1,707	-	-	3,629
Other assets	(1,552)	-	-	(1,552)	(290)	(9)	-	(1,851)
Accounts and accrued expenses payable	(34,889)	(324)	-	(35,213)	(3,456)	(48)	-	(38,717)
Current liabilities payable from restricted assets	-	(2,453)	-	(2,453)	-	-	-	(2,453)
Other noncurrent liabilities and deferred inflows	(30,986)	-	-	(30,986)	1,795	(16)	-	(29,207)
Net cash provided by operating activities	$ 197,568	$ 8,390	$ -	$ 205,958	$ 136,198	$ 2,343	$ -	$ 344,499
Non-cash activity								
Contribution of capital assets from developers	$ 2,124	$ -	$ -	$ 2,124	$ 24,463	$ -	$ -	$ 26,587
Unrealized gains on fair value of investments, net	$ 5,388	$ 43	$ -	$ 5,431	$ 3,837	$ -	$ -	$ 9,268

JEA
Combining Statement of Cash Flows
(in thousands - unaudited) for the year-to-date ended March 2018

	Electric System and Bulk Power Supply System	SJRPP System	Elimination of Inter-company transactions	Total Electric Enterprise Fund	Water and Sewer Enterprise Fund	District Energy System Fund	Eliminations	Total JEA
Operating activities								
Receipts from customers	$ 651,287	$ 84,075	$ (24,390)	$ 710,972	$ 213,902	$ 4,282	$ (8,568)	$ 920,588
Payments to suppliers	(338,319)	(79,590)	24,390	(393,519)	(53,930)	(1,850)	9,872	(439,427)
Payments to employees	(83,083)	(30,765)	-	(113,848)	(31,718)	(293)	-	(145,859)
Other operating activities	4,910	54,925	-	59,835	5,346	-	(1,304)	63,877
Net cash provided by operating activities	234,795	28,645	-	263,440	133,600	2,139	-	399,179
Noncapital and related financing activities								
Contribution to General Fund, City of Jacksonville, Florida	(45,802)	-	-	(45,802)	(12,451)	-	-	(58,253)
Net cash used in noncapital and related financing activities	(45,802)	-	-	(45,802)	(12,451)	-	-	(58,253)
Capital and related financing activities								
Defeasance of debt	(405,105)	(128,280)	-	(533,385)	(460,305)	-	-	(993,690)
Proceeds from issuance of debt	383,840	-	-	383,840	437,160	-	-	821,000
Acquisition and construction of capital assets	(88,619)	-	-	(88,619)	(82,366)	(185)	-	(171,170)
Interest paid on debt	(53,810)	(11,083)	-	(64,893)	(39,062)	(691)	-	(104,646)
Repayment of debt principal	(135,105)	(41,330)	-	(176,435)	(51,020)	(1,640)	-	(229,095)
Capital contributions	-	-	-	-	11,672	-	-	11,672
Other capital financing activities	24,044	(7,157)	-	16,887	24,924	-	-	41,811
Net cash used in capital and related financing activities	(274,755)	(187,850)	-	(462,605)	(158,997)	(2,516)	-	(624,118)
Investing activities								
Purchase of investments	(293,758)	(212,982)	-	(506,740)	(165,753)	-	-	(672,493)
Proceeds from sale and maturity of investments	183,146	403,266	-	586,412	159,810	-	-	746,222
Investment income	4,710	(3,132)	-	1,578	3,290	39	-	4,907
Distributions from The Energy Authority	2,785	-	-	2,785	-	-	-	2,785
Net cash provided by (used in) investing activities	(103,117)	187,152	-	84,035	(2,653)	39	-	81,421
Net change in cash and cash equivalents	(188,879)	27,947	-	(160,932)	(40,501)	(338)	-	(201,771)
Cash and cash equivalents at beginning of year	340,063	121,027	-	461,090	145,909	7,035	-	614,034
Cash and cash equivalents at end of period	$ 151,184	$ 148,974	$ -	$ 300,158	$ 105,408	$ 6,697	$ -	$ 412,263
Reconciliation of operating income to net cash provided by operating activities								
Operating income	$ 125,664	$ 14,378	$ -	$ 140,042	$ 60,479	$ 770	$ -	$ 201,291
Adjustments:								
Depreciation and amortization	104,356	10,791	-	115,147	73,308	1,189	-	189,644
Recognition of deferred costs and revenues, net	(1,362)	2,443	-	1,081	2,005	-	-	3,086
Other nonoperating income, net	57	701	-	758	233	-	-	991
Changes in noncash assets and noncash liabilities:								
Accounts receivable	63,628	7,344	-	70,972	1,731	207	-	72,910
Inventories	1,797	8,464	-	10,261	(4,365)	-	-	5,896
Other assets	2,837	-	-	2,837	116	(8)	-	2,945
Accounts and accrued expenses payable	(16,709)	(13,999)	-	(30,708)	(4,729)	(39)	-	(35,476)
Current liabilities payable from restricted assets	-	76	-	76	-	-	-	76
Other noncurrent liabilities and deferred inflows	(45,473)	(1,553)	-	(47,026)	4,822	20	-	(42,184)
Net cash provided by operating activities	$ 234,795	$ 28,645	$ -	$ 263,440	$ 133,600	$ 2,139	$ -	$ 399,179
Non-cash activity								
Contribution of capital assets from developers	$ 662	$ -	$ -	$ 662	$ 18,669	$ -	$ -	$ 19,331
Unrealized gains (losses) on fair value of investments, net	$ (2,769)	$ 4,164	$ -	$ 1,395	$ (2,251)	$ -	$ -	$ (856)

JEA
Electric System
Schedules of Debt Service Coverage
(in thousands - unaudited)

	Quarter March 2019	Quarter March 2018	Year-to-Date March 2019	Year-to-Date March 2018
Revenues				
Electric	$ 266,407	$ 286,039	$ 555,149	$ 574,423
Investment income [(1)]	3,435	2,556	6,051	4,047
Earnings from The Energy Authority	216	1,831	743	2,541
Other, net [(2)]	5,086	5,270	11,313	11,090
Plus: amount paid from the rate stabilization fund into the revenue fund	20,615	44,091	38,475	57,569
Less: amount paid from the revenue fund into the rate stabilization fund	(2,569)	(3,303)	(5,080)	(6,602)
Total revenues	293,190	336,484	606,651	643,068
Operating expenses [(3)]				
Fuel	68,860	90,479	142,388	150,419
Purchased power [(4)]	56,082	67,331	113,874	135,978
Other operations and maintenance	58,358	51,680	111,547	97,150
Utility taxes and fees	13,393	14,733	28,518	28,862
Total operating expenses	196,693	224,223	396,327	412,409
Net revenues	$ 96,497	$ 112,261	$ 210,324	$ 230,659
Aggregate debt service	$ 20,417	$ 17,853	$ 41,143	$ 35,631
Less: investment income on sinking fund	(538)	(377)	(1,079)	(753)
Less: Build America Bonds subsidy	(382)	(380)	(764)	(760)
Debt service requirement	$ 19,497	$ 17,096	$ 39,300	$ 34,118
Senior debt service coverage [(5)]	4.95 x	6.57 x	5.35 x	6.76 x
Net revenues (from above)	$ 96,497	$ 112,261	$ 210,324	$ 230,659
Debt service requirement (from above)	19,497	17,096	39,300	34,118
Plus: aggregate subordinated debt service on outstanding subordinated bonds	26,306	32,356	52,997	64,544
Less: Build America Bonds subsidy	(500)	(511)	(1,001)	(1,022)
Total debt service requirement and aggregate subordinated debt service	45,303	48,941	91,296	97,640
Senior and subordinated debt service coverage [(6)]	2.13 x	2.29 x	2.30 x	2.36 x

(1) Excludes investment income on sinking funds.

(2) Excludes the Build America Bonds subsidy.

(3) Excludes depreciation and recognition of deferred costs and revenues, net.

(4) In accordance with the requirements of the Electric System Resolution, all the contract debt payments from the Electric System to the SJRPP and Bulk Power Supply System with respect to the use by the Electric System of the capacity and output of the SJRPP and Bulk Power Systems are reflected as a purchased power expense on these schedules. These schedules do not include revenues of the SJRPP and Bulk Power Supply System, except that the purchased power expense is net of interest income on funds maintained under the SJRPP and Bulk Power Supply System resolutions.

(5) Net revenues divided by debt service requirement. Minimum annual coverage is 1.20x.

(6) Net revenues divided by total debt service requirement and aggregate subordinated debt service. Minimum annual coverage is 1.15x.

Bulk Power Supply System
Schedules of Debt Service Coverage
(in thousands - unaudited)

	Quarter March 2019	Quarter March 2018	Year-to-Date March 2019	Year-to-Date March 2018
Revenues:				
JEA	$ 18,427	$ 20,506	$ 37,083	$ 37,713
Investment Income	83	28	107	60
Total revenues	18,510	20,534	37,190	37,773
Operating expenses [1]				
Fuel	9,849	5,542	19,481	14,267
Other operations and maintenance	3,718	4,668	6,987	8,515
Total operating expenses	13,567	10,210	26,468	22,782
Net revenues	$ 4,943	$ 10,324	$ 10,722	$ 14,991
Aggregate debt service	$ 2,528	$ 2,485	$ 5,055	$ 4,971
Less: Build America Bonds subsidy	(156)	(167)	(312)	(334)
Aggregate debt service	$ 2,372	$ 2,318	$ 4,743	$ 4,637
Debt service coverage [2]	2.08 x	4.45 x	2.26 x	3.23 x

[1] Excludes all current expenses paid or accrued to the extent that such expenses are to be paid from revenues.
[2] Net revenues divided by aggregate debt service. Minimum annual coverage is 1.15x.

St. Johns River Power Park System
Schedules of Debt Service Coverage - 2nd Resolution
(in thousands - unaudited)

	Quarter March 2019	Quarter March 2018	Year-to-Date March 2019	Year-to-Date March 2018
Revenues				
JEA	$ 7,933	$ 3,663	$ 16,921	$ 7,304
Investment income	814	105	1,845	233
Total revenues	8,747	3,768	18,766	7,537
Operating expenses	1,680	-	4,450	-
Net revenues	$ 7,067	$ 3,768	$ 14,316	$ 7,537
Aggregate debt service	$ 6,227	$ 3,232	$ 12,454	$ 6,463
Less: Build America Bonds subsidy	(86)	(92)	(172)	(184)
Aggregate debt service	$ 6,141	$ 3,140	$ 12,282	$ 6,279
Debt service coverage [1]	1.15 x	1.20 x	1.17 x	1.20 x

[1] Net revenues divided by aggregate debt service. Semiannual minimum coverage is 1.15x.

JEA
Water and Sewer System
Schedules of Debt Service Coverage
(in thousands - unaudited)

	Quarter March 2019	Quarter March 2018	Year-to-Date March 2019	Year-to-Date March 2018
Revenues				
Water	$ 40,209	$ 40,409	$ 83,486	$ 83,410
Water capacity fees	2,330	1,996	4,737	4,071
Sewer	64,261	63,576	130,954	128,329
Sewer capacity fees	3,939	3,528	8,675	7,586
Investment income	2,189	1,820	4,208	3,227
Other (1)	3,493	2,657	6,425	5,396
Plus: amounts paid from the rate stabilization fund into the revenue fund	5,415	3,965	9,049	6,538
Less: amounts paid from the revenue fund into the rate stabilization fund	(5,517)	(5,691)	(11,454)	(11,568)
Total revenues	116,319	112,260	236,080	226,989
Operating expenses				
Operations and maintenance (2)	42,951	40,457	82,938	76,727
Total operating expenses	42,951	40,457	82,938	76,727
Net revenues	$ 73,368	$ 71,803	$ 153,142	$ 150,262
Aggregate debt service	$ 23,835	$ 23,853	$ 48,150	$ 47,957
Less: Build America Bonds subsidy	(619)	(623)	(1,239)	(1,247)
Aggregate debt service	$ 23,216	$ 23,230	$ 46,911	$ 46,710
Senior debt service coverage (3)	3.16 x	3.09 x	3.26 x	3.22 x
Net revenues (from above)	$ 73,368	$ 71,803	$ 153,142	$ 150,262
Aggregate debt service (from above)	$ 23,216	$ 23,230	$ 46,911	$ 46,710
Plus: aggregate subordinated debt service on outstanding subordinated debt	4,394	4,502	8,890	8,958
Total aggregate and aggregate subordinated debt service	$ 27,610	$ 27,732	$ 55,801	$ 55,668
Senior and subordinated debt service coverage excluding capacity fees (4)	2.43 x	2.39 x	2.50 x	2.49 x
Senior and subordinated debt service coverage including capacity fees (4)	2.66 x	2.59 x	2.74 x	2.70 x

(1) Excludes the Build America Bonds subsidy.

(2) Excludes depreciation and recognition of deferred costs and revenues, net.

(3) Net revenues divided by aggregate debt service. Minimum annual coverage is 1.25x.

(4) Net revenues divided by total aggregate debt service and aggregate subordinated debt service. Minimum annual coverage is either 1.00x aggregate debt service and aggregate subordinated debt service (excluding capacity fees) or the sum of 1.00x aggregate debt service and 1.20x aggregate subordinated debt service (including capacity fees).

JEA
District Energy System
Schedule of Debt Service Coverage
(in thousands - unaudited)

	Quarter March 2019	Quarter March 2018	Year-to-Date March 2019	Year-to-Date March 2018
Revenues:				
Service revenues	$ 1,795	$ 1,782	$ 3,952	$ 4,075
Investment income	37	22	73	39
Total revenues	1,832	1,804	4,025	4,114
Operating expenses: (1)				
Operations and maintenance	858	946	2,062	2,116
Total operating expenses	858	946	2,062	2,116
Net revenues	974	858	1,963	1,998
Aggregate debt service (2)	755	755	1,510	1,510
Debt service coverage (3)	1.29 x	1.14 x	1.30 x	1.32 x

(1) Excludes depreciation.

(2) On June 19, 2013, the closing date of the District Energy System Refunding Revenue Bonds, 2013 Series A, the JEA covenanted to deposit into the 2013 Series A Bonds Subaccount from Available Water and Sewer System Revenues an amount equal to the Aggregate DES Debt Service Deficiency that exists with respect to the 2013 Series A Bonds, in the event that the amount on deposit in the Debt Service Account in the Debt Service Fund in accordance with the District Energy System Resolution is less than Accrued Aggregate Debt Service as of the last business day of the then current month.

(3) Net revenues divided by aggregate debt service. Minimum annual coverage is 1.15x.

Electric Enterprise Fund

Operating Statistics (unaudited)

	Quarter March 2019	Quarter March 2018	Year-to-Date March 2019	Year-to-Date March 2018
Electric revenues sales (000's omitted):				
Residential	$ 133,000	$ 149,433	$ 274,127	$ 285,484
Commercial and industrial	130,115	133,129	272,774	278,245
Public street lighting	3,282	3,220	6,531	6,414
Sales for resale - territorial	-	219	-	3,775
Electric revenues - territorial	266,397	286,001	553,432	573,918
Saleback to Florida Power & Light	627	357	1,439	28,360
Sales for resale - off system	332	322	2,371	887
Electric revenues	267,356	286,680	557,242	603,165
Less: rate stabilization and recovery	18,046	40,788	33,395	50,967
Less: allowance for doubtful accounts	(322)	(284)	(654)	(382)
Net electric revenues	**285,080**	**327,184**	**589,983**	**653,750**
MWh sales				
Residential	1,153,737	1,306,331	2,381,049	2,488,118
Commercial and industrial	1,493,513	1,501,025	3,108,246	3,160,891
Public street lighting	14,542	15,038	28,948	29,755
Sales for resale - territorial	-	5,472	-	38,640
Total MWh sales - territorial	2,661,792	2,827,866	5,518,243	5,717,404
Saleback to Florida Power & Light	-	-	-	332,467
Sales for resale - off system	6,712	5,381	60,646	17,844
Total MWh sales	**2,668,504**	**2,833,247**	**5,578,889**	**6,067,715**
Number of accounts [1]				
Residential	417,695	408,980	416,499	408,120
Commercial and industrial	53,090	52,479	53,014	52,410
Public street lighting	3,835	3,756	3,828	3,758
Sales for resale	-	-	-	1
Total average accounts	**474,620**	**465,215**	**473,341**	**464,289**
Residential averages				
Revenue per account - $	318.41	365.38	658.17	699.51
kWh per account	2,762	3,194	5,717	6,097
Revenue per kWh - ¢	11.53	11.44	11.51	11.47
Degree days				
Heating degree days	537	722	933	1,068
Cooling degree days	152	155	584	590
Total degree days	**689**	**877**	**1,517**	**1,658**
Degree days - 30 year average	876		1,651	

[1] The quarter column represents a fiscal quarter average and the year-to-date column represents a fiscal year-to-date average.

Water and Sewer Enterprise Fund
Operating Statistics (unaudited)

	Quarter March 2019	Quarter March 2018	Year-to-Date March 2019	Year-to-Date March 2018
Water				
Revenues (000's omitted):				
Residential	$ 22,277	$ 22,138	$ 45,765	$ 44,937
Commercial and industrial	11,653	11,552	23,488	23,425
Irrigation	6,323	6,777	14,327	15,164
Total water revenues	40,253	40,467	83,580	83,526
Less: rate stabilization environmental	2,609	1,548	(936)	(1,982)
Less: allowance for doubtful accounts	(44)	(58)	(94)	(116)
Net water revenues	$ 42,818	$ 41,957	$ 82,550	$ 81,428
Kgal sales (000's omitted):				
Residential	3,939,892	4,097,870	8,101,801	8,175,877
Commercial and industrial	3,339,848	3,399,764	6,759,953	6,848,406
Irrigation	894,951	1,036,710	2,179,747	2,421,567
Total kgals sales	8,174,691	8,534,344	17,041,501	17,445,850
Number of accounts [(1)]:				
Residential	291,457	284,305	290,651	283,572
Commercial and industrial	25,934	25,655	25,887	25,620
Irrigation	37,085	36,975	37,102	36,974
Total average accounts	354,476	346,935	353,640	346,166
Residential averages:				
Revenue per account - $	76.43	77.87	157.46	158.47
Kgals per account	13.52	14.41	27.87	28.83
Revenue per kgals - $	5.65	5.40	5.65	5.50
Sewer				
Revenues (000's omitted):				
Residential	$ 34,129	$ 33,945	$ 69,382	$ 68,149
Commercial and industrial	27,147	26,855	54,641	54,113
Total sewer revenues	61,276	60,800	124,023	122,262
Less: rate stabilization environmental	(2,711)	(3,274)	(1,469)	(3,048)
Less: allowance for doubtful accounts	(64)	(87)	(140)	(173)
Net sewer revenues	$ 58,501	$ 57,439	$ 122,414	$ 119,041
Kgal sales (000's omitted):				
Residential	3,432,026	3,547,810	7,101,509	7,054,064
Commercial and industrial	2,916,961	2,925,411	5,890,956	5,866,708
Total kgals sales	6,348,987	6,473,221	12,992,465	12,920,772
Number of accounts [(1)]:				
Residential	258,347	251,495	257,562	250,775
Commercial and industrial	18,488	18,319	18,455	18,299
Total average accounts	276,835	269,814	276,017	269,074
Residential averages:				
Revenue per account - $	132.11	134.97	269.38	271.75
kgals per account	13.28	14.11	27.57	28.13
Revenue per kgals - $	9.94	9.57	9.77	9.66
Reuse				
Revenues (000's omitted):				
Reuse revenues	$ 3,049	$ 2,863	$ 7,071	$ 6,240
Kgal sales (000's omitted):				
Reuse sales (kgals)	585,916	685,757	1,451,809	1,444,461
Number of accounts [(1)]:				
Reuse accounts	13,940	11,169	13,558	10,903
Rainfall				
Normal	10.44	10.44	19.28	19.28
Actual	8.24	7.51	19.71	16.55
Rain Days	28	21	57	43

[(1)] The quarter column represents a fiscal quarter average and the year-to-date column represents a fiscal year-to-date average.

Building Community®

Procurement Department Bid Section
Customer Center 1st Floor, Room 002
21 W. Church Street
Jacksonville, Florida 32202

August 22, 2019

ADDENDUM NUMBER: One (1)

TITLE: **ITN – 127-19 Strategic Alternatives**

BID DUE DATE: September 30, 2019

TIME OF RECEIPT: 12:00 PM EST

THIS ADDENDUM IS FOR THE PURPOSE OF MODIFYING THE FREQUENTLY ASKED QUESTIONS SECTION OF THE ITN BY ADDING THE FOLLOWING:

30. **Is it possible for a Reply for some portion of JEA's business (but not all) to satisfy the Mandatory Requirements Review?**
    Yes. JEA intends to evaluate a range of potential alternatives, including assessing Replies that, while independently may not allow JEA to achieve its goals, may do so in combination with other potential Replies. Replies that may not individually satisfy all of the Evaluation Criteria completely may nonetheless provide the opportunity for JEA to achieve its goals when paired with other Replies. As described in Section 3.2.3 of the ITN, Respondents should indicate clearly and specifically how their Reply would allow JEA to achieve its goals, including stating whether such Reply can satisfy JEA's goals only when combined with other potential Replies and defining to the extent possible the nature of such complementary potential Replies.

31. **If Respondents intend to partner with other potential Respondents, would they need to establish this partnership arrangement in advance of the Reply and identify their partners?**
    No. Potential Respondents (also referred to as Vendors in the ITN) are welcome to partner or enter into teaming agreements that they believe would provide value to JEA. Partnering or teaming agreements do not need to be finalized by the time of the Reply. The Vendor who intends to serve as the prime Vendor under any such arrangement must submit a timely Reply to be eligible for Contract award. Other parties, including other Vendors who submit a timely Reply, may join this Vendor during the Negotiation Phase, subject to entering into an NDA for purposes of receiving and accessing certain exempt or confidential information relating to JEA, including, without limitation, trade secrets, material non-public information, or other confidential information.

32. **Will there be additional information available to Respondents during the Negotiation Phase?**
    In accordance with Section 3.3.3 of the ITN, following execution of the NDA, Respondents will be granted access to the JEA Virtual Data Room, which will include a confidential information presentation on JEA and certain financial projections.

33. **If a Vendor is interested in proposing any acquisition of some or all of JEA's businesses in our Reply, is the Vendor expected to provide a value prior to the Negotiation Phase?**
    Replies will be evaluated against the Mandatory Requirements set forth in Section 3.1.1 of the ITN, and those Replies that meet the Mandatory Requirements will be assessed against the Evaluation Criteria set forth in Section 3.2.3 of the ITN. Exact valuation statements and/or methodology is not required for initial Reply. While Respondents must indicate clearly and specifically how their Reply would allow JEA to achieve its goals, given the information provided in the ITN and otherwise available publicly, such Replies may be more qualitative in nature until additional non-public information is provided to Respondents in the Negotiation Phase.

34. **Is there going to be a Bidder's call for Q&A?**
    Q&A will be handled in accordance with Sections 2.1.1 and Sections 2.11 of the ITN.

Please note, questions for ITN 127-19 Strategic Alternatives are due on September 3, 2019. Please submit questions to strategicalternative@jea.com.

ACKNOWLEDGE RECEIPT OF THIS ADDENDUM ON ATTACHMENT 1 – RESPONDENT'S CERTIFICATION

Procurement Department Bid Section
Customer Center 1st Floor, Room 002
21 W. Church Street
Jacksonville, Florida 32202

August 30, 2019

ADDENDUM NUMBER: Two (2)

TITLE: **ITN – 127-19 Strategic Alternatives**

BID DUE DATE: October 7, 2019

TIME OF RECEIPT: 12:00 PM EST

THIS ADDENDUM IS FOR THE PURPOSE OF MAKING THE FOLLOWING CHANGES OR CLARIFICATIONS:

1. **Clarification: Section 2.11 Designated Procurement Representatives and Limit on Communications - Revise and Replace the first paragraph with the following language:**

   Ex Parte Communication is strictly prohibited. Ex Parte Communication is any communication concerning this ITN during the time beginning when the ITN was released on August 2, 2019 through the time of an award resulting from this solicitation process between a firm or any agent or representative of a firm submitting or potentially submitting a Reply and any JEA board member, employee, agent or representative (other than the two Designated Procurement Representatives). A JEA "representative" includes the City of Jacksonville Mayor and City of Jacksonville Council Members and their immediate staff. Examples of such prohibited communications include but are not limited to: private communications, whether initiated by a JEA representative or a Respondent representative, concerning the details or merits of or participation in this ITN by which a Respondent becomes privy to information not available to the other Respondents.

2. **Change: Section 2.2 Timeline of Events – Revise and Replace the timeline referenced in Table 1: Timeline of Events for the following dates due to Hurricane Dorian:**

   - Deadline to submit written questions via email to the Designated Procurement Representatives: **2:00 p.m. on September 10, 2019**
   - Deadline to submit Replies and all required documents to the JEA Procurement Bid Office: **12:00 p.m. on October 7, 2019**
   - JEA anticipated formal acknowledgement of Replies received (bid opening) at the JEA Procurement Bid Office: **2:00 p.m. on October 7, 2019**
   - Anticipated date for Evaluation Team meeting and posting of Notice of Intent to Negotiate: **October 18, 2019**
   - Anticipated Dates for Negotiation Phase: **October 19, 2019 – To Be Determined**

ACKNOWLEDGE RECEIPT OF THIS ADDENDUM ON ATTACHMENT 1 – RESPONDENT'S CERTIFICATION

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Procurement Department Bid Section
Customer Center 1st Floor, Room 002
21 W. Church Street
Jacksonville, Florida 32202

September 13, 2019

ADDENDUM NUMBER: Three (3)

TITLE: **ITN – 127-19 Strategic Alternatives**

BID DUE DATE: October 7, 2019

TIME OF RECEIPT: 12:00 PM EST

THIS ADDENDUM IS FOR THE PURPOSE OF MAKING THE FOLLOWING CHANGES OR CLARIFICATIONS:

1. Revise and Replace: Section 2.11 Designated Procurement Representatives and Limit on Communications with the following language:

Ex Parte Communication is strictly prohibited. Ex Parte Communication is any communication concerning this ITN during the time beginning when the ITN was released on August 2, 2019 through the time of an award resulting from this solicitation process between a firm or any agent or representative of a firm submitting or potentially submitting a Reply and any JEA board member, employee, agent or representative (other than the two Designated Procurement Representatives). A JEA "representative" includes the City of Jacksonville Mayor and City of Jacksonville Council Members and their immediate staff. Examples of such prohibited communications include but are not limited to: private communications, whether initiated by a JEA representative or a Respondent representative, concerning the details or merits of or participation in this ITN by which a Respondent becomes privy to information not available to the other Respondents.

In furtherance of a fair, transparent, and open process, any bidder that utilizes any advisor, consultant, or representative (each, a "JEA Advisor") in connection with this ITN, which JEA Advisor is also providing services to JEA in support of or related to this ITN until the time of an award resulting from this solicitation process may be subject to disqualification.

Failure to adhere to this policy may disqualify the noncompliant Respondent's Reply. Any questions or clarifications concerning this ITN must be sent in writing to the Designated Procurement Representatives in accordance with the terms of Section 2.1.1. If determined by JEA that a question should be answered or an issue clarified, JEA will respond in accordance with the provisions of this ITN.

For more information on Ex Parte Communications, see JEA Procurement Code, Article 1-110, which is available at www.jea.com/strategicalternatives.

For purposes of this ITN, the Designated Procurement Representatives are:

Jenny McCollum
Phone: (904) 665-4103

John McCarthy
Phone: (904) 665-5544

Email: StrategicAlternative@JEA.com

All contact by Vendors must be directed to the Designated Procurement Representatives identified in this section. The Designated Procurement Representatives will have access to subject matter experts, including, but not limited to, the Advisors, and can assist Vendors with the formal question and answer process discussed in Section 2.1.1.

As all questions should be submitted in writing, JEA is under no obligation to acknowledge or respond to oral inquiries, and potential Respondents are not entitled to rely upon any clarification or change to this ITN, or answer to any Vendor question, except as may be provided in writing by JEA in response to the formal question and answer process or in an addendum to this ITN.

ACKNOWLEDGE RECEIPT OF THIS ADDENDUM ON ATTACHMENT 1 – RESPONDENT'S CERTIFICATION

Building Community®

Procurement Department Bid Section
Customer Center 1st Floor, Room 002
21 W. Church Street
Jacksonville, Florida 32202

September 16, 2019

ADDENDUM NUMBER: Four (4)

TITLE: **ITN – 127-19 Strategic Alternatives**

BID DUE DATE: October 7, 2019

TIME OF RECEIPT: 12:00 PM EST

THIS ADDENDUM IS FOR THE PURPOSE OF MAKING THE FOLLOWING CHANGES OR CLARIFICATIONS:

1. **Can you give me an estimate of what total JEA debt defeasance costs are?**

   Answer: See Addendum 4 - Attachment 1 - JEA Defeasance Summary

2. **Please provide the gross revenues collected from the sale of electric energy to all customers within the corporate limits of the City of Atlantic Beach for the past 10 fiscal years. In addition, please provide the total annual payment of franchise fees to the City of Atlantic Beach for the past 10 years. Include Mayport in this request as well.**

   Answer: See Addendum 4 - Attachment 2 – Gross Revenue and Franchise fees for Atlantic Beach and Mayport

3. **How open is JEA to hearing from vendors in this solicitation for voluntary customer programs that further JEA's environmental goals? The offering would include comprehensive services from program management, design, strategy and marketing. If so, which renewable programs does JEA consider most important to offer to customers interested in clean power options? Programs could include: Green Power, Community Solar, EV, or Renewable Natural Gas.**

   Answer: As discussed on page 19 of the ITN, JEA welcomes Replies contemplating strategic alternatives that build upon JEA's strengths and seek to eliminate business constraints, specifically targeting the minimum requirements in the table on page 19.

4. **JEA currently pays a $90 Million Public Service Tax annually to the City of Jacksonville in addition to a ~$116 Million contribution to the City's General Fund and ~$71 Million of State Utility and Franchise Taxes. We are unable to locate the $90 Million Public Service payment in JEA's financials. Is this payment considered a pass-through and is not booked, or is it booked somewhere else?**

   Answer: The Public Service Tax Payment is a pass through and is not reflected on JEA's GAAP Income Statement. It is remitted monthly and the payable is reflected on JEA's balance sheet.

5. **Regarding the current JEA budget and 5-year capital plan, does JEA intend on continuing as budgeted or holding on principal debt repayment and capital expenditures until a potential contract is awarded (especially in reference to the upcoming budget year)?**

   Answer: JEA is continuing to operate in the ordinary course while it evaluates proposals and considers strategic alternatives.

6. **On Page 27, Table 2 of the ITN, Tab 4 (Organizational Overview) lists "financial details" as a requirement for the Respondent to "provide a description of their business". Can you provide more insight into what exactly is meant by "financial details"?**

Answer: The Respondents should provide an overview of their financial strength, including capital structure and available liquidity and anything else they believe would be helpful to help JEA assess the Respondent's financial condition.

7. **Please provide the total fiber route miles and fiber strands miles of the network broken out by owned and leased fiber.**

   Answer: JEA today has 650 route miles of fiber with current projects underway that will extend that further. JEA owns 97% of all fiber it uses. JEA shares approximately 20 miles of fiber with Comcast per a project agreement. JEA does not have leased circuits.

8. **Please provide the number of available fiber strands for all segments of the network including access points. Our goal is to understand our ability to access the fiber and understand how many fibers are available.**

   Answer: All of JEA fiber is to support utility operations. Smaller strand counts of 48, 24, 12, and 8 are solely used for operational purposes. Higher counts of 72 and 144 do have some capacity available, upwards of 50% in some areas. Every request for fiber requires looking into the specific run to determine what capacity is available.

9. **Please provide a KMZ file of the network depicting aerial fiber, underground, OPGW, ADSS, etc.**

   Answer: KMZ files will be available during the Negotiating Phase. JEA only has ADSS fiber.

10. **Please provide the list with On-Net buildings (and number of entrance cables and access rights).**

    Answer: JEA has no On-Net buildings/entrance cables.

11. **Please provide a break out of the operating expenses associated with the communications infrastructure. Our goal is to understand the Free Cash Flow generated by the assets (in additional to the already provided revenue numbers).**

    Answer: Annual values are below:

    $150,000 – Fiber Maintenance (Fiber Cable, Power, Cabling)
    $60,000 – Fiber Splicing
    $150,000 – Relocates
    $800,000 – Resources

12. **Please provide the contract waterfall for the 8 revenue generating fiber leases (we completely understand if at this stage of the process you have to provide this on a no-names basis).**

    Answer: See Addendum 4 - Attachment 3 - Telecom Information

13. **Please provide a breakout of the Combined Collocation Revenue including contract renewals (we completely understand if at this stage of the process you have to provide this on a no-names basis).**

    Answer: See Addendum 4 - Attachment 3 - Telecom Information

14. **Please provide an organizational chart for the communications infrastructure segment.**

    Answer: See Addendum 4 - Attachment 3 - Telecom Information

15. **Is the current backlog (e.g. towers under construction, ~60 small cell sites) reflected in the Financial Metrics on page 63 of the ITN?**

    Answer: The financials on page 63 represent the existing revenue streams in place today. It does not reflect any potential revenue from building out a backlog.

16. **With regards to the 40 standalone communication towers, could you please provide the following?**

    a. **Exact location**

b. **Tower height**
c. **Load baring capacity (we would like to understand how many additional carriers could be placed on the towers)**
d. **Current rent roll**
e. **Current Tower Cash Flow**
f. **Ground rent today and post deal**

Answer: See Addendum 4 - Attachment 4 - MasterTowerData. Note, additional information forthcoming in the Negotiation Phase.

17. **Would there be an expense associated with utilizing the 200,000 electric and street light poles for small cells to the buyer of the communications infrastructure?**

Answer: JEA has the right to put attachments on the poles itself. Existing pole attachment agreements do not limit our ability to add future attachments.

18. **The ITN's answer to FAQ 19 "What are the minimum requirements?" States in part that "JEA has a current plan to achieve the 2035 goal..." of 40 MGD of alternative water capacity by 2035. What is that plan?**

Answer: See Addendum 4 - Attachment 5 IWRP

19. **Process Goals – Financial**
a. JEA refers to a pension liability currently with respect to its portion of the City of Jacksonville General Employees Pension Plan ("GEPP"). Please confirm that all pension obligations prior to close of any transaction are the responsibility of the City but not that of the buyer. If that is not the intent, please explain in detail all of the employee related obligations that are the responsibility of the buyer post close of any transaction.

Answer: In the event of a transaction, the buyer will bear no post-closing obligations with respect to the GEPP.

The buyer will assume the assets and liabilities of the SJRPP Plan and OPEB Plan, which are currently not ERISA qualified but will be subject to ERISA guidelines post-closing. At October 1, 2018, the SJRPP Plan had an actuarial accrued liability of approximately $174.7 million and market value of plan assets of $170.7 million. JEA intends to make a required minimum cash contribution of approximately $4.6 million on or after October 1, 2019.

The most recent actuarially determined net OPEB liability is $18.8 million, as described in Note 13 to JEA's most recent audited financial statements.

20. **Process Goals - Customers**
a. On page 19 of the Invitation to Negotiate ("ITN"), JEA indicates a minimum requirement of "[a]t least three years of contractually guaranteed base rate stability for customers." By "base rate stability" does JEA refer to the rates paid by customers excluding fuel and purchase power agreement expenses? Effectively the "base rate revenues" line item in JEA's operating budget?

Answer: Confirmed. Base rate revenues from JEA's operating budget.

21. **Process Goals – Community Impact and Employees**
a. ITN refers to "Retention payments to all full-time employees of 100% of current base compensation" on page 19 of the ITN.
i. Can JEA confirm whether buyers are expected to fund these retention payments? Or would the retention payments be funded from JEA's >$3 billion proceeds?

Answer: The net proceeds to the City will be after all other transaction costs and minimum requirements are met. The total enterprise value of the transaction, including any net working capital that is released as part of the transaction, will need to be sufficient to pay for customer rebates of at least $400 million, employee retention payments estimated to be $165 million, employee pension protection estimated to be $132 million, all legal and advisory transaction costs incurred by JEA and pay off all of JEA's debt obligations and any other liabilities that are not assignable (these would include things like interest rate and commodity hedges). A total defeasance cost for these liabilities is estimated to be $3.5 to $4.0 billion as of 12/31/2020.

22. Please provide the most recent cost of service study for JEA (for electric, water, and wastewater). If the most recent is dated 2013, please explain why an updated study has not been performed.

Answer: The 2019 Water/Wastewater Cost of Service Study and 2013 Electric recent cost of service studies will be provided during the Negotiating Phase.

In 2016, Black & Veatch, an international consulting firm, conducted a review of JEA's Electric Cost of Service (COS) Model and the Revenue Model for functionality, accuracy and methodology and reviewed specific rate recommendations for each class. They concluded JEA followed standard industry practice and the new Revenue and Cost of Service models developed by JEA were acceptable and suitable for internal decision making. JEA anticipates having the next Electric System Cost of Service completed its next fiscal year 2020.

23. Please provide the most recent depreciation study for JEA (for electric, water, and wastewater assets).

Answer: See Addendum 4 - Attachment 6 - 2019 JEA Depreciation Study Report

24. What portion of the water and wastewater utilities' net plant is related to St. Johns and Nassau service areas, pursuant to the Interlocutory Agreements signed with both counties?

Answer: St. Johns Net Investment per Interlocal Agreement is $291M. Nassau Net Investment per Interlocal Agreement is $69M.

25. Does the City/JEA intend for the St. Johns River Power Park ("SJRPP") site to be conveyed in a possible sale transaction to a 3rd party buyer?

Answer: JEA is continuing to explore options for a conveyance of the site and will provide more information in due course.

26. Water and Wastewater Rate Base – Contribution in Aid of Construction ("CIAC") and Used and Useful Estimate for Water Utilities

a. In 2018, the Public Utility Research Center issued a report entitled "Valuing Municipal Utilities – The Case of the Potential Sale of JEA in Jacksonville." The authors indicated that rate base for rate making purposes would adjust the fiscal year ("FY") 2017 net property and plant value of $2.6 B by (a) amounts not deemed "used and useful" and (b) CIAC. See pages 41-44 of that report.

A	Net Plant	$2,615,950	FY 2017 financials
B	X Used and Useful Assumed Rate	90%	Public Utility Research Center Assumption
C	**Used and Useful Net Plant**	**$2,354,355**	**A x B**
D	CIAC Rate	38.5% of Book Value	Public Utility Research Center Assumption, based on CIAC as a proportion of FY11-17 capital additions
E	CIAC	$906,427	C x D
F	Rate Base	$1,447,928	C - E

b. Please provide the account and amount of CIAC on JEA's books and records as of December 31, 2018 and YTD June 30th, 2019 as it relates to the water and wastewater assets. Please provide the amount of the contra depreciation expense in the aggregate at both dates related to the amortization of CIAC. Please provide a written explanation of the JEA accounting for CIAC.

c. For the water and wastewater assets, can JEA provide an estimate for that portion of the net asset base which may be deemed "used and useful" for regulatory purposes, based on the ~$2.7 billion of net capital plant provided on page 6 of the ITN and consistent with the requirements of the Florida Public Service Commission rules? Please also provide an explanation with the result showing the calculation of that amount of rate base deemed used and useful under FPSC rules.

Answer:
A) Respondents are cautioned not to rely upon 3rd party, media or consultant reports which are, or were, produced without JEA's input, review and approval. Such reports may contain inaccurate or misleading statements that may adversely impact Respondent.

B) Through FY2015, Contributions in Aid of Construction (CIAC) amounts were reported in JEA’s plant assets. Beginning in FY2015 JEA adopted regulatory/utility accounting. Following utility accounting guidelines, CIAC assets are valued at $0 and are excluded from the fixed asset subledger. Therefore, CIAC for fiscal years 2016 through 2018 are not included in JEA’s plant assets. The amount of CIAC included in JEA’s plant assets is $360M. The amount of contra depreciation expense as of 12/31/2018 and 06/30/2019 is $83M and $88M respectfully. Of the $2.6B net capital assets, $272M or 10.5% is Contributions in Aid of Construction. The remaining $2.3B consists of capital assets constructed or purchased through JEA funding. On the Statement of Net Position, property contributions through FY2015 are recorded in the “Net Capital Assets” section. In the subledger, these contributions are recorded in multiple plant asset accounts in accordance with the National Association of Utility Commissioners (NARUC) Uniform System of Accounts for Water and Wastewater Utilities. On the Statement of Revenues, Expenses, and Change in Net Position, CIAC is recorded in the “Developer and Others” section with an offset in “Reduction of plant cost through contributions”.

C) JEA is currently an exempt water and wastewater utility not regulated by the FPSC and therefore does not prepare or file Forms PSC/AFD 19-W or 20-W with the FPSC which are required in order to do the calculations requested. At this point in time JEA has no reason to believe any of its water, wastewater or storage assets are not used and useful.

27. **Can you provide .kmz maps for all fiber routes, including fiber counts, available fiber (i.e., fibers for use by others per route), empty conduit, and access points?**

    Answer: KMZ files will be available during the Negotiating Phase.

28. **With respect to the buried fiber plant, does the fiber share space with the el26ectrical plant or is the fiber run through separate conduit?**

    Answer: Nearly all underground fiber downtown shares electric manhole space with designated conduit and interduct. Nearly all underground fiber outside of downtown uses its own conduit.

29. **With respect to the aerial fiber plant, is the fiber installed above the neutral in the electrical space? If the fiber is installed below the neutral, how far below?**

    Answer: For distribution, JEA installs fiber in the electric space below the neutral 85% of the time. The other 15% is above the neutral. We maintain 40 feet between the fiber and the neutral.
    For transmission or transmission with underbuilt distribution, JEA installs below the transmission C phase. We maintain 40 feet between the fiber and the C phase.

30. **Please provide the background materials utilized by McKinsey in its strategic work for JEA.**

    Answer: This information will be provided during the Negotiation Phase.

31. **In reference to an August 29th article in the Jacksonville Daily Record, where Jacksonville Deputy Counsel Lawsikia Hodges clarified that the “cone of silence” applies to companies and organizations planning to submit a proposal, can you provide specific guidelines on what activities constitute a violation of the “cone of silence”?**

    Answer: See Section 2.11 of the ITN, as revised by Addendum #2. Additional information regarding the prohibition on ex parte communications is located in Section 1-110 of the JEA Procurement Code, available at: https://www.jea.com/About/Procurement/Purchasing_Code.aspx. Any communications between a Vendor (or a representative or agent of a Vendor) and any JEA board member, employee, agent, or representative of JEA (including without limitation the City of Jacksonville Mayor and City of Jacksonville Council Members, as described in Addendum #2), except for communications with the Designated Procurement Representatives as described in Section 2.1.1 of the ITN, or communications otherwise subject to an “Exclusion” as identified in Section 1-110(3) of the JEA Procurement Code, would potentially constitute a violation of the “cone of silence.”

32. In addition, please list examples of specific activities that would not be considered a violation of the "cone of silence"? We assume that there is no prohibition on holding public discussions about the various recapitalization options and/or specific companies publicly stating their interest in participating in the bid process given the comment by Ms. Hodges that another specific company's public discussion of the JEA process on August 16th was not considered to be in violation of the cone of silence.

Answer: Correct. Public statements by vendors of their intent to respond to the ITN do not violate the cone of silence because they do not constitute a communication between the Vendor or its agents or representatives and any JEA board member, employee, agent, or representative.

33. The ITN requires the Respondent to maintain comparable employee compensation and benefits for three years. Please provide total compensation (including latest annual salary and short-term and long-term incentives) as well as benefits paid to all employees (including to officers and union and non-union employees) separated by each of the water, wastewater, electric and district energy segments. Also, please provide total short-term and long-term incentives paid to such employees for the past 3 years.

Answer: See Addendum 4 - Attachment 7- FY16 FY17 FY18 Salary and Benefits

34. Please confirm the current funding status and the size of JEA pension funding and employee retirement benefits that the Respondent will fund.

Answer: The payment required by Section 120.203(j) of proposed Ordinance 2019-566 is to be from the proceeds from the transaction received by JEA. Following a Recapitalization Event, and the payment of JEA of the contributions required by the ordinance, the GEPP's Unfunded Actuarial Accrued Liability shall be an obligation of the City of Jacksonville.

FAQ 19 provides that the Respondent will agree "that for at least three years following any transaction, all continuing full-time JEA employees will be provided with compensation and benefits that are substantially comparable, in the aggregate, to the compensation and benefits JEA provided to them immediately prior to the transaction occurring." This obligation is unrelated to any pension obligation.

FAQ 26 speaks to certain Other Post-Employment Benefits. The OPEB benefits are unrelated to pension obligations and are to "be assumed and fulfilled by the successful participant in this process."

35. Please confirm that Respondent's identity and/or the contents of Respondent's Reply will only be disclosed publicly by JEA after a Notice of Intent to Award is posted, or 30 days after the submission of the final Replies to the last Request for BAFO(s). Specifically, please confirm that Respondent's identity (and/or any portion of the contents of their Reply) will not be disclosed by JEA (whether in response to a public records request, or independently by JEA) (i) at the public meeting to formally receive Replies (described in Section 2.1.1 of the ITN), (ii) through the formal acknowledgement of Replies received (in Table 1: Timeline of Events, page 24 of the ITN), (iii) through the Posting of Notice of Intent to Negotiate (in Table 1: Timeline of Events, page 24 of the ITN) or (iv) at the public meeting of the Negotiation Team to discuss the recommended award (described in Section 2.1.3 of the ITN).

Answer: See Response to FAQ #11 on page 44 of the ITN and Section 2.8 of the ITN. It is the intent of JEA that the identity and contents of Respondent's Reply will not be publicly disclosed until the earlier of the posting of a Notice of Intent to Award or 30 days after the submission of the final Replies to the last Request for BAFO(s). Notwithstanding the foregoing, the public meeting of the Negotiation Team to discuss the Recommended Award may include public discussion of the Reply(s) then under consideration for award. However, JEA anticipates, at this time, that such meeting will likely occur on the same day, or in close temporal proximity to, the date on which the Notice of Intent to Award is posted and such information would otherwise be subject to release.

36. JEA's charter prohibits awards to any business in which JEA officers or employees have a financial interest. Please confirm that the threshold for "financial interest" is a 5% interest as set forth in the Conflict of Interest Certificate.

Answer: Correct. Section 112.312(15), Florida Statutes, the Code of Ethics for Public Officers and Employees, defines a "material interest" as "direct or indirect ownership of more than 5 percent of the total assets or capital stock of any business entity."

37. What do you require from responders prior to the submittal? I have asked to be included on any updates and my request has been acknowledged.

Answer: There are no requirements from responders prior to the initial submission.

38. What is the total pension liability forecast or provide Statement/forecast of Pension liability?

Answer: Preliminary actuarial estimates are $132.3 million for the GEPP pension protection. This will be re-calculated contemporaneous with a transaction.

39. When was the last full Bond rating presentation and please provide the last Bond rating agency PowerPoint and supporting spreadsheets?

Answer: This information will be provided in the Negotiation Phase.

40. What reserve accounts does JEA maintain and what are the balances?

Answer: This information can be found in our monthly financial statements, which are provided with each board package and posted on our website at https://www.jea.com/About/Board_and_Management/Board_Meetings.

41. Provide a listing of all current Bonds owed and what are the balances?

Answer: This information can be found in our monthly financial statements, which are provided with each board package and posted on our website at https://www.jea.com/About/Board_and_Management/Board_Meetings.

42. What are the sources and uses of cash for 2017, 2018 and forecast for 2019?

Answer: This information can be found in our annual report, which can be found on our website at https://www.jea.com/About/Investor_Relations/Financial_Reports for 2017 and 2018. The 2019 forecast will be available to the bidders during the Negotiation Phase.

43. What is the fuel budget, fuel stabilization fund balance and fuel forecast for the coming year?

Answer: This information can be found in our Finance and Audit Committee Reports and Board packages, which are provided with each board package and posted on our website at https://www.jea.com/About/Board_and_Management/Board_Meetings.

44. How do the members of the Committee evaluate the ITN replies? Does each person on the committee review the full reply or is one person in charge of a certain ITN reply section or evaluation criteria?

Answer: Each Evaluation Committee member will evaluate the full Reply in accordance with Section 3.2.1 "Evaluation Committee" on page 34 of the ITN.

45. Subject to satisfying the minimum requirements of the ITN, would JEA consider a continued equity interest held by the City of Jacksonville as a strategic alternative that is aligned with JEA's stated process goals?

Answer: Yes, JEA will consider alternative structures that allow JEA to maximize customer, community, environmental, and financial value.

46. Will you provide JEA's estimates of the debt outstanding at year end FY 2020 and the associated debt defeasance costs of a potential take-private transaction? Can any debt be assignable to the new buyer?

Answer: See questions 1 and 21.

47. Will you clarify in the ITN the minimum requirement regarding the retirement obligation true-up?

- **a. Does JEA have an estimate of the cash cost required for this obligation?**
- **b. Would this cash cost be payable upon the closing of a transaction? Is it possible to defer any such payments?**
- **c. To whom would this cash be paid?**

d. **Will you clarify your estimate of the increase in the annual pension expense that will be incurred by JEA as a result of any changes in the terms of employee pensions?**

Answer:

A. Preliminary actuarial estimates are $132.3 million for the GEPP pension protection. This will be re-calculated prior to a transaction.
B. This would be required to be funded at the closing of a transaction.
C. The cash would be deposited in the City of Jacksonville's General Employees Retirement Plan.
D. JEA employees will no longer be eligible to participate in the current General Employee Retirement Plan under a non-governmental ownership structure. At this time, we do not have an estimate of costs associated with retirement benefits that may be offered as a non-governmental entity.

48. **Subject to satisfying the minimum requirements of the ITN, would the JEA view a payment of the $400 million of value to customers over time in line with additional investment in the utility and associated increases in rates more favorably than an upfront payment of the $400 million of value to customers?**

Answer: No.

49. **Will you clarify and elaborate on whether ringfencing (structural protections to protect JEA from conflicting financial or strategic objectives of a new owner) is a requirement of meeting the Minimum Requirements? If so, please provide guidance on what ringfencing protections would be required.**

Answer: There is no required corporate structure as part of the minimum requirements. Please refer to the ITN for minimum requirements.

50. **Will you clarify and elaborate on whether the minimum requirement for >$3b value to the City is in the form of an upfront cash payment?**

Answer: See Addendum 4 – Attachment 14 – Net Proceeds Calculation

51. **Will you clarify whether the minimum requirement for >$3b value to City is a net proceeds figure after payment of certain items? Will you clarify and elaborate on the certain items and the quantum of such items?**

Answer: Please see the response to question 21.

52. **Will you confirm the discount rate used in estimating $2b of value to the City from existing contributions over a 20 year period?**

Answer: JEA used an initial discount rate of 4% for purposes of this calculation and applied a 1.8x coverage factor to the 4%.

53. **Will you clarify and elaborate on whether economic development funding, expanded employment, or increased tax receipts would be considered value to the City? If so, how would that value be quantified?**

Answer: As described on page 35 of the ITN, criteria item #3, Respondents will be treated favorably for their willingness to make commitments to the City of Jacksonville.

54. **Subject to satisfying the minimum requirements of the ITN, will JEA weigh value above the minimum requirements distributed to customers and the minimum requirements distributed to the city equally?**

Answer: The Negotiation Team is not required to utilize numerical scoring and there are not assigned "weights" when determining best value. Consistent with Section 3.3.8 of the ITN, the Negotiation Team will determine the Reply that, as a whole, offers the best value based on the Selection Criteria.

55. **In scoring the attractiveness of proposals under the evaluation criteria, will JEA take into account the empirical evidence of long-term job reductions at the headquarters of a utility acquired by a strategic acquirer (i.e. a larger utility) once any period of initial employment commitments expires?**

Answer: The Evaluation Criteria that will be utilized in evaluating initial Replies are set forth in Section 3.2.3 of the ITN. In addition, as stated in Response to Question #54, consistent with Section 3.3.8 of the ITN, the Negotiation Team will determine the Reply that, as a whole, offers the best value based on the Selection Criteria.

56. Will JEA value proposals to extend contractually guaranteed base rate stability for customers beyond three years and/or limit future customer rate increases?

Answer: The Evaluation Criteria that will be utilized in evaluating initial Replies are set forth in Section 3.2.3 of the ITN. In addition, as stated in Response to Question #54, consistent with Section 3.3.8 of the ITN, the Negotiation Team will determine the Reply that, as a whole, offers the best value based on the Selection Criteria.

57. Will you clarify and elaborate on how JEA intends to facilitate the pairing of Respondents whose replies, while independently may not allow JEA to achieve its goals, may do so in combination with other potential Replies?

Answer: JEA intends to consider Replies received that may, in combination with other Replies received, satisfy the goals of the ITN and offer the best value. This will likely occur primarily in the Negotiation Phase of the ITN process. As JEA has not yet received Replies, it is not able to speculate at this time as to what Replies may ultimately be received or how any such Replies may complement one another.

58. Will you clarify and elaborate on whether the NDA to be signed by Vendors during the Negotiation Phase will allow Vendors to have discussions with other parties, including other Vendors, about a potential partnership arrangement?

Answer: Please see Addendum #2. It is anticipated that the NDA executed by Respondents will prohibit Vendors from having such discussions without JEA's prior consent.

59. Will you provide further details on the taxes that JEA currently pays (e.g., state gross receipt tax, city franchise fee, public service tax, sales tax, and income tax). Are these taxes fully passed through to customer bills? How do historical financials and approved budgets reflect these costs? Are these taxes incorporated into the calculation of EBITDA?

Answer: Florida Sales Tax – Florida Statutes Section 212 - JEA bills Sales Tax to its commercial electric customers and pays the amount billed to the State each month less any bad debt write-offs (less than 0.2%). When the Sales Tax is billed, it is charged to Sales Tax liability accounts. Revenue is not affected by Sales Tax. In addition to paying the Sales Tax billed, JEA is required to pay an estimated Sales Tax that is equal to 60% of the tax paid from the prior month. This estimated Sales Tax is charged to the Sales Tax liability account. The estimated Sales Tax reduces the tax liability shown in our financial statements. As of August 31, 2019 JEA has paid estimated sales tax of $1,472,000.

Public Service Tax – Florida Statutes Section 166.231 - JEA bills Public Service Tax (PST) to its electric and water customers and pays the amount billed to the each local municipality each month less any bad debt write-offs (less than 0.2%). When the PST is billed, it is charged to PST liability accounts. Revenue is not affected by PST. Each local municipality has the option of assessing a PST. Jacksonville assesses a PST on all electric billings and a PST on water. No other municipality in JEA’s service territory has chosen to assess a PST on water.

Florida Gross Receipts Tax - Florida Statutes Section 203 - JEA bills Gross Receipts Tax (GRT) to its electric customers and pays the amount billed to the State each month less any bad debt write-offs (less than 0.2%). Florida Statutes Section 203 assesses the GRT against the utility not the customer. When GRT is billed to the customer it is charged to various electric revenue accounts. A journal entry is done each month equaling the amount of GRT billed to customers resulting in a GRT liability and expense in the GL. The GRT tax paid is equal to the liability recorded by the journal entry.

Franchise Fees and Agreements – Florida Statutes 180.16 - JEA bills Franchise Fees (FF) to its electric, water, and sewer customers and pays the amount billed to the local municipality each month less any bad debt write-offs (less than 0.2%). Each Franchise Agreement assesses the FF against the utility not the customer. When the FF is billed to the customer it is charged to various electric, water, and sewer revenue accounts. A journal entry is done each month equaling the amount of FF billed to customers resulting in a FF liability and expense in the GL. The FF paid is equal to the liability recorded by the journal entry. Jacksonville is the only municipality in JEA’s service territory that assesses a FF on water and sewer. A copy JEA’s Franchise Agreements is available upon request.

60. Will you clarify and elaborate on the property tax treatment post-privatization?

Answer: Currently, JEA owned assets located in Florida are not subject to property tax assessments. As a minority owner in Plant Scherer located in Georgia, JEA pays its proportionate share of property taxes, which are passed through to JEA as an operating expense. The treatment post-transaction will depend on the structure of the transaction.

61. Will the Florida Public Service Commission have immediate jurisdiction over the electric and water business, including the rates charged by each of these businesses?

Answer: The PSC will have jurisdiction over any post-transaction entity consistent with that entity's form and relevant state law. See ITN pp. 45, 49 and 51.

62. Will you clarify and elaborate on whether the Florida Public Service Commission will be involved in future phases of the ITN process. If so, would the Florida Public Service Commission provide clarity on what is the rate base and allowable costs as of the closing? Can future rates be agreed?

Answer: See response to FAQ #18 p. 45, #23 p. 49, and #27 p. 51 of the ITN.

63. Will you clarify and elaborate on what approvals by the Florida Public Service Commission and the Federal Energy Regulatory Commission, if any, would be required to close?

Answer: See response to FAQ #18 p. 45, #23 p. 49, and #27 p. 51 of the ITN.

64. Will you confirm and elaborate on what JEA's existing obligations with regards to the MEAG PPA. Do those obligations include additional capital contributions?

Answer: This information will be provided during the Negotiation Phase.

65. Will you confirm and elaborate on whether JEA has commissioned any analysis of how its rate base would be calculated under FPSC regulation? If so, please disclose that analysis.

Answer: This information will be provided during the Negotiation Phase.

66. Does the Conflict of Interest certification have to be signed even if there is no employee of JEA who owns the 5% or more of shares?

Answer: Yes. Please see Section 2.6 of the ITN.

67. If a bidder is open to being paired with the best fit to meet JEA's objectives, how will JEA facilitate any pairing process?

Answer: This information will be provided during the Negotiation Phase.

68. Please provide the current legal entity organizational structure for JEA, along with a description of which entities serve which business segment?

Answer: JEA is a body politic and corporate created and established under the laws of Florida. JEA serves all of its business segments.

69. What percentage of the Net Capital Assets is attributable to water versus wastewater segment?

Answer:

41% of Net Capital Assets is attributable to the Water System and 59% is attributable to the Wastewater System.

	Water	Wastewater	TOTAL
PLANT IN SERVICE:	1,833,787,499	2,659,421,987	4,493,209,657
ACCUMULATED DEPRECIATION:	(856,739,393)	(1,251,287,956)	(2,108,027,349)
CONSTRUCTION WORK IN PROGRESS:	122,049,305	175,631,927	297,681,233
TOTALS:	1,099,097,412	1,583,765,959	2,682,863,540

70. Are there any contributed accounts included in Net Capital Plant at the water and wastewater segment? Does Net Capital Plant at the water and wastewater segment currently include any Contributions in Aid of Construction (CIAC) or other contributions from developers? If yes, what amount is considered contributed capital?

Answer:
Contributions from developers are 10.5% of net plant assets ($272M/$2.6B) and 7.5% of gross plant assets ($360M/$4.8B).

PLANT IN SERVICE - CIAC 360M
ACCUMULATED DEPRECIATION -88M
NET PLANT - 272M

71. What is included in Other Revenue for the water and wastewater segment?

Answer: Other revenues include revenues related to tappings and connections, rental income, late fees, and other miscellaneous revenues that are not individually material.

72. Would JEA be expected to pay ad valorem taxes if privatized? If so, please provide tax attributable to the electric, water and wastewater and district energy segments.

Answer: See response to question 60.

73. Assuming the utilities are purchased by a private entity, we would like to know what property will be subject to property tax broken down by segment (electric, water, sewer, reuse) and including the estimated value.

Answer: It is likely that all JEA real property would be subject to ad valorem and other applicable taxes under a private ownership scenario. JEA owns property in Duval County, St. Johns County, Nassau County and Clay County, Florida, and Forsyth County, Georgia. The future assessed value of JEA's properties is dependent on a number of factors and assigning an estimated value of JEA's real property assets for an undetermined capitalization scenario would be speculative.

74. Corporate structure (holding, controllate, ccontrollante)?

Answer: See response to question 68.

75. Split of:

- **domestic/industrial customers (consume, #),**
- **BT/MT/AT lines (km);**

Answer: This information is provided at https://www.jea.com/About/

76. Any employee medical insurance system?

Answer: JEA is self-insured and contracts with Florida Blue to manage three plans: PPO, HMO, HDHP

77. If the collective contract exist; any trade unions?

Answer: JEA has contracts with five unions: IBEW, LIUNA, AFSCME, PEA and JSA.

78. In case the referendum results is NO, what are the possible scenarios to proceed?

Answer: The Board of JEA may continue to evaluate other non-traditional responses, traditional responses, and/or status quo response.

79. Any restrictions/specific requirements for foreign Co.?

Answer: Any Respondent is able to participate as long as it complies with all applicable laws.

80. Any specific additional licenses necessary in case of changing from Public to IOU?

Answer: There will be highly fact-specific federal, state, and local regulatory jurisdiction over any transition to an IOU. Additional information will be provided during the Negotiation Phase.

81. Any minimum level of quality of service required (SAIDI/SAIFI)?

Answer: There is no required level of SAIDI/SAIFI. JEA has internal goals for these metrics. Our current goals and actual levels are shown in the table below:

SAIDI: 75 (min) - Reliability Goals; 64.87 (min) - Actuals
CAIDI: 47 (min) - Reliability Goals; 49.73 (min) - Actuals
SAIFI: 1.6 - Reliability Goals; 1.3 - Actuals
SARFI-80: 45 - Reliability Goals; 31.59 - Actuals
(Current through August, 2019)

82. Does submitting a Reply with a partner permanently tie Respondent to that partner for the duration of the process or can partners change until a final proposal is submitted?

Answer: JEA has the discretion to evaluate for the best value of any Reply, per the language in the ITN.

83. How will JEA evaluate the impact of changes to rates (reductions or increases) for current customers above and beyond the three year period of guaranteed rate stability, including from years 4 onward?

Answer: See Section 3.2.3 of the ITN.

84. If a Respondent's proposal includes additional costs (such as profit on operating costs associated with using an O&M contractor or accelerated recovery of investment cost due to use of a lease or concession financing scheme), will JEA take that into account or will a proposal only be scored against the criteria as defined?

Answer: See Section 3.2.3 of the ITN.

85. How does JEA intend to evaluate the difference in responses that all meet the minimum requirements as set out by the ITN but have other material differences? Will this be part of the ITN submission or addressed as part of the next phase(s) of negotiation?

Answer: This information will be addressed during the Negotiation Phase.

86. If the Respondent does not have relevant expertise in a specific discipline (electric or water for example) is this an automatic disqualifier or will the rest of the proposal be scored?

Answer: No, all Replies will be evaluated against the Mandatory Requirements listed in Section 3.1.1 Table 3, on page 33 of the ITN.

87. How much of existing O&M does labor / staff expenses represent?

Answer: Labor / staff expenses, including both salaries and benefits, represent 59-62% of existing O&M expense over the last three fiscal years. Note that this may not represent total labor / staff disbursements as portions of those disbursements may be capitalized.

88. How much of existing Net Capital Assets is comprised of capitalized labor costs (direct labor and benefits)?

Answer: This information is not available.

89. Sec. 3.3.8.D. provides that following the Negotiation Team's recommendation, the Board of Directors will make the final decision as to which respondent should be selected for award. Once the JEA Board does that, does the award then go to the City Council for approval and, if approved, is it then subject to approval through the public referendum before it is final? That is, is that process carried out contemporaneously with the parties' application

and pursuit of all regulatory approvals? Or is sign off by the City Council and/or the public referendum deferred until later in the process?

Answer: Approval of City Council as well as referendum approval would follow as requisite next steps to JEA Board approval.

90. In the timing sequence, when would the final contract be executed by JEA and the Respondent? Would that take place prior to seeking any regulatory approvals or clearances, such as DOJ/FTC and FERC, as well as determination of the Respondent's state ratemaking matters, such as rate base, ROE and other matters before the FPSC?

Answer: It is anticipated that the final contract will be executed contemporaneously with the posting of Notice of Intent to Award and prior to seeking regulatory approvals or clearances and determination of matters before the PSC.

91. Sec. 3.3.8.E provides that subsequent to the Solicitation Process, "[a]ny final selection and award may be subject to not only additional Board of Directors action, but also additional approvals as set forth in federal, state and local law." What additional Board of Directors actions are anticipated after the approval described in Sec. 3.3.8.D. is obtained?

Answer: At this point in time, JEA does not anticipate any additional Board of Directors action beyond the approval process described in Section 3.3.8.D; however, depending on what direction the Board elects to take, further Board action may be required.

92. In the event the preferred transaction takes the form of a purchase and sale of all of JEA's assets, is it anticipated that JEA and Respondent will need to negotiate the details of the rate structure and specific terms that Respondent would submit to the FPSC as part of the negotiation of the purchase and sale agreement?

Answer: See response to question 62.

93. Please confirm that prior to the posting of a Notice of Intent to Award (Sec. 2.8), a Respondent's Replies will be protected from public disclosure and will not be made available to other Respondents. Is it possible that certain information in the Replies could be subject to public disclosure earlier, pursuant to Section 3.3.4A.? Under Sec. 2.13 Negotiation Phase, please clarify whether JEA will announce the names of the entities selected for negotiation before negotiations begin.

Answer: See Response to FAQ #11 on page 44 of the ITN and Sections 2.8 and 3.3.4 of the ITN. It is the intent of JEA that the identity and contents of Respondent's Reply will not be publicly disclosed until the earlier of the posting of a Notice of Intent to Award or 30 days after the submission of the final Replies to the last Request for BAFO(s). Notwithstanding the foregoing, the public meeting of the Negotiation Team to discuss the recommended award may include public discussion of the Reply(s) then under consideration for award. However, JEA anticipates, at this time, that such meeting will likely occur on the same day, or in close temporal proximity to, the date on which the Notice of Intent to Award is posted and such information would otherwise be subject to release.

94. Will all of the proposed "alternative structures" be made public during the process? Will Respondents ultimately be required to bid on an identical structure prior to award?

Answer: See Response to FAQ #11 on page 44 of the ITN, Sections 2.8 and 3.3.4 of the ITN, and Addendum 1 to the ITN. JEA intends to evaluate a range of potential alternatives, including assessing Replies that, while independently may not allow JEA to achieve its goals, may do so in combination with other potential Replies. Replies that may not individually satisfy all of the Evaluation Criteria completely may nonetheless provide the opportunity for JEA to achieve its goals when paired with other Replies.

95. Please provide more detail on the timeline from the ITN phase through to transaction close, including all stages anticipated in the bidding and approval process.

Answer: The timeline of events through the anticipated dates for the Negotiation Phase is provided in Section 2.2 Table 1 on page 24 of the ITN. Information on the timeline of events after the commencement of negotiations through the transaction close will be provided during the Negotiation Phase.

96. **Please confirm that during the phase in which JEA will seek revised Replies, Respondents will receive access only to a confidential information presentation and certain financial projections, and only after revised Replies will qualified Respondents receive access to a full virtual data room containing JEA contracts, financing agreements, land and other real estate rights, litigation materials, and other similar types of confidential information typically relevant to a large-scale asset transaction. Sec. 3.3.3. See Q&A 22 in the ITN.**

    Answer: Confirmed.

97. **How much time does JEA anticipate that Respondents will have in the data room before further refining their Replies?**

    Answer: This period will be determined by JEA's Negotiation Team per Section 3.3.3 on p. 37 of the ITN.

98. **Will the Evaluation Committee Members' names be made public before a decision is made by them? Will the persons or entities assisting the Evaluation Committee Members names be made public before a decision is made by the Evaluation Committee?**

    Answer: At this time JEA does not intend to publicly disclose the names of Evaluation Committee Members or Subject Matter Experts prior to the Evaluation Phase occurring.

99. **Will the names of the JEA Negotiation Team be made public prior to the start of negotiations?**

    Answer: At this time, JEA does not intend to publicly disclose the names of Negotiation Team Members prior to the Negotiation Phase occurring. However, JEA may identify the members of the Negotiation Team to vendors selected for negotiations in advance of the first negotiation session.

100. **Will there be any document created to explain the recommendation of the Negotiation Team concomitant with the recommendation, or will the name of the entity simply be forwarded?**

    Answer: The Board will be provided all information necessary and appropriate to make an informed decision on the Negotiating Team's recommendation.

101. **After the scores by the Members of the Evaluation Committee are compiled, will the scores be announced before negotiations begin?**

    Answer: The evaluation phase scoring will be utilized to compile a Respondent Shortlist, as described in Section 3.3.1 of the ITN. At this time, JEA does not anticipate publicly releasing Evaluation Phase scoring prior to the commencement of the Negotiation Phase.

102. **Who within JEA will determine the competitive range within which to cut off the scores for negotiation? How will that decision be reached?**

    Answer: JEA's Chief Procurement Officer will make this determination using the guidelines provided in Section 3.3.1 on page 36 of the ITN.

103. **How will JEA measure the $3 billion of value to the City of Jacksonville? Assuming an upfront payment for JEA, what are the required adjustments to get from upfront payment to "unencumbered cash" value to the city of Jacksonville?**

    Answer: Please see response to question 21.

104. **Q&A No. 19 provides for the minimum requirement to distribute more than $400 million in value to JEA's customers, stating that "[a]ll such rebates will be paid by JEA out of the proceeds of the transaction." Would this requirement be satisfied if, instead of building such value into the purchase price and having JEA make such rebates, Respondent provided for a structure whereby it provided for a multi-year rate credit to customers post-closing having a net present value greater than $400 million?**

    Answer: Please see response to question 48.

105. Is there a preference to keep the water and wastewater business combined with the electric business?

Answer: JEA will consider alternative structures that allow JEA to maximize customer, community, environmental, and financial value.

106. How is the prospective ballot initiative to amend the FL constitution to allow for electric competition expected to impact the process?

Answer: JEA's procurement process is not impacted by prospective ballot initiatives.

107. What portion of water and wastewater gross and net plant is comprised of contributions from developers and other?

Answer: See response to question 70.

108. Does JEA anticipate any increases in electric or water rates prior to transaction close? I.e. will the base rate freeze be off current rates or some future rate?

Answer: As we do not know the expected closing date, JEA is unable to determine this at this time. The requirement to maintain stable base rates is based on the time of closing.

109. If JEA remains under municipal ownership, will the debt service obligations require remediation of a portion of the Vogtle debt in order to achieve tax compliance with MEAG's financing of Project J? If so, what is the expected amount of remediation that will be required? Will any remediation of outstanding debt be required if JEA is acquired?

Answer: We cannot determine at this time what remediation (if any) would be required under the MEAG Power Project J debt. As described in the ITN, JEA does not anticipate that any transaction will be structured in a manner that would violate the terms of the PPA. Additional details may be discussed with Respondents who ultimately proceed to the Negotiation Phase.

110. How does JEA intend to use the Nonfuel Purchased Power Stabilization Fund in the ramp up to the Vogtle PPA?

Answer: The non-fuel purchased power stabilization fund is eligible for use for Vogtle related costs.

111. Please provide an updated principal and interest payment schedule and O&M cost estimate for the Vogtle PPA. How is the PPA "margin" calculated?

Answer: The latest MEAG Power Project J debt service schedule is contained in the JEA 2018 Annual Report. Project J projections will be made available during the Negotiation Phase.

112. Is there a legal opinion or other confirmation that: (1) MEAG is entitled to claim nuclear PTCs pursuant to section 45J of the Internal Revenue Code, and (2) MEAG can validly transfer or sell its allocable share of nuclear PTCs to another party? If so, please provide.

Answer: Please refer to page 2 of the attachment for MEAG Power's recent disclosure, which is an excerpt of its Preliminary Official Statement dated September 11, 2019, for a description of the nuclear PTCs. Further details regarding MEAG's estimated potential proceeds from the sale of the PTCs can be found throughout the Preliminary Official Statement. See Addendum 4 - Attachment 13 – MEAG

113. Please clarify what JEA expects of Respondents with respect to pension obligations? The JEA Board of Directors has approved legislation for introduction to the Jacksonville City Council that, if approved, would satisfy the goal to "protect certain employee benefits." Is the Respondent expected to fund the additional benefits or would benefits be paid out of proceeds to the City? Is there an estimated cost for the legislation? Are there any other liabilities if JEA withdraws from the City of Jacksonville pension plan?

Answer: The payment required by Section 120.203(j) of proposed Ordinance 2019-566 is to be from the proceeds from the transaction received by JEA. Following a Recapitalization Event, and the payment of JEA of the contributions required by the ordinance, the GEPP's Unfunded Actuarial Accrued Liability shall be an obligation of the City of Jacksonville.

FAQ 19 provides that the Respondent will agree "that for at least three years following any transaction, all continuing full-time JEA employees will be provided with compensation and benefits that are substantially comparable, in the aggregate, to the compensation and benefits JEA provided to them immediately prior to the transaction occurring." This obligation is unrelated to any pension obligation.

FAQ 26 speaks to certain Other Post-Employment Benefits. The OPEB benefits are unrelated to pension obligations and are to "be assumed and fulfilled by the successful participant in this process."

114. Please estimate the amount of funds necessary at closing of a transaction to true up the pension for the changes in service credit and vesting period authorized by the Board for execution upon the close of a sale transaction.

Answer: Preliminary actuarial estimates are $132.3 million for the GEPP pension protection. This will be re-calculated prior to a transaction.

115. Is there a schedule of the anticipated cost to defease the $3.6bn of long-term debt in the context of a transaction type in which the debt must be retired? If so, please provide.

Answer: Please see response to question 1.

116. Has JEA evaluated how franchise tax, public service tax, and payments in lieu of taxes would change upon a conversion of the utility systems to an investor owned utility format?

Answer: Tax treatment post-transaction will depend on the structure of the transaction.

117. Have Nassau or St. Johns Counties indicated whether they might be interested in exercising their option to acquire the municipal water and sewer systems if there is a change in JEA ownership?

Answer: JEA's material contracts and related information will be available during the Negotiation Phase.

118. Please provide an estimate of water and wastewater net plant attributable to Nassau and St. Johns counties.

Answer: Please see response to question 24.

119. Please confirm that the City of Jacksonville will continue to purchase power, gas, water and sewer services from JEA under an exclusive long term supplier and services agreement post close. If not, how will the city contract for these future services?

Answer: JEA's franchised exclusive service territory for electric, water and sewer services include the City of Jacksonville.

120. Please confirm status for federal tax purposes. If JEA is a tax-exempt entity, has JEA obtained a determination letter from the IRS confirming tax-exempt status?

Answer: See Addendum 4 - Attachment 8 - IRS Letter Tax Status and Addendum 4 - Attachment 9 - JEA tax exemption certificate. JEA is currently a tax-exempt entity.

121. Please provide information on the represented workforce. What percentage of the workforce is represented? How many contracts? In general, what is the state of labor relations with the represented workforce?

Answer: 78% of the workforce is represented with five bargaining units, each with its own contract. Relations are generally good with the unions and the represented workforce.

122. As definitions will vary among jurisdictions, please define what resources qualify as "renewable" for fulfillment of the commitment to develop and provide the City of Jacksonville and the Duval County Public School system with 100% renewable electricity by the year 2030. Does "City of Jacksonville" mean governmental facilities only?

Answer: See the definition of renewable used by the US Energy Information Agency: Biomass; hydropower; wind; solar; and geothermal. https://www.eia.gov/energyexplained/renewable-sources/

123. For fulfillment of the commitment to develop and provide the City of Jacksonville and the Duval County Public School system with 100% renewable electricity by the year 2030, is there a desire to have this renewable commitment satisfied by new resources (i.e., is the desire to be able to make claims that JEA caused these renewable resources to get built), or could this requirement be satisfied with existing system resources, outside of JEA service territory? What is the projected City load by 2030? How much of the renewables have already been procured (e.g. 250 MW solar) and at what price?

Answer: The party providing the City the renewable electricity can determine the best manner in which to provide it. None of the current renewable portfolio is dedicated to COJ or DCPS. The current demand for COJ and DCPS is approximately 350,000 MWh (from 2019 ADR).

124. Please state any preference for technology type (utility scale solar, behind-the-meter solar, wind, biomass, etc.) or location (within JEA territory, within FRCC, within SERC, etc.) for fulfillment of the commitment to develop and provide the City of Jacksonville and the Duval County Public School system with 100% renewable electricity by the year 2030.

Answer: JEA has no preference for technology type and will consider all technology types.

125. What are the current applicable tariff rates for 100% renewable electricity and alternative water referenced in the footnote to the minimum requirements?

Answer: The intention is that these will be provided at the same rates as non-renewable and non-alternative sources. The City will not be receiving free service.

126. Under privatization, will the City be responsible for any pre-existing environmental liabilities associated with the CCRs at the SJRPP and Northside sites?

Answer: Successorship environmental liability associated with JEA property, if any, would be highly fact specific and may be discussed during the Negotiation Phase.

127. Are there any ongoing disputes over subsurface water rights associated with the water and sewer system? If so, please provide additional detail.

Answer: Florida law dictates that water is a “public resource” and there is generally no private ownership of water. Use of Florida water is permitted under Chapter 373 of the Florida Statutes. Groundwater in Florida belongs to the State. JEA is given the right to withdraw groundwater through a Consumptive Use Permit (CUP), granted by the St Johns River Water Management District.

128. Please provide a description of any material contracts that could not be assumed by an investor owned utility.

Answer: JEA's material contracts will be available during the Negotiation Phase.

129. Please provide copies of any long-range studies to develop alternative water supply capacity for Northeast Florida or within the JEA service territory.

Answer: JEA is currently under contract with CDM-Smith to conduct a comprehensive Integrated Water Resource Plan (IWRP) that will evaluate all available options for water supply sources, systems and strategies to cost-effectively meet our current and future demands. The IWRP is scheduled for completion in September 2020 (Scope of work attached). Flexibility, reliability, sustainability and cost-effectiveness will be weighed for each alternative.

Prior to the current effort, JEA completed a more limited scope IWRP in 2013 (Attached).
See Addendum 4 - Attachment 11 - IWRP_Final_Report and Addendum 4 - Attachment 12 - JEA_2019_IWRP_DSM_SOW_05-MAR-2019

130. Please provide an estimation of the lead service line (LSL) numbers in JEA's footprint and any steps taken to minimize the potential risks associated with a potential state wide mandate to replace LSL systems.

Answer: JEA’s policy is to replace LSL as they are found during routine or non-routine pipe repairs or replacements. JEA’s system is in compliance with the current Pb/Cu rule and there have been no indications of a systematic issue anywhere within the distribution system. If a customer is concerned, JEA has implemented free in-house sampling. To date, there has not been a residence tested that has exceeded the MCL. JEA is prepared to meet all requirements of the Pb/Cu rule revisions anticipated to be finalized by the end of 2019.

131. Please provide the amount of FEMA dollars that have been provided to JEA over the past 5 years, a description of the process undertaken to secure FEMA funds, and an estimate of outstanding amounts due from FEMA and how those would be treated upon a transaction whereby JEA is sold to a private sector entity.

Answer:
THE FEMA/FDEM REIMBURSEMENT PROCESS:

1. Storm occurs and JEA begins repairing damaged equipment and documents the costs involved with these emergency/permanent repairs. JEA is responsible for paying all costs of restoration out of JEA's operating budget. JEA is eligible to apply for reimbursement for a portion of some of those costs; however, JEA will never receive 100% of its out of pocket costs. A breakdown is as follows:
FEMA Obligation = 75.0%
FDEM Obligation = 12.5%
JEA Obligation = 12.5%

2. Once all of the costs are assembled by JEA and submitted to FEMA through the FEMA Portal, the costs are reviewed and any additional information necessary to complete FEMA's file are provided by JEA. Once these costs are approved, FEMA/FDEM will reimburse JEA per the breakdown above.

3. Since JEA was an eligible applicant for FEMA funding for Hurricane Matthew and Hurricane Irma and all of the work was completed prior to any potential purchase, there should not be any issue with collecting FEMA funding, regardless of whether JEA is sold to a private sector entity.

Matthew:
Total FEMA Claim: $10,426,564
Paid to Date: $6,769,012

Irma:
Total FEMA Claim: $14,116,608
Paid to Date: $70,582

132. Please provide a summary of discussions with any parties interested in acquiring the SJRPP site or any internal feasibility studies for re-purposing the site.

Answer: JEA has had discussions with interested parties regarding SJRPP and its future development. JEA RFP 136-19, Real Estate Redevelopment Services, will provide JEA the ability to work with consulting engineers and land planners to create development alternatives and provide marketing support to maximize SJRPP's value. See response to question 25.

133. Please provide a brief overview of any utility of the future programs that exist (microgrids, ADMS, storage, EVs etc.)

Answer: JEA has the following programs underway: Residential Battery Storage Program, JEA Residential Connected Home Energy Management System (Real Time Demand based), Electrification, Commercial & Residential EV's (fleet and residential), Smart City and Autonomous Vehicle pilot/testing partnerships. In addition, we are researching several utility scale storage and utility scale solar projects. SOCC has an ADMS system in development and is still under control of the vendor. JEA is researching the possibility of installing a microgrid.

134. Are there any other counties that have purchase rights subject to a JEA change of control, similar to the purchase rights for the water / wastewater assets in the Nassau and St. Johns Interlocal Agreements?

Answer: JEA believes those are the only interlocal agreements with change of control provisions; however, material contracts will be available for bidder review during the Negotiation Phase.

135. Electric system - What else is collected through the fuel charge to customers? Capacity charge?

Answer: The following are collected: Natural gas pipeline capacity and reservation charges, fuel handling costs, rail car expenses, costs of fuel additives such as limestone etc, cost of Solar PPA's, cost of short-term market power purchases.

136. Water / wastewater / reuse rates

a. Please provide rate increase history for past 10 years for water, sewer and reuse.

Answer: See Addendum 4 - Attachment 10 - JEA Master Rates History File

137. What special contracts does JEA have with customers? Please provide each customers' billing determinants (separately by account by rate schedule) and revenue detail by charge for the most recent 12-month period available.

Answer: These will be provided during the Negotiation Phase.

138. In formulating the goal to deliver >$3bn of value to the City, has JEA incorporated one-off costs associated with the proposed transaction (e.g. defeasance costs for municipal debt)?

Answer: The net proceeds to the City will be after all other transaction costs and minimum requirements are met, such that total enterprise value, in addition to any net working capital that is released as part of the transaction, will need to be sufficient to pay for customer rebates of at least $400 million, employee retention payments estimated to be $165 million, employee pension protection estimated to be $132 million, all legal and advisory transaction costs incurred by JEA and pay off all of JEA's debt obligations and any other liabilities that are not assignable (these would include things like interest rate and commodity hedges). A total defeasance cost for the debt obligations and non-assignable liabilities is estimated to be $3.5 to $4.0 billion as of 12/31/2020.

139. How does the City of Jacksonville intend to maintain ongoing oversight and monitoring of JEA's operations post transaction?

Answer: Following any transaction, relevant federal, state, and local regulatory jurisdiction would apply. Particular ongoing oversight and monitoring will be based upon the ultimate structure of a transaction, if any.

140. Please describe JEA's current relationship with the Florida Public Service Commission (FPSC). Specifically: Have JEA and the FPSC had any discussion about the regulatory process and framework likely to apply to JEA under private ownership? What guidance, if any, has the FPSC provided?

Answer: See response to FAQ #23 on p. 49 of the ITN.

141. Will potential purchasers have the opportunity to engage in consultation with the FPSC in relation to the transaction during the Negotiation Phase?

Answer: No, the signed NDAs during the Negotiation Phase will prohibit discussion of confidential information in relation to this transaction.

142. Does JEA consider the presence of multiple utility operators under the jurisdiction of the FPSC to be constructive for customer and community outcomes? Will potential benefits to customers, via greater diversity of utility operators, be considered in the Evaluation Criteria?

Answer: The Evaluation Criteria that will be utilized in evaluating initial replies are set forth in Section 3.2.3 of the ITN. In addition, as stated in Response to Question #54, consistent with Section 3.3.8 of the ITN, the Negotiation Team will determine the Reply that, as a whole, offers the best value based on the Selection Criteria.

143. What are the City's expectations for base rate stability after the initial 3-year period, given JEA is targeting significant capex investment of $2.6bn over the next 5 years and is expected to be subject to a customary regulatory framework under the FPSC?

Answer: These will be provided during the Negotiation Phase.

144. Per footnote 1 on p 21 of the ITN, "Renewable electricity and alternative water to be provided at new or existing tariffs at a price equal to or less than the applicable tariff rate." How does JEA define "applicable tariff rate" for these purposes and over what period of time is this restriction to apply?

Answer: See response to question 125.

145. Can JEA please provide an update and additional details on the ongoing MEAG litigation referenced in the ITN? What further detail will be provided before ITN Replies are due on October 7, 2019?

Answer: These will be provided during the Negotiation Phase.

146. To what extent do JEA's debt service obligations under the Vogtle PPA extend to each of the financing instruments issued as Project J debt (including Build America Bonds, Tax Exempt Bonds and other financing facilities)?

Answer: In accordance with the stated terms of the PPA, JEA shall make payments to MEAG's Project J entity for certain amounts which include, but are not limited to, amounts equal to debt service on Project J bonds for the first 20 years. All Project J bonds are debt obligations of MEAG and/or its member cities.

147. Are JEA's total debt service obligations on Project J debt captured on page 26 of JEA's Annual Disclosure Report (fiscal year ended September 30, 2018)? Or does this refer to obligations relating only to a portion of the Project J debt? If the latter, please provide JEA's total projected net debt service obligations.

Answer: The table on page 26 of JEA's Annual Disclosure Report contains JEA's Project J debt obligations for the first 20 years on the total Project J debt issued through September 30, 2018. JEA's share of projected Project J debt service will be disclosed during the Negotiation Phase.

148. Do the legal theories that challenge the authority and validity of the Vogtle PPA apply to other PPAs entered into by JEA?

Answer: No.

149. What volume forecasts are underpinning JEA's expectations for a 26-55% increase in rates over the next decade – is this management's base case or a downside scenario?

Answer: This information will be provided during the Negotiation Phase.

150. In the July 23 Board Presentation (page 16), JEA forecast an 8% decline in energy sales (2019-2030) – how has JEA developed this forecast? Is there a market-based report supporting these forecasts that will be available to potential purchasers?

Answer: This information will be provided during the Negotiation Phase.

151. What are JEA's current projections for customer owned and generated power and their impact on energy sales and revenues?

Answer: This information will be provided during the Negotiation Phase.

152. How much capital expenditure will be required to maintain JEA's water supply capacity?

Answer: This information will be provided during the Negotiation Phase.

153. Given that the Floridan Aquifer "should be capable of meeting JEA's needs well into the future", why is it necessary to provide 40 MGD of alternative water supply by 2035?

Answer: The commitment to alternative water supplies is a long-term effort to provide diversified sources for water supply. Aquifer recharge, wetland treatment and potable reuse are the most promising alternative water supplies and all are being studied by JEA to ensure the future sustainability of the resource. JEA also has an aggressive demand side management program (conservation, etc.) to ensure the most efficient use of potable water. It is JEA's position to plan for these alternatives now instead of reacting to a crisis that has happened in several areas of the U.S. These alternative water supplies can be implemented incrementally should requirements change in the future.

154. What restrictions (if any) are likely to apply to JEA's operations under private ownership (e.g. nature of business activities and geography)?

Answer: See Response to FAQ #18 on page 45 and 27 on page 51 of the ITN.

155. What is the estimate of free cash flow for the last 3 years and please provide a detailed current income statement?

Answer: JEA's financial statements are broadly available and can be found on our website at https://www.jea.com/About/Investor_Relations/Financial_Reports

156. What are current numbers or ratios that are benchmarked and what are those benchmarks?

Answer: Please refer to the monthly Board package for JEA Monthly Financial and Operations Dashboard.

ACKNOWLEDGE RECEIPT OF THIS ADDENDUM ON THE BID FORM

Attachment 1

Defeasance Summary

	October 15, 2019	December 31, 2020	
Electric System			
Par Defeased	**48,070,000**	**1,599,160,000**	
Sources:			
Senior Lien Accrued Interest	-	7,482,748	
Subordinate Lien Accrued Interest	88,070	10,085,231	
Accrued 2021 Principal (3 months Senior)		6,075,000	
Accrued 2021 Principal (3 months Sub)		8,710,000	
Debt Service Reserve Fund Release	-	60,580,000	
Funds Required for Defeasance	54,917,161	1,770,005,509	
Total Funds Required for Defeasance	55,005,231	1,862,938,488	
Uses:			
Swap Termination Payment	-	105,763,000	
SLGS Purchases	55,005,231	1,757,175,488	
Total Uses of Funds	55,005,231	1,862,938,488	$263,778,488
Water and Sewer System			
Par Defeased	**45,425,000**	**1,262,665,000**	
Sources:			
Senior Lien Accrued Interest	43,238	12,089,443	
Subordinate Lien Accrued Interest	31,221	2,073,311	
Accrued 2021 Principal (3 months Senior)		1,730,000	
Accrued 2021 Principal (3 months Sub)		612,500	
Senior Lien Debt Service Reserve Fund Release	-	74,970,000	
Subordinate Lien Debt Service Reserve Fund Release	-	13,465,000	
Funds Required for Defeasance	48,095,306	1,336,735,611	
Total Funds Required for Defeasance	48,169,765	1,441,675,865	
Uses:			
Swap Termination Payment	-	27,433,000	
Cash Deposit	1	-	
SLGS Purchases	48,169,764	1,414,242,865	
Total Uses of Funds	48,169,765	1,441,675,865	179,010,865
St. Johns River Power Park System			
Par Defeased		**251,765,000**	
Sources:			
Accrued Interest		2,473,485	

Accrued 2021 Principal (3 months)	3,543,750	
Debt Service Reserve Fund Release	12,400,000	
Funds Required for Defeasance	238,623,760	
Total Funds Required for Defeasance	257,040,995	
Uses:		
SLGS Purchases	257,040,995	
Total Uses of Funds	257,040,995	5,275,995

Bulk Power Supply System			
Par Defeased		**81,885,000**	
Sources:			
Accrued Interest		874,606	
Accrued 2021 Principal (3 months)		1,770,000	
Debt Service Reserve Fund Release		4,850,000	
Funds Required for Defeasance		81,531,055	
Total Funds Required for Defeasance		89,025,661	
Uses:			
Cash Deposit		1	
SLGS Purchases		89,025,660	
Total Uses of Funds		89,025,661	7,140,661
District Energy System			
Par Defeased		**31,410,000**	
Sources:			
Accrued Interest		313,473	
Accrued 2021 Principal (3 months)		442,500	
Funds Required for Defeasance		32,600,440	
Total Funds Required for Defeasance		33,356,413	
Uses:			
Cash Deposit		1	
SLGS Purchases		33,356,412	1,946,413
Total Uses of Funds		33,356,413	
Principal Balance @ 12/31/2020	$3,226,885,000	***$3,684,037,420***	***$457,152,421***
		Swap Termination Payments	$133,196,000
		Gross Defeasance Cost	323,956,421
		Accrued Interest Credit	(35,392,296)
		Accrued Principal Credit	(22,883,750)
		DSRF Release Credit	(166,265,000)
		Net Defeasance Cost	$99,415,375

****Preliminary, subject to change*

Rates as of 8/12/19

JEA

U S Navy - Zip Code 32233 - Mayport - Electric Revenues and Taxes

Calendar Year	Electric Revenue	Jacksonville Franchise Fee	Florida Gross Receipts Tax	Grand Total
2009	$ 14,812,536	$ 35,878	$ 380,728	$ 15,229,142
2010	13,369,122	32,217	343,624	13,744,963
2011	14,730,969	30,015	378,486	15,139,471
2012	12,333,364	29,653	317,000	12,680,017
2013	11,451,506	30,567	294,412	11,776,486
2014	11,724,791	29,560	301,393	12,055,744
2015	10,459,438	26,940	268,881	10,755,259
2016	11,557,076	26,060	297,003	11,880,139
2017	10,360,550	29,001	266,398	10,655,949
2018	9,618,460	20,910	247,163	9,886,533
2019 8/14/2019	6,882,355	-	176,471	7,058,825
Grand Total	$ 127,300,168	$ 290,801	$ 3,271,560	$ 130,862,529

Navy is exempt from Public Service Tax and Sales Tax

JEA

City Of Atlantic Beach - Electric Revenues and Taxes

Calendar Year	Electric Revenue	Atlantic Beach Franchise Fee	Florida Gross Receipts Tax	Atlantic Beach Public Service Tax	Florida Sales Tax	Grand Total
2009	$ 14,157,926	$ 890,706	$ 386,780	$ 440,069	$ 237,605	$ 16,113,087
2010	14,624,838	922,903	399,554	496,263	228,265	16,671,823
2011	14,403,243	907,455	393,497	475,366	221,203	16,400,765
2012	13,185,834	832,895	360,236	459,181	211,268	15,049,415
2013	12,611,539	799,269	344,543	459,565	224,128	14,439,044
2014	13,092,463	830,700	357,643	475,355	178,294	14,934,455
2015	12,510,175	793,455	341,706	476,717	205,922	14,327,974
2016	12,955,440	822,444	353,862	487,001	210,288	14,829,034
2017	12,287,451	778,811	335,567	485,725	200,939	14,088,494
2018	12,739,725	808,345	347,897	503,985	201,761	14,601,712
2019 8/13/2019	7,241,377	458,827	197,738	286,366	114,768	8,299,076
Grand Total	$ 139,810,012	$ 8,845,811	$ 3,819,024	$ 5,045,592	$ 2,234,441	$ 159,754,880

Question #13 Answer:

JEA Annual Revenue Projection

Dark Fiber Utility Services *(Existing Program Offering)*

JEA Building a Connected Community®

Annual Revenue Forecast	2017	2018	2019	2020	2021	2022
Dark Fiber Leasing Revenues₁	**$ 1,897,227**	**$ 1,974,901**	**$ 2,023,450**	**$ 2,078,719**	**$ 2,135,646**	**$ 2,194,282**
50-mile ring lease₂	$ 1,718,990	$ 1,770,559	$ 1,823,676	$ 1,878,386	$ 1,934,738	$ 1,992,780
High Speed Fiber Business₃	$ 6,365	$ 6,000	$ 6,180	$ 6,365	$ 6,556	$ 6,753
5 Agreements with Private Fiber Business₄	$ 40,817	$ 60,214	$ 62,377	$ 62,750	$ 63,135	$ 63,532
Downtown duct bank₅	$ 120,672	$ 120,672	$ 120,672	$ 120,672	$ 120,672	$ 120,672
Public Web Provider	$ 10,383	$ 10,545	$ 10,545	$ 10,545	$ 10,545	$ 10,545

Notes and Assumptions - Dark Fiber

1: Dark Fiber revenues increase based upon rate escalation in contracts, new contract opportunities, and expiration of joint-use agreements leading to new revenue.

Question #14 Answer:

JEA Current and Projected Revenues

Utility Pole Attachments

JEA Building a Connected Community®

Annual Revenue Forecast	2017	2018	2019	2020	2021	2022
Utility Pole Attachment Revenues₁,₂,₃	**$ 4,830,156**	**$ 4,821,332**	**$ 5,081,472**	**$ 5,349,416**	**$ 5,509,898**	**$ 5,675,195**

Notes and Assumptions - Utility Pole Attachments

1: Pole attachment revenue increases due to standard agreement with 3% escalator and new attachers; standard agreement in place across 10 attaching entities.

2: JEA Pole attachment rent rates calculated via APPA cost-based formula.

3: JEA is conducting a Pole Attachment Inventory in 2019 which may find unbillable revenues. This would include back billing.

JEA Current and Projected Revenues

Wireless Colocation Utility Services (Including Small Cell Facilities)

JEA Building a Connected Community®

Annual Revenue Forecast	2017	2018	2019	2020	2021	2022
Wireless Colocation Leasing Revenues₁	**$ 1,762,504**	**$ 1,877,202**	**$ 1,963,460**	**$ 2,090,262**	**$ 2,249,272**	**$ 2,413,043**
Wireless Colocation (Communication Towers and Electric Transmission Structure CoLo Rent)₁	$ 1,762,504	$ 1,873,494	$ 1,947,367	$ 2,025,262	$ 2,144,272	$ 2,268,043
Small Cell Rent		$ 3,708	$ 16,093	$ 65,000	$ 105,000	$ 145,000

Notes and Assumptions - Wireless Colocation

1: Wireless Colocation revenues include macro-site (tower and transmission) rent.

Wireless colocation line of business does not incur capital costs; lessees pay all costs of construction.

Question #15 Answer:

Site Name	Address	Latitude	Longitude	Year Erected	Projected Replacement Date	Scheduled Replacement	Site Elevation (AMSL)	Total Structure Height Including Appurtenances (AGL)	Overall Height (AMSL)	Owner	Tower/Structure Type	Facility Type	Capacity Available (Y or N)	No. of Tenants (Wireless)	No. of Leases (Revenue Generating)	Approximate Rent Revenue	Available Tower Capacity %
Baymeadows (sub)	10357 Deerwood Club Rd. 32256	30 14 9.8	81 32 35.5	1997	2027	FY 26'	47	150	197	JEA	monopole	substation	N	5	4	$ 159,847	5
Black Hammock Island	15770 Sawpit Rd. 32226	30 31 11.8	81 28 54.8	2011	2041		14	127	141	JEA	monopole	coj park	N	1	0	$ -	0
Cecil Sub	10471 103rd Street, Jacksonville, Florida 32210	30 15 0.68	81 50 2.04	1973	2003	FY 25'	79	105	184	JEA	transmission pole - direct buried	substation	N	1	0	$ -	0
Center Park (sub)	2797 Kernan Rd. S 32246	30 17 47.7	81 29 10	2001	2031		33	177	210	JEA	lattice	substation	Y	4	0	$ -	60
Community Hall WTP	2935 Orange Picker Rd. 32223	30 09 01.7	81 38 05.1	2006	2036		25	198	223	JEA	monopole	water treatment plant	Y	3	0	$ -	69
Emerson (SSSC)	2325 Emerson St., Jacksonville, Florida 32207	30 17 10.9	081 38 14.3	1973	2003	FY 26'	26	125	151	JEA	monopole	service center parking lot	N	1	0	$ -	Ukn
Firestone (sub)	6919 Rampart Rd., Jacksonville, Florida 32244	30 13 21.9	81 45 55.4	2002	2032		36	344	380	JEA	lattice	substation	Y	5	2	$ 79,924	40
Ft. Caroline (sub)	12337 McCormick Rd. 32225	30 21 36	81 29 22	1998	2028		39	170	209	JEA	lattice	substation	N	5	4	$ 159,847	15
Garden City (sub) FCRS	2961 ArmsDale Rd. 32218	30 27 14.6	81 41 54.6	2001	2031		20	179	199	JEA	lattice	substation	Y	5	2	$ 79,924	63
Gator (new)	14798 Main ST. N. 32206	30 30 18.4	81 37 24.1	2011	2041		33	127	160	JEA	monopole	transmission corridor	N	0	0	$ -	0
Greenland (sub) (FCRS)	14247 Old St. Augustine Rd. 32258	30 08 48.4	81 31 50.3	2002	2032		17	499	516	JEA	lattice	substation	Y	5	1	$ 39,962	50
Greenland (sub)	14247 Old St. Augustine Rd. 32258	30 08 45.2	81 31 45.5	1998	2028		16	240	256	JEA	lattice	substation	Y	3	2	$ 79,924	25
Imeson Sub	599 Zoo Parkway 32218	30 24 30.5	-081 38 08.1	2015	2045		7	199	206	JEA	monopole	substation	Y	2	1	$ -	70
Jax Heights Sub	9800 Alvin Rd. 32222	30 13 26.4	81 49 11.3	2008	2038		70	180	250	JEA	monopole	substation (adjacent)	Y	2	1	$ 39,962	76
Mandarin (sub)	3476 Loretto Rd. 32233	30 09 30.8	81 37 11.7	1974	2004	FY 25'	21	125	146	JEA	monopole	substation	N	1	0	$ -	0
Mandarin WWTP	10868 Hampton Rd. 32257	30 10 46.4	81 37 20.7	2007	2037		22	180	202	JEA	monopole	wastewater treatment	Y	2	1	$ 39,962	52
Mayport (sub)	725 Wonderwood Dr. 32233	30 22 14.7	81 24 41.8	2008	2038		4	199	203	JEA	monopole	substation	Y	2	1	$ 39,962	57
Merrill Rd. (sub)	7730 Merrill Rd. 32211	30 21 05.9	81 34 02.1	2011	2041		41	199	240	JEA	monopole	substation	Y	3	2	$ 79,924	66
NAS Jax (sub)	7001 Roosevelt Blvd. 32244	30 13 21.8	81 42 01	1973	2003		15	80	95	JEA	lattice	substation	Y	1	0	$ -	Ukn
Nassau (sub)	85960 Wilson Neck Rd. Yulee, Florida 32097	30 35 22.8	81 35 04.1	2013	2043	Co-Lo Upgrade	18	127	145	JEA	monopole	substation	N	1	0	$ -	0
Nocatee	859 Nocatee Parkway, St. Augustine, Florida 32095	30 06 55.86	-081 24 38.28	2017	2047		19	199	218	JEA	monopole	re-use re-pump facility	Y	1	0	$ -	70
Normandy (sub)	9801 Crystal Springs Rd. 32221	30 18 22.6	81 49 10.5	2001	2031		92	166	258	JEA	monopole	substation	Y	4	1	$ 39,962	33
Orange Park (sub)	733 Shaw Avenue OP 32073	30 10 35.9	81 42 37.5	2012	2042		12	199	211	JEA	monopole	substation	Y	1	0	$ -	70
Phillips (sub)	7601 Phillips Hwy 32256	30 14 02.6	81 35 27.8	2012	2042		21	199	220	JEA	monopole	substation	Y	2	1	$ 39,962	70
Powers (sub)	6266 Powers Ave. 32217	30 15 33.9	81 37 10.3	1974	2004		26	120	146	JEA	monopole	substation	N	1	0	$ -	0
Randall St. (sub)	3065 Randall St. 32205	30 18 38.7	81 42 25.3	2006	2036		30	199	229	JEA	monopole	substation	Y	3	2	$ 79,924	54
Ribault (sub)	4205 Soutel Dr. 32208	30 24 16.1	81 42 50.7	2006	2036		20	199	219	JEA	monopole	substation	Y	1	0	$ -	10
Rivertown WTP	7612 Longleaf Pine Parkway	30 02 41.6	81 37 02.9	2012	2042		31	199	230	JEA	monopole	water treatment plant	Y	4	3	$ 79,923	70
Robinwood (sub)	10327 Alden Rd. 32246	30 18 04.8	81 31 39.7	2011	2041		40	199	239	JEA	monopole	substation	Y	3	2	$ 39,961	13
San Pablo (sub)	13865 William Davis Parkway	30 15 47.0	81 27 14.5	2011	2041		23	181	204	JEA	monopole	substation	Y	3	2	$ 39,961	42
SJRPP (sub, plant) FCRS	11201 New Berlin Rd. 32226	30 25 54.9	81 33 13.3	2000	2030		14	499	513	JEA	guyed	sjrpp plant area	Y	5	0	$ -	17
SJRPP Tower #1	11201 New Berlin Rd. 32226	30 25 01	81 32 59.3	1998	2028		17	170	187	JEA	lattice	sjrpp substation area	Y	1	0	$ -	Ukn
SOCC Annex tower	7695 Ramona Blvd. 32221	30 18 49.6	81 38 05.8	1998	2028	FY 22'	34	160	194	JEA	lattice	jea facility	N	3	0	$ -	0
Southeast Sub	9999 Chester Lake Dr. E. 32256	30 11 35	81 31 16.4	2011	2041		35	199	234	JEA	monopole	substation	Y	4	3	$ 79,923	37
St John's Forest WTP	2740-1 CR 210 W. 32259	30 03 51.2	81 31 41.9	2007	2037		30	199	229	JEA	monopole	water treatment plant	Y	5	3	$ 119,885	63
Switzerland (sub)	1310A Roberts Rd. 32259	30 04 25.5	81 36 05.6	2002	2032		28	198	226	JEA	monopole	substation	Y	4	3	$ 119,885	42
West Jax (sub)	1901 Picketville Rd. 32220	30 20 48.3	81 45 47.2	1974	2004	FY 22'	23	93	116	JEA	lattice	substation	Y	1	0	$ -	Ukn
Westlake Sub	5090 Jones Rd. 32219	30 23 07.7	-081 48 57.6	2014	2044		59	250	309	JEA	self-support	substation	Y	2	1	$ -	50
Yellow Water Rd. (tower)	2015 Yellow Water Rd. 32234	30 16 11.0	81 57 23.9	2002	2032		85	499	584	JEA	guyed	stand alone site	Y	3	0	$ -	5
Yulee Outflow	463260 SR 200 Yulee, Florida 32097	30 37 50.4	-081 35 40.6	2014	2044		19	199	218	JEA	monopole	jea outflow facility	Y	2	1	$ -	71
													Totals		43	$ 1,438,622	

Memorandum

To: *George Porter, P.E., JEA*

From: *Shayne Wood, P.E., CDM Smith*
Dan Rodrigo, CDM Smith
Jenny Bywater, P.E., CDM Smith

Date: *August 26, 2019*

Subject: *JEA IWRP: Preliminary Screening of 2035 Alternative Water Supplies*

Overview

JEA is developing an Integrated Water Resources Plan (IWRP) and Demand-Side Management (DSM) Strategy that will serve as a road map for implementing water supply projects and water conservation programs through year 2070. As a component of the IWRP process, future Alternative Water Supply (AWS) options which can help JEA meet their long-term water supply needs are being conceptualized. An additional goal of JEA is to have a path for achieving 40 million gallons per day (MGD) of AWS options by 2035.

There exist several alternative sources, at a variety of locations. One of the main objectives of the IWRP is to determine what combination of options, at which locations, best meets the financial, environmental and customers' needs of the community. Even though the final IWRP report is not scheduled for completion until September 2020, the team has already conceptualized many water supply options. This memo briefly lays out one possible combination of options which meets the theme of 40 MGD of alternative supply by 2035.

During a meeting with JEA staff on July 31st, 2019 as well as follow up discussions, the full list of potential future water supply projects was screened down to four projects capable of achieving the 2035 target for alternative water supply. The four options include:

- 10 MGD of potable reuse at a new south grid site with constructed wetlands at the First Coast Natural Resource Center for storage. This alternative water would be utilized within the south grid.
- 5 MGD of potable reuse at the Arlington East WRF with the alternative water utilized within the south grid.
- 10 MGD of potable reuse at the Southwest WRF with the alternative water utilized within the south grid. A river crossing would be required for this option.

- 15 MGD of potable reuse at either Cedar Bay WRF or a new facility. This alternative water would be utilized in either the north grid or Nassau grid.

This memo provides a brief description of each of the screened alternative water supply options and a summary of the overall cost estimate to meet the 2035 alternative water supply goal. The yield for each option is a placeholder for now and final recommended capacities will be determined by the IWRP.

Alternative Supply Options

Potable Reuse – South Grid

Instead of delivering reclaimed water to customers for non-potable uses, reclaimed water could undergo additional advanced treatment to make it suitable for aquifer recharge (indirect potable reuse) or as an immediate potable supply (direct potable reuse). As part of the Water Purification Technology program focused on evaluating purified water for potable reuse, JEA is implementing a 1 MGD demonstration facility that can be expanded to 10 MGD of purified water production. JEA continues to evaluate both direct and aquifer recharge options and is well positioned to implement either. For this analysis, the purified water is assumed to be used to recharge the Floridan aquifer and result in beneficial reuse credits for the JEA consumptive use permit (CUP). Advanced treatment facilities are assumed to be constructed at the Arlington East WRF, Southwest WRF, and a new south grid site.

As the demand for reclaimed water is not always a direct match to the available supply, storage is a key component needed to fully utilize reclaimed water – be it through traditional means or through potable reuse. The First Coast Natural Resource Center will utilize 200 acres of land for 100-160 million gallons of reclaimed water storage within a constructed wetland. Flow from the south grid reclaimed water system could be pumped into the wetland during times of excess capacity and then withdrawn from the wetlands for use in the south grid to support implementation of potable reuse and/or meet demands for JEA's reclaimed water system. The project would also include a natural resource center and public amenities for hiking, birding, and other recreational and educational activities.

Potable Reuse – North Grid/Nassau

This option is similar to the south grid options but would produce purified water for the north grid or Nassau grid service areas. The facility could be at the Cedar Bay WRF or a new future location depending on growth and development patterns. The purified water produced is assumed to be utilized for direct potable reuse.

Costs

For each water supply option, preliminary capital costs were developed. These costs are intended for use as a screening level evaluation for conceptual projects. The developed costs rely on a mix of previous feasibility studies and JEA planning reports. When previous studies were not available, cost estimates were determined in a manner consistent with planning level order-of-magnitude cost estimates. **Table 1** provides a summary of the supply option capital costs subdivided into facilities, conveyance, storage and total. The capital cost per additional gallon capacity is also provided. All costs are expressed in 2019 dollars.

Table 1. Summary of Supply Options Costs

Type	Supply Options	Yield (MGD)	Capital Cost ($M)					Capital Cost per Gallon ($/gal)
			Facility	Conveyance	Storage	Concentrate Management	Total	
Potable Reuse for South Grid[1]	South Grid Site with First Coast Natural Resource Center[2]	10	$100	$50	$25	$60	$235	$23.50
	Arlington East WRF	5	$50	$25	$10	$40	$125	$25.00
	Southwest WRF	10	$100	$100	$20	$10	$230	$23.00
North Grid / Nassau Purified Water[3]		15	$150	$15	$30	$30	$225	$15.00
	Total	**40**	**$400**	**$190**	**$85**	**$140**	**$815**	**$20.38**

[1]Option is either aquifer recharge or direct potable reuse with costs shown based on aquifer recharge
[2]First Coast Natural Resource Center costs include educational, outreach and visitor center components
[3]Conveyance cost is minimal as it assumed the majority of these costs will be covered under general system expansions.

FINAL REPORT

DEPRECIATION STUDY

B&V PROJECT NO. 402547

PREPARED FOR

JEA

AUGUST 2019

BLACK & VEATCH

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LIST OF TABLES

Section 1. Executive Summary

This report presents the results of our analysis of the depreciation expense requirements of the electric, water, wastewater, and chilled water utility properties solely owned and maintained by JEA (collectively referred to as the "combined utilities"). The results presented herein are representative of activity through December 2018 with recognition given to certain known and measurable changes that have occurred or are anticipated to occur subsequent to that date. We consider the rates developed and recommended herein to be reasonable and appropriate for prospective use. We recommend, however, that depreciation rates be reviewed at a minimum of once every five years. Existing depreciation rates were developed in 2011 based on plant activity through May 2011. Ultimately, the appropriate level of depreciation expense rates is a management decision taking into account various factors.

Black & Veatch conducted physical site observations of major JEA facilities on June 24 through 27, 2019. During the plant tours, we interviewed and were assisted by JEA staff that appeared experienced, qualified, well trained, and knowledgeable with regard to JEA's routine and preventative maintenance practices. We appreciate the cooperation we received during our plant tours.

Based on our observations and interviews conducted, JEA appears to operate and maintain its systems prudently and in accordance with current regulatory standards and generally accepted industry practices.

Since 2005, JEA has accrued depreciation expense and maintained reserve balances as prescribed by the Federal Energy Regulatory Commission ("FERC") for the electric system and the National Association of Regulatory Utility Commissioners ("NARUC") for the water and wastewater systems. JEA currently accrues depreciation at the account level, and as such, we have identified appropriate rates for each applicable FERC and NARUC account used by JEA.

Depreciation rate recommendations for production and treatment accounts are primarily based upon our unit property analyses. Survivor curve analysis and benchmarking of comparable utilities are relied upon in our analyses for mass property accounts. JEA's continuing property record contains sufficient retirement history to perform survivor curve analyses on some, but not all of the accounts. We therefore relied upon the experience of comparable utilities for the balance of accounts for which survivor curve analyses could not be effectively utilized. The rates recommended in this report for mass property accounts are reflective of results derived from survivor curve analyses, where appropriate, and observations made relative to benchmarking against our comparable utility survey.

In Section 2 of this report, we briefly discuss the practice of depreciation accounting.

In Section 3 we discuss, in general, the type of information examined in the analysis and the methods applied to develop depreciation expense rates. The results of the analyses performed are discussed in Sections 4 through 6. These discussions include a determination of whole life depreciation accrual rates for unit property accounts (Section 4), mass property accounts (Section 5), and our analysis of the adequacy of current depreciation reserve amounts and recommended depreciation rates (Section 6). The depreciation expense rates developed for the purpose of this report are considered appropriate for use in the near future.

In the following table, we summarize the change in annual depreciation expense resulting from our recommended rates:

Recommended Change in Depreciation Expense

DESCRIPTION	AMOUNT
Electric Utility	
Steam Production	($251,311)
Other Production	($1,582,638)
Transmission	($699,926)
Distribution	($2,007,546)
General Plant	($260,633)
Water Utility	
Source of Supply & Pumping Plant	($84,622)
Water Treatment Plant	($50,346)
Transmission & Distribution Plant	($46,698)
General Plant	($190,827)
Wastewater Utility	
Collection Plant	($3,258)
System Pumping Plant	($100,227)
Treatment & Disposal Plant	($478,818)
Reclaimed Water Plant	($10,429)
Reclaimed Water Distribution Plant	$0
General Plant	($25,788)
Chilled Water Utility	
Chilled Water Plant	$110,515
TOTAL	**($5,682,552)**

As shown in the table above, the depreciation rates we recommend in this report result in an overall annual decrease in depreciation expense of approximately $5.7million. This is a decrease of approximately 1.5 percent. The principal factors contributing to this recommended decrease are related to:

- Electric Production. Approximately $1.6 million of the decrease to depreciation expense relates to Other Production plant. Based on our unit property analysis of JEA's Other Production plants, we recommend a decrease to the composite depreciation rate for other production from 4.69 percent to 4.50 percent. The decrease is primarily the result of changes to lifespan estimates for the generation stations. Our recommendation is based on the current level of investment in electric production plant as well as the estimated life spans, capital expenditures and interim activities.

- Electric Transmission. Approximately $700,000 of the reduction to depreciation expense is related to electric transmission plant. We find that the current depreciation rates are higher than those indicated by our actuarial analysis of JEA's data, and higher than the majority of the comparable utilities in our benchmarking study. We also find that many transmission accounts are heavily depreciated, with reserve ratios above 50 percent. This is the basis for our recommendation that JEA reduce depreciation expense for electric transmission.
- Electric Distribution. Of the approximately $2 million reduction to depreciation expense related to electric distribution plant, $800,000 relates to Overhead Conductor and Devices and $900,000 relates to Services. We find that JEA's current depreciation rates are higher than the majority of the comparable utilities in our benchmarking study. We also find that the results of our actuarial analysis indicate longer average service lives than the current depreciation rates would imply for these accounts. This is the basis for our recommendation that JEA adjust its depreciation rates down to move partway towards the rates indicated in our analyses.
- Treatment and Disposal Equipment. Approximately $500,000 of the decrease to depreciation expense is related to wastewater treatment plants. Based on our unit property analysis of JEA's wastewater treatment plants, we recommend a decrease from 3.88 percent to 3.78 percent on a composite basis. The decrease is driven by a change in expected lifespans of wastewater treatment plants. Our recommendation is based on the current level of investment in wastewater treatment plant as well as the estimated life spans, capital expenditures and interim activities.

CONCLUSIONS AND RECOMMENDATIONS

- In order to have data specific to JEA to perform depreciation studies, we recommend JEA continue to maintain its books and records in accordance with the Uniform System of Accounts. JEA currently (and since 1999) maintains detailed data regarding plant additions, retirements, and transfers by account, vintage year, and transaction year.
- We recommend JEA implement the recommended depreciation rates set forth in Section 6.0, in Column Q of Tables 6-1 (electric), 6-2 (water), 6-3 (wastewater), and 6-4 (chilled water)
- We recommend JEA transfer depreciation reserve between accounts in the amounts set forth in Column M of Tables 6-1, and 6-2.
- We recommend JEA again review the adequacy of its depreciation rates in five years.

Section 2. Depreciation Accounting

The FERC Uniform System of Accounts defines "Depreciation" as:

"[T]he loss in service value not restored by current maintenance, incurred in connection with the consumption or prospective retirement of electric plant in the course of service from causes which are known to be in current operation and against which the utility is not protected by insurance. Among the causes to be given consideration are wear and tear, decay, action of the elements, inadequacy, obsolescence, changes in the art, changes in demand, and requirements of public authorities."[1]

Although this definition applies specifically to electric property, NARUC has a nearly identical definition applicable to water and wastewater utility property.

Depreciation accounting provides a method whereby charges for the loss in service value are made against current income derived from operation of the utility. By properly charging depreciation, the total cost of utility property is appropriately distributed over the useful life in such a way as to equitably allocate cost to the period during which service is provided through the use and consumption of such property. It should be noted that for the purposes delineated herein, total cost represents gross plant investment less salvage value (if any) plus cost of removal.

ANNUAL DEPRECIATION EXPENSE

Annual depreciation expense represents the annual charge against income associated with the loss of service value of utility property. Historically, utilities have relied on a number of different methods to identify the appropriate level of depreciation expense. Some of these methods include:

- A direct apportionment by management;
- A percentage of revenues;
- An amount equal to the original cost investment retired during the year;
- A charge per unit of delivery (kWh, kW, Mcf, Ccf, gallons, etc.); and
- A percentage of the investment in depreciable property.

JEA calculates depreciation expense based on the application of a straight-line depreciation rate to the respective balance in each plant account. This rate, which represents a fixed percentage of investment, yields an annual depreciation expense that is intended to amortize the total cost (or original investment plus cost of removal less salvage) over the life of the property in generally equal amounts.

DEPRECIATION RESERVE

Depreciation reserve is a balance sheet item that reflects the accumulation of annual depreciation activities and associated retirement accounting. Under the FERC and NARUC System of Accounts, depreciation reserve is shown on the balance sheet as "Accumulated Provision for Depreciation."

[1] Uniform System of Accounts Prescribed for Public Utilities and Licensees Subject to the Provisions of the Federal Power Act. (18 CFR Part 101 Definitions). For the purposes of this report, we use the term "loss in service value" in the accounting sense where value represents the original cost of facilities.

The depreciation expense charged against income is credited to (accumulated in) depreciation reserve. For utility properties, FERC and NARUC provide that upon retirement of an asset, the utility depreciation reserve is reduced by the original cost of the asset retired, is increased by any benefits derived from the sale of assets removed (salvage), and reduced by the costs attributable to removal.[2] As such, the use of appropriate depreciation rates corresponding to the service life of utility properties will result in accruals to the depreciation reserve which equal the total investment ultimately retired, adjusted for salvage and cost of removal.

For the purposes of this report, we have included consideration for net salvage (salvage less cost of removal) where appropriate. More specifically, for those depreciation rates recommended for unit property accounts and rates derived through actuarial analysis for mass property accounts, we have provided allowance for net salvage[3] based on industry trends and our experience with similar property. For the mass property accounts, we have also used as a reference the historical salvage, cost of removal, and retirement experience of JEA. Additionally, for those recommended depreciation rates derived from the results of industry survey, an allowance for net salvage equal to that which is imbedded in the rates of the comparable utilities surveyed is incorporated in our recommended depreciation rates.

2 Note that the depreciation practices for utilities as prescribed by FERC and NARUC differ substantially from the practices followed for non-utility property.

3 Net salvage represents proceeds from sale of retired assets less cost of removal.

Section 3. Historical Information and Procedures

Depreciation expense rates are intended to recover the net investment (total cost) in utility property over its useful life. In this regard, depreciation rates typically consist of three components. The components, which are further defined below, include the following: (i) service life of the property; (ii) total cost to be recovered; and (iii) reserve requirements.

Normally, the determination of average service life is largely dependent on analyses of detailed utility records. Such records generally provide information regarding additions and retirements by transaction year (year added or retired) and vintage (year originally installed) for each account and for each production, water treatment, and wastewater treatment plant. Once determined, we adjust average service life to reflect expectations over the remaining service life based on our experience, judgment, and those conditions anticipated to occur.

We normally develop average service lives by account. We first separate accounts into two groups: mass property and unit property. Mass property represents relatively homogeneous property units that tend to be retired individually. Meters, mains, conduit, conductor, services, and line transformers are examples of mass property. Conversely, unit property represents a more heterogeneous property group, which by the nature of their interconnected or integrated operations, tends to be retired simultaneously, or as a group. We normally consider power generation facilities for electric utilities and treatment facilities for water and wastewater utilities as unit property. Generally, utilities maintain detailed unit property data by physical location. Utilities typically maintain mass property data on an aggregate level.

For unit property accounts, we typically define service life based on planned retirement dates. We normally develop a history of investment activity by account for each location or site. This life history reflects gross additions, retirements, surviving property and account balances. Based on the estimated lifespan (planned retirement date) for each unit property (generating station, chilled water plant, water treatment plant, wastewater treatment plant), we typically forecast plant investment activity (interim additions, retirements and account balances) at the account level for each year that units within such an account are forecast to remain in service. We then calculate a whole life, straight line depreciation accrual rate by dividing the gross additions (original investment plus interim additions) by the sum of the annual depreciable plant balances over the life of the unit property. Gross additions include both historical and forecast additions and retirements to unit properties throughout the entire lifespan of such properties.

For mass property, we typically define service lives by account based on actuarial analyses (retirement or survivor curve analysis) or semi-actuarial analysis (simulated plant balance). These analyses, which are based on historical plant activity (specifically retirements), utilize survivor curves to illustrate the percent of vintage additions surviving by age for each account. More specifically, using a least squares technique, actual survivor stub curves (specific to the utility property under investigation) are compared to general survivor curve types to identify the best fitting curves and lives. We use average service lives developed by this method as a principal method to determine a reasonable average service life applicable to each account. Appropriate whole life depreciation expense rates are then calculated by dividing one minus the expected net salvage ratio by the average service life. In addition to our analysis of historical experience, we consider our experience in the industry, practices of other utilities, and basic information regarding expected life characteristics of the property. Results derived from the application of these methods are then evaluated in connection with other available information such as: (i) past, present, and anticipated economic conditions; (ii) recent industry trends; and (iii) engineering experience and judgment.

Each of these techniques, including a summary of the information required and the information provided by JEA, are further discussed below.

JEA DATA

Currently JEA's books and records do not provide sufficient detailed data upon which to develop depreciation expense rates as outlined above for many accounts. Data since 1999, when JEA converted to its existing Power Plant accounting system, appear relatively complete. Data prior to 1999, however, are limited to vintage plant balances at the time of conversion to Power Plan, which does not provide sufficient detail to perform comprehensive analysis due to the lack of retirement history. JEA is not unique in this regard.

With limited exception, municipally owned utility systems often do not have a comprehensive record of additions and retirements. We have also encountered investor-owned utility accounting records which do not have the required detail for one reason or another (often due to records system conversion) even though required by state and federal regulations to maintain detailed records in conformance with the Uniform System of Accounts. JEA, as have other municipal systems we have worked with, has maintained sufficient accounting records, but did not preserve the detail of somewhat limited value when changing accounting systems. Instead, in order to simplify converting accounting systems, the utilities have "rolled-up" historical detailed data.

Where we have encountered investor-owned systems without a complete history of detailed data, we usually have been able to rely on less detailed data. Investor-owned electric and gas systems had filed reports annually as a result of federal and state regulatory requirements. These annual reports contain data regarding annual plant additions and plant balances by account. Usually investor-owned utilities have available most, if not all, of these reports for 50 or more years. We can rely on this data to perform semi-actuarial simulated plant balance studies, which provide some insight into historical retirement experience.

Municipally owned systems, on the other hand, do not have the detailed reporting requirement. While the utility may report (audit or other reports) total annual additions and plant balances, municipal utilities seldom report more detailed information by plant account. We make these observations solely to demonstrate that any lack of detailed retirement records that JEA has is by no means unique. We find that of the level detail maintained by JEA is consistent with our experience with other municipal systems. In fact, if regulations did not require investor owned systems to maintain and report such detailed data, investor-owned systems would probably not maintain or report it.

JEA's historical data that we rely on include the following:

- Plant balances by account, by plant (for unit property), and by vintage (year of initial installation).
- Vintage beginning balances, additions, retirements, and adjustments by account for transaction years (year of activity) 2000 through 2018.

PLANNED RETIREMENTS (UNIT PROPERTY ACCOUNTS)

For JEA's unit property, data are limited upon which to develop an investment history. A complete life history would reflect gross additions, retirements, surviving property, and account balances by year since the unit property initially went into service. JEA's property records include vintage balances as of 1999 and a complete history going forward. Based on the estimated life (planned retirement date based on expected lifespan for the various units), we forecast plant investment activity (interim additions, retirements, and balances) for each year that we expect the property to remain in service. In the event that other reasonably anticipated planned additions and retirements are required in order for the property to reach the final retirement date, we consider implications of such additions and retirements as well. We reviewed the 2018 Annual Water Resource Master Plan and the 2019 Ten Year Site Plan (electric) to identify anticipated retirement dates and major capital additions. Additionally, JEA management provided information related to forecasted retirement dates, which was relied upon along with our experience and consideration of our site observations to develop reasonable lifespans for each unit property. We also relied upon JEA's capital projects budget, where JEA identifies several major projects relating to the electric generation, water and wastewater treatment plants, and the district energy system. We incorporate this information into our recommended depreciation rates.

Based on the data described above, we calculate a whole life, straight line depreciation accrual rate by dividing the gross additions (original investment plus interim additions) by the sum of the annual depreciable balances over the life of the unit property accounts. Gross additions include both historical and forecast additions to plant in-service. Annual depreciable balances are based on actual balances reported plus forecast balances, considering forecast additions and retirements. Our recommended rates for unit property accounts are discussed in Section 4.

RETIREMENT ANALYSIS (MASS PROPERTY ACCOUNTS)

In general, the level of effort required for any depreciation rate study is highly dependent upon the availability of the continuing property record ("CPR") and fixed asset data, and the available format and "condition" of this data. If CPR data is sufficiently complete, we use "retirement analysis" or survivor curve analysis as the primary measure of average service life for mass property accounts. In performing retirement analyses, we rely on computerized statistical routines to determine the average service life which best fits historical data using individual generalized survivor curves, typically referred to as "Iowa Curves." A comparison of the statistical fits of the various Iowa Curves (using the "best fitting" average service life) provides an indication of the average service life of mass properties based on historical retirements.

In this regard, JEA provided original cost account balances by vintage year along with subsequent additions, retirements, and transfers for the period September 2000 through December 2018.

Eighteen years of retirement history seldom provides sufficient detail to perform reliable retirement analysis, however for shorter lived accounts the results can be reasonable. We prefer 30 years of data but can often get reasonable results with less provided vintage plant balances are reliable and available retirement data is reasonable. We conducted retirement analyses for all electric, water and wastewater mass property accounts. The results of the analyses were generally not statistically robust for many accounts but were improved from our pervious study. For accounts that produced curve fits, we used the resulting average service lives as a directional guide for making our depreciation recommendation.

SIMULATED PLANT BALANCE (MASS PROPERTY ACCOUNTS)

As an alternative to retirement analysis, we normally rely on a method referred to as the simulated plant balance approach. We use the simulated plant balance method when aged retirement data are unavailable or insufficient. In order to estimate average service lives using the simulated plant balance approach, we require a history (preferably at least 30 years) of annual additions and end of year plant balances by account. In the simulated plant balance approach, each of a number of combinations of survivor curves and average service lives is used to compute a series of plant balances at the end of a number of chosen time periods. We test each combination to determine which calculated plant balances most closely simulates the actual book balances.

As discussed earlier, JEA does not have a history of annual additions and end of year plant balances by account, only remaining balances as of 1999. Therefore, the data available are the same as for the actuarial analysis making simulated plant balance irrelevant.

COMPARABLE UTILITY ANALYSIS (MASS PROPERTY ACCOUNTS)

With an absence of a statically robust retirement analysis for many mass property accounts, we relied on benchmarking as the primary approach to determine average service lives (depreciation rates). In Appendix A, we show depreciation rates that we summarized for the electric, water, wastewater and chilled water utilities in our benchmarking survey. Using this data, we determine the median depreciation rates for each mass property account. We consider these median values to be a preliminary indication of the appropriate depreciation rates. The results derived from the aforementioned survey activities are summarized below for the electric, water, wastewater, and chilled water systems.

Comparable Electric Utilities

We surveyed depreciation expense rates used by 15 electric utilities across the nation. The complete listing of utilities in our survey can be found in Appendix A. The utilities include Florida investor-owned systems and electric utilities serving approximately the same number of customers as JEA.

In Table 3-1 we summarize the median, first quartile (25th percentile), and third quartile (75th percentile) depreciation expense rates from our electric utility survey and compare those to JEA's existing depreciation expense rates for mass property accounts. We provide a median value depreciation expense rate in order to eliminate the effect of outliers. In addition, we show quartiles to demonstrate a more reasonable measure of range rather than simple minimum and maximum values. We also show the number of data points included for each account in Table 3-1. In Appendix A, we present additional detail.

Table 3-1 Depreciation Benchmarking Results of Electric Utility Analysis

Acct.	Description	Median	1st Quartile	3rd Quartile	Data Points	JEA
311	Structures & Improvements	2.39%	2.33%	3.07%	5	3.51%
312	Boiler Plant Equipment	2.96%	2.66%	3.51%	5	3.71%
314	Turbogenerator Equipment	3.04%	2.78%	3.75%	5	3.38%
315	Accessory Electric Equipment	3.35%	2.45%	3.55%	5	3.43%
316	Miscellaneous Plant Equipment	2.89%	2.39%	3.89%	5	4.14%
341	Structures & Improvements	3.50%	2.84%	4.05%	6	4.10%
342	Fuel Holders, Producers / Accessories	2.57%	2.41%	3.69%	6	4.90%
343	Prime Movers	3.16%	2.94%	3.83%	6	4.83%
344	Generators	2.93%	2.81%	3.79%	6	4.75%
345	Accessory Electric Equipment	3.42%	3.04%	3.95%	6	4.02%
346	Miscellaneous Plant Equipment	3.23%	2.62%	3.90%	6	3.90%
352	Structures & Improvements	1.78%	1.70%	1.96%	17	2.24%
353	Station Equipment	1.99%	1.86%	2.30%	17	2.54%
354	Towers & Fixtures	1.69%	1.40%	2.00%	17	2.14%
355	Poles & Fixtures	2.35%	2.27%	3.51%	17	3.24%
356	Overhead Conductors & Devices	2.00%	1.64%	2.33%	17	2.51%
357	Underground Conduit	1.63%	1.30%	1.80%	10	1.81%
358	Underground Conductors & Devices	1.87%	1.35%	2.26%	15	2.18%
359	Roads & Trails	1.49%	1.39%	1.64%	14	1.76%
361	Structures & Improvements	1.60%	1.52%	1.76%	17	2.43%
362	Station Equipment	2.08%	1.85%	2.40%	17	2.57%
364	Poles, Towers & Fixtures	3.58%	2.38%	4.00%	17	4.20%
365	Overhead Conductors & Devices	2.72%	2.15%	3.26%	17	4.24%
366	Underground Conduit	1.81%	1.61%	2.02%	17	2.33%
367	Underground Conductors & Devices	1.99%	1.83%	2.40%	17	2.90%
368	Line Transformers	2.82%	2.08%	3.40%	17	3.62%
369	Services	2.92%	2.17%	3.53%	16	4.66%
370	Meters	6.51%	3.70%	7.19%	17	6.68%
371	Installations on Customers' Premises	4.02%	1.15%	5.28%	13	4.00%
373	Street Lighting & Signal Systems	3.87%	2.69%	4.55%	17	5.27%
382	Computer Hardware	14.22%	10.63%	19.89%	10	20.00%
383	Computer Software	14.22%	10.63%	19.89%	10	20.00%
390	Structures & Improvements	2.30%	2.00%	2.83%	17	3.07%
391	Office Furniture & Equipment	6.16%	4.95%	10.77%	14	4.00%
392	Transportation Equipment	5.48%	5.28%	8.29%	11	7.50%
393	Stores Equipment	4.67%	4.00%	5.23%	13	5.39%
394	Tools, Shop & Garage Equipment	5.00%	4.00%	6.67%	13	6.69%
395	Laboratory Equipment	5.70%	4.15%	6.67%	13	4.00%
396	Power Operated Equipment	5.99%	4.40%	8.39%	13	6.63%
397	Communications Equipment	5.68%	4.47%	10.18%	16	6.66%
398	Miscellaneous Equipment	5.00%	5.00%	5.67%	13	4.00%
399	Other Tangible Property	20.00%	20.00%	20.00%	1	8.67%

Comparable Water and Wastewater Utilities

Similar to the process outlined above for the electric system, we conducted a survey of 12 water and 11 wastewater utilities located in Florida. The complete listing of utilities in our survey can be found in Appendix A. The utilities surveyed ranged in size from nominally less than 1,000 customers to greater than 36,000 customers. Data was gathered from Annual Reports filed before the Florida Public Service Commission.

In Tables 3-2 and 3-3, we summarize the median, first quartile (25th percentile), and third quartile (75th percentile) depreciation expense rates from our water and wastewater utility survey and compare those to JEA's existing depreciation expense rates by NARUC account. The rates listed below for JEA and the comparable utilities are representative of a composite rate considering all functional components of the NARUC system of accounts.

Table 3-2 Depreciation Benchmarking Results of Water Utility Analysis

Acct.	Description	Median	1st Quartile	3rd Quartile	Data Points	JEA
804.2	Structure and Improvements	3.03%	3.03%	3.13%	11	3.03%
805.2	Collecting and Impounding Reservoirs	2.00%	2.00%	2.00%	2	2.00%
806.2	Lake, River and Other Intakes	2.50%	2.50%	2.50%	2	2.50%
807.2	Wells and Springs	3.33%	3.33%	3.70%	12	3.33%
808.2	Infiltration Galleries and Tunnels	2.50%	2.50%	2.50%	1	2.50%
809.2	Supply Mains	2.86%	2.86%	3.13%	9	2.86%
810.2	Power Generation Equipment	5.00%	5.00%	5.88%	9	5.00%
811.2	Pumping Equipment	5.00%	5.00%	5.22%	12	5.00%
820.3	Water Treatment Equipment	4.55%	4.55%	4.88%	12	3.86%
830.4	Distribution Reservoirs and Standpipes	2.70%	2.70%	2.87%	11	3.07%
831.4	Transmission and Distribution Mains	2.33%	2.33%	2.53%	12	2.33%
833.4	Services	2.50%	2.50%	2.59%	12	2.50%
834.4	Meters and Meter Installations	5.00%	5.00%	5.22%	12	6.67%
835.4	Hydrants	2.22%	2.22%	2.50%	11	2.22%
836.4	Backflow Prevention Devices	6.67%	6.67%	6.67%	3	6.67%
839.4	Other Plant / Miscellaneous Equipment	5.00%	4.00%	5.56%	9	4.00%
840.52	Office Furniture & Equipment	6.67%	6.67%	6.67%	11	4.00%
841.5	Transportation Equipment	16.67%	16.67%	16.67%	11	7.50%
842.5	Stores Equipment	5.56%	5.42%	5.56%	4	5.39%
843.5	Tools, Shop and Garage Equipment	6.25%	6.25%	6.25%	12	6.69%
844.5	Laboratory Equipment	6.67%	6.67%	6.67%	5	4.00%
845.5	Power Operated Equipment	8.33%	8.33%	8.33%	8	6.63%
846.5	Communication Equipment	10.00%	10.00%	10.00%	6	6.66%
847.5	Miscellaneous Equipment	6.67%	6.67%	6.67%	4	4.00%
848.5	Other Tangible Plant	10.00%	10.00%	10.00%	7	8.67%

Table 3-3 Depreciation Benchmarking Results of Wastewater Utility Analysis

Acct.	Description	Median	1st Quartile	3rd Quartile	Data Points	JEA
854.2	Structures and Improvements	3.13%	3.08%	3.70%	11	3.13%
855.2	Power Generation Equipment	5.00%	5.00%	5.00%	5	5.00%
860.2	Collection Sewers - Force	3.33%	3.33%	3.70%	11	3.33%
861.2	Collection Sewers - Gravity	2.22%	2.22%	2.50%	9	2.23%
862.2	Special Collecting Structures	2.60%	2.50%	3.03%	8	2.50%
863.2	Services to Customers	2.63%	2.63%	2.86%	10	2.63%
864.2	Flow Measuring Devices	20.00%	20.00%	20.00%	7	10.00%
865.2	Flow Measuring Installations	2.63%	2.63%	2.63%	3	5.96%
866.6	Reuse Services	2.50%	2.50%	2.50%	3	3.64%
867.6	Reuse Meters and Meter Installations	5.00%	5.00%	5.00%	3	6.67%
870.3	Receiving Wells	3.67%	3.33%	4.39%	8	3.33%
871.3	Pumping Equipment	5.56%	5.56%	5.56%	9	5.00%
874.5	Reuse Distribution Reservoirs	2.70%	2.70%	2.70%	1	2.70%
875.6	Reuse Transmission and Distribution System	2.33%	2.33%	2.89%	4	2.33%
880.4	Treatment and Disposal Equipment	5.56%	5.56%	6.67%	9	3.75%
881.4	Plant Sewers	2.86%	2.86%	2.86%	3	3.10%
882.4	Outfall Sewer Lines	3.33%	3.33%	3.33%	5	3.57%
889.2	Other Plant / Miscellaneous Equipment	5.56%	5.56%	6.67%	9	6.25%
890.72	Office Furniture and Equipment	6.67%	6.67%	9.17%	8	4.00%
891.7	Transportation Equipment	16.67%	16.67%	20.00%	7	7.50%
892.7	Stores Equipment	5.56%	5.56%	5.56%	3	5.39%
893.7	Tools, Shop and Garage Equipment	6.25%	6.25%	6.46%	7	6.69%
894.7	Laboratory Equipment	6.67%	6.67%	6.67%	5	4.00%
895.7	Power Operated Equipment	8.33%	8.33%	9.17%	7	6.63%
896.7	Communication Equipment	10.00%	10.00%	10.00%	3	6.66%
897.7	Miscellaneous Equipment	6.67%	6.67%	6.67%	4	4.00%
898.7	Other Tangible Plant	10.00%	10.00%	10.00%	6	0.00%

Comparable Chilled Water Utilities

Our survey of chilled water utilities resulted in only two similar utilities. We found that most chilled water utilities are privately operated (by University campuses, for example), and identifying publicly available depreciation information was not readily accessible.

Section 4. Unit Property

In Tables 4-1, 4-2, and 4-3, we summarize whole life depreciation accrual rates for the unit properties of the electric, water, wastewater, and chilled water utilities by FERC and NARUC account numbers, as applicable. The whole life accrual rate is defined as the rate which, when applied to annual depreciable plant balances, will result in recovery of the original cost of gross additions, including net salvage, over the entire life of a property. The depreciation accrual rates applicable to unit property developed in this report are based on application of the whole life method.

We show summary data regarding the unit property owned by JEA as of December 2018 in Tables 4-3, 4-4, and 4-5. The retirement dates shown for each of the unit properties are based on input from JEA management, our experience and general guidelines regarding the lifespan of utility properties comparable to JEA's. The lifespan values represent reasonable levels based on our experience in a variety of settings, as well as information ascertained from JEA's master plan, capital budget, and management.

In Table 4-4, we summarize the in-service date, projected retirement date, capacity, unit type and fuel type for each generating unit. JEA solely owns and operates electric generating equipment at four sites. These are identified as J. Dillon Kennedy, Northside, Brandy Branch, and Greenland. The aggregate capacity of JEA's solely owned generation amounts to nominally 2,908 MW in the winter[4].

We summarize information regarding JEA's water and wastewater unit properties in Tables 4-5 and 4-6. In these tables we show the in-service date, projected retirement date, and associated capacity of each plant. JEA's water treatment facilities consist of 38 water treatment plants (WTPs) having an aggregate capacity (average daily flow rate) of approximately 309 MGD. Capacities of the WTPs range from 0.04 MGD to 23.1 MGD. JEA's wastewater treatment facilities consist of 11 wastewater treatment plants (WWTPs) having a combined permitted capacity of approximately 120 MGD. Capacities of the WWTPs range from 0.24 MGD to 52.2 MGD.

We summarize information regarding JEA's chilled water unit properties in Table 4-7. There are four chilled water plants currently operating in JEA's District Energy Service (DES). DES was established as a separate utility system within JEA in 2004. The DES chilled water plants have an aggregate capacity of 26,700 tons and range from 800 tons to 9,700 tons.

The annual accrual rates we develop will, if applied to annual unit property account balances over the entire life of the various properties from the year of commercial operation to the year of retirement, recover JEA's investment, including consideration for the impact of net salvage. The principal forecasts, for which assumptions are made, that we rely on in the analyses include:

- The retirement date (life span) of the individual facilities.
- The level of interim additions and retirements.

[4] In addition to the capacity of this solely owned equipment, JEA jointly owns the St. John's River Power Park and Scherer Unit 4.

- The level of major plant additions, upgrades, and improvements anticipated for the individual units over the next 10 years.
- The level of forecasted future additions and retirements beyond the 10-year CIP projection required to operate facilities until final retirement.
- The net salvage values associated with interim and final retirements.

With regard to major plant additions, upgrades, and improvements, we have included only those items identified in JEA's capital projects budget. Estimated additions and retirement for the period beyond the budget are primarily based on historical interim activity.

Table 4-1 Depreciation Rate Analysis – Electric Unit Properties

[A] Acct. No.	[B] Description	[C] Depreciation Rate Existing	[D] Depreciation Rate Indicated	[E] Net Salvage
	Steam Production			
311	Structures and Improvements	3.51%	3.49%	-10.00%
312	Boiler Plant Equipment	3.71%	3.69%	-8.00%
314	Turbogenerator Units	3.38%	3.36%	-5.00%
315	Accessory Generation Equipment	3.43%	3.55%	-5.00%
316	Miscellaneous Power Plant Equipment	4.14%	3.86%	-5.00%
	Other Production			
341	Structures and Improvements	4.10%	3.82%	-8.00%
342	Fuel Holders	4.90%	4.64%	-8.00%
346	Prime Movers	4.83%	4.73%	-8.00%
344	Generators	4.75%	4.48%	-10.00%
345	Accessory Electrical Equipment	4.02%	4.05%	-5.00%
346	Miscellaneous Power Plant Equipment	3.90%	3.98%	-5.00%

Table 4-2 Depreciation Rate Analysis – Water and Wastewater Unit Properties

[A] Acct. No.	[B] Description	[C] Depreciation Rate Existing	[D] Depreciation Rate Indicated	[E] Net Salvage
	Water Treatment			
804.3	Structures & Improvements	4.31%	4.22%	-10.00%
811.3	Pumping Equipment	5.00%	5.00%	-10.00%
820.3	Water Treatment Equipment	3.86%	3.94%	-10.00%
	Wastewater Treatment and Disposal			
854.4	Structures and improvements	4.12%	4.02%	-15.00%
855.4	Power Generation Equipment	5.84%	4.63%	-10.00%
880.4	Treatment & Disposal Equipment	3.75%	3.67%	-10.00%
881.4	Plant Sewer	3.10%	3.20%	-5.00%
882.4	Outfall Sewer Line	3.57%	3.34%	-10.00%
889.4	Other Plant & Misc. Equipment	4.03%	4.00%	-5.00%

Table 4-3 Depreciation Rate Analysis – Chilled Water Unit Properties

[A]	[B]	[C]	[D]	[E]
Acct.		Depreciation Rate		
No.	Description	Existing	Indicated	Net Salvage
362	Station Equip - Chilled Water	4.19%	4.94%	-5.00%
369	Services - Chilled Water	3.87%	3.73%	-5.00%
390	Structures - Chilled Water	4.15%	3.24%	-5.00%

Table 4-4 Summary of Electric Plant Characteristics

[A]	[B]	[C]	[D]	[E]	[F]	[G]	[H]
Line	Plant/Unit	In-Service Date	Estimated Retirement Date	Capacity(1)	Unit Type(2)	Fuel Type(3)	Estimated Age at Retirement
1	Kennedy						
2	Unit 7	2000	2040	191	CT	G/LO	40
3	Unit 8	2009	2049	191	CT	G/LO	40
4	Northside						
5	Unit 1	2003(4)	2063	293	ST	PC/C	60
6	Unit 2	2003(4)	2063	293	ST	PC/C	60
7	Unit 3	1977	2029	524	ST	G/HO	52
8	Unit 3	1975	2030	62	CT	LO	55
9	Unit 4	1975	2030	62	CT	LO	55
10	Unit 5	1974	2030	62	CT	LO	56
11	Unit 6	1974	2030	62	CT	LO	56
12	Brandy Branch						
13	Unit 1	2001	2041	191	CT	G/LO	40
14	Unit 2	2001	2041	186	CT	G/LO	40
15	Unit 3	2001	2041	186	CT	G/LO	40
16	Unit 2-3	2005	2041	223	CC	WH	36
17	Greenland						
18	Unit 1	2011	2051	191	CT	G/LO	40
19	Unit 2	2011	2051	191	CT	G/LO	40

(1) Winter capacity shown in megawatts (MW).

(2) CT – Combustion Turbine; ST – Steam Turbine; IC – Internal Combustion Engine; CC – Steam Turbine Component of Combined Cycle.

(3) LO – Light Oil; G – Natural Gas; PC – Pet Coke; C – Coal; HO – Heavy Oil; WH – Waste Heat.

(4) Retrofit boilers. Original install dates: Unit1, 1966; Unit 2, 1972.

Source: Annual Disclosure Report for Electric Utility System, May 28, 2019, Page 21.

Table 4-5 Summary of Water Plant Characteristics

[A]	[B]	[C]	[D]	[E]	[F]
Line	Plant/Unit	In-Service Date	Estimated Retirement Date	Capacity(1)	Estimated Age at Retirement
1	**Major Grid (Duval and St. Johns Counties)**				
2	Arlington	1991	2046	9.42	55
3	Beacon Hills	2010	2065	2.55	55
4	Brierwood	1999	2054	18.00	55
5	Cecil Commerce Center	2004	2059	10.80	55
6	Community Hall	1994	2049	13.03	55
7	Deerwood III	1998	2053	22.61	55
8	Fairfax	1950	2030	13.29	80
9	Greenland	2018	2068	5.76	50
10	Hendricks	2001	2056	16.63	55
11	Highlands	2001	2056	14.40	55
12	Julington Creek Plantation	1999	2054	4.32	55
13	Lakeshore	1950	2030	12.46	80
14	Lovegrove	1971	2030	8.31	59
15	Main Street	1890	2030	23.11	140
16	Marietta	1974	2030	9.64	56
17	McDuff	1950	2030	16.06	80
18	Monument Road	1985	2040	2.47	55
19	Northwest	2019	2069	6.50	50
20	Norwood	1950	2030	8.86	80
21	Oakridge	1977	2030	16.39	53
22	Ridenour	1996	2051	19.44	55
23	Royal Lakes	1972	2030	6.98	58
24	Southeast	1995	2050	5.54	55
25	Southwest	1981	2036	18.72	55
26	St. Johns Forest	2002	2057	3.35	55
27	St. Johns North	1988	2043	3.19	55
28	Westlake	2002	2057	3.00	55
29	Woodmere	1965	2035	3.54	70
30	**Independent Plant**				
31	Mayport	1993	2048	0.79	55
32	**Lofton Oaks Grid (Nassau County)**				
33	Lofton Oaks	1989	2044	0.04	55
34	Nassau Regional	1999	2054	4.29	55
35	Otter Run	1995	2050	0.59	55
36	West Nassau	2019	2069	1.41	50
37	**Ponce de Leon Grid (St. Johns County)**				
38	A1A North	1965	2035	0.09	70
39	A1A South	1965	2035	0.09	70
40	Ponce de Leon	1988	2043	0.87	55
41	**Ponte Vedra Grid (St. Johns County)**				
42	Corona Road	1968	2035	2.08	67
43	Ponte Vedra North	1968	2035	0.98	67

(1) Permitted Capacity shown in millions of gallons per day (MGD) on an average daily basis.

Source: Annual Water Resource Master Plan, Septemeber 2018, Pages W-15, W-29,W-44, W-55, W-65, W-75.

Table 4-6 Summary of Wastewater Plant Characteristics

[A] Line	[B] Plant/Unit	[C] In-Service Date	[D] Estimated Retirement Date	[E] Capacity(1)	[F] Estimated Age at Retirement
1	Buckman	1961	2035	52.50	74
2	Arlington East	1978	2040	25.00	62
3	Southwest	1976	2040	14.00	64
4	District II	1970	2030	10.00	60
5	Mandarin	1998	2048	8.75	50
6	Monterey	1996	2046	3.60	50
7	Blacks Ford	1999	2049	3.00	50
8	Nassau Regional	1989	2039	1.55	50
9	Julington Creek	2008	2058	1.00	50
10	Ponte Vedra	2004	2054	0.80	50
11	Ponce De Leon	2008	2058	0.24	50

(1) Permitted Capacity shown in millions of gallons per day (MGD).

Source: Annual Water Resource Master Plan, Septemeber 2018, Page S-8.

Table 4-7 Summary of Chilled Water Plant Characteristics

[A] Line	[B] Plant/Unit	[C] In-Service Date	[D] Estimated Retirement Date	[E] Capacity(1)	[F] Estimated Age at Retirement
1	Springfield	2005	2035	9,000	30
2	Downtown	2003	2033	7,200	30
3	Hogan's Creek	2003	2033	9,700	30
4	San Marco	2007	2037	800	30

(1) Capacity shown in tons.

Source: Annual Disclosure Report for Water and Sewer System and District Energy System, May 28, 2018, Page 39.

Section 5. Mass Property

For mass property accounts (transmission, distribution, collection, general plant, etc.), we develop base (indicated) depreciation rates based on retirement analyses (where applicable) and the depreciation rates reported by comparable utilities, as previously discussed in Section 3. In this section, we summarize JEA's existing and indicated base accrual rates and the annual change in depreciation expense which results if these indicated rates are applied to the depreciable plant balance.

There are two fundamental approaches (methods) used to develop depreciation rates. These are the whole life approach and the remaining life approach. The basic equation used to determine a whole life depreciation rate is as follows:

$$\text{Whole Life Rate} = \frac{1 - \text{Salvage Ratio}}{\text{Estimated Average Life}}$$

As evident from the above, this equation consists of two elements. The first element reflects recovery of the initial investment. The second element reflects recovery of net salvage. As we previously indicated, the purpose of considering net salvage in determining the accrual rate is to credit salvage and recover cost of removal over the life of the property.

An underlying assumption of the whole life method is that for mass property accounts, as property is retired, and new property is installed, the average service life of the group does not change significantly. The whole life method is predicated on homogeneity of the property units included in this group. For mass property accounts that have significant retirement history, where vintage retirement history is available, and where we consider life characteristics in the future to be similar to those observed in the past, we use an actuarial analysis as the principal basis to estimate average service life.

The basic equation used to determine a remaining life depreciation rate is as follows:

$$\text{Remaining Life Rate} = \frac{1 - \text{Salvage Ratio} - \text{Reserve Ratio}}{\text{Estimated Average Remaining Life}}$$

As demonstrated above, the whole life and remaining life equations are comparable. The only difference is, as the names imply, that under the whole life approach, investment is recovered equally over the entire life. With the remaining life method, undepreciated investment is recovered over the remaining life. So long as no change in life or other characteristics occur, the whole life and remaining life depreciation rates will be the same.

In order to develop the annual accrual rates for the mass property accounts using the whole life methodology, we determine the expected average service life and the general survivor curve type that reasonably approximates retirement experience. JEA provided available detailed historical data for each mass property account. This data includes additions, retirements and transfers by vintage and transaction year from beginning of fiscal year 2000 through calendar year 2018.

Upon receipt of this data, we verified its reasonableness and accuracy. In addition, we adjusted certain data to eliminate negative vintage year and account balances. We analyze in detail the original cost additions by vintage year along with retirements and adjustments for each year in which data was provided to develop survivor curves based on the life (retirement) history of each mass property account. “Stub survivor curves” are developed since the development of a complete survivor curve is not possible until all properties have been retired. Theoretically, a complete survivor curve can only be developed after a period of time equal to approximately twice the average service life and then only if the number of property units retired is sufficient to produce meaningful results. As we previously discussed, we are able to generate reasonable results for many accounts, however the results of the analyses were generally not statistically robust. Additionally, the actuarial results generally indicate lower depreciation rates than those currently used by JEA as well as those resulting from our survey of comparable utilities. For accounts that produced curve fits, we used the resulting average service lives as a directional guide for making our depreciation recommendation. We have summarized the actuarial results in Table 5-1.

We base our recommendation of indicated depreciation accrual rates on a number of factors. In general, for accounts where the existing depreciation rate is within the bounds of our comparable utility survey and the account is not heavily depreciated, we have left the rate unchanged. For those mass property accounts which fall outside of the bounds of the comparable utilities and have a reserve ratio greater than 50 percent, we use our actuarial results to provide an indication of whether the lives are trending shorter and adjusted the depreciation recommendation accordingly. As a result, we shifted the depreciation rates gradually towards the median for several accounts where the actuarial results indicate actual experience is much different from the depreciation rate. In Tables 5-2 through 5-4, we summarize existing and indicated base accrual rates for each mass property account. Although no net salvage ratio is explicitly stated for these accounts, inherent in the results observed for the surveyed utilities is an implicit allowance.

For general plant, we analyzed the data for the electric, water and wastewater utilities together. We set the depreciation rates applicable to water and wastewater general plant equal to the rates for electric utility. We are unaware of any justification for general plant depreciation rates to differ dramatically between the various utilities. This approach is consistent with our previous study and JEA’s current practice.

Table 5-1 Depreciation Rate Analysis – Mass Property Accounts Retirement Analysis

		Actuarial Indicated			Benchmark Survey	
Acct.	Description	ASL (1)	Rate (2)	JEA Existing	Median	3rd Quartile
	Electric Mass Property					
352	Structures and Improvements	60	1.67%	2.24%	1.78%	1.96%
353	Station Equipment	50	2.00%	2.54%	1.99%	2.30%
354	Towers and Fixtures	no fit	na	2.14%	1.69%	2.00%
355	Poles and Attachments	50	2.00%	3.24%	2.35%	3.51%
356	Overhead Conductor and Devices	65	1.54%	2.51%	2.00%	2.33%
357	Underground Conduit	no fit	na	1.81%	1.63%	1.80%
358	Underground Conductor and Devices	70	1.43%	2.18%	1.87%	2.26%
359	Roads and Trails	no fit	na	1.76%	1.49%	1.64%
361	Structures and Improvements	55	1.82%	2.43%	1.60%	1.76%
362	Station Equipment	45	2.22%	2.57%	2.08%	2.40%
364	Poles, Towers, and Fixtures	43	2.33%	4.20%	3.58%	4.00%
365	Overhead Conductor and Devices	35	2.86%	4.24%	2.72%	3.26%
366	Underground Conduit	60	1.67%	2.33%	1.81%	2.02%
367	Underground Conductor and Devices	45	2.22%	2.90%	1.99%	2.40%
368	Line Transformers	32	3.13%	3.62%	2.82%	3.40%
369	Services	30	3.33%	4.66%	2.92%	3.53%
370	Meters	20	5.00%	6.68%	6.51%	7.19%
373	Street Light and Signal Systems	19	5.26%	5.27%	3.87%	4.55%
	Water Mass Property					
804.2	Structures & Improvements	40	2.50%	3.03%	3.03%	3.13%
805.2	Collecting & Impounding Reservoirs	50	2.00%	2.00%	2.00%	2.00%
806.2	Lake, River & Other Intakes	no fit	na	2.50%	2.50%	2.50%
807.2	Wells & Springs	50	2.00%	3.33%	3.33%	3.70%
808.2	Infiltration Galleries & Tunnels	no fit	na	2.50%	2.50%	2.50%
809.2	Supply Mains	40	2.50%	2.86%	2.86%	3.13%
810.2	Power Generation Equipment	25	4.00%	5.00%	5.00%	5.88%
811.2	Pumping Equipment	30	3.33%	5.00%	5.00%	5.22%
804.4	Structures & Improvements	40	2.50%	3.03%	3.03%	3.13%
811.4	Pumping Equipment	30	3.33%	5.00%	5.00%	5.22%
830.4	Distribution Reservoirs & Standpipes	38	2.63%	3.07%	2.70%	2.87%
831.4	Transmission & Distribution Mains	55	1.82%	2.33%	2.33%	2.53%
833.4	Services	55	1.82%	2.50%	2.50%	2.59%
834.4	Meters & Meter Installations	25	4.00%	6.67%	5.00%	5.22%
835.4	Hydrants	50	2.00%	2.22%	2.22%	2.50%
836.4	Backflow Prevention Devices	20	5.00%	6.67%	6.67%	6.67%
839.4	Other Plant & Miscellaneous Equipment	12	8.33%	4.00%	5.00%	5.56%
	Wastewater Mass Property					
854.2	Structures & Improvements	50	2.00%	3.13%	3.13%	3.70%
855.2	Power Generation Equipment	25	4.00%	5.00%	5.00%	5.00%
860.2	Collection Sewers - Force	40	2.50%	3.33%	3.33%	3.70%
861.2	Collection Sewers - Gravity	50	2.00%	2.23%	2.22%	2.50%
862.2	Special Collecting Sewers	35	2.86%	2.50%	2.60%	3.03%
863.2	Services to Customers	50	2.00%	2.63%	2.63%	2.86%
864.2	Flow Measuring Devices	25	4.00%	10.00%	20.00%	20.00%
865.2	Flow Measuring Installations	30	3.33%	5.96%	2.63%	2.63%
889.2	Other Plant & Miscellaneous Equipment	20	5.00%	6.25%	5.56%	6.67%
854.3	Structures & Improvements	50	2.00%	3.13%	3.13%	3.70%
855.3	Power Generation Equipment	25	4.00%	5.00%	5.00%	5.00%
870.3	Receiving Wells	40	2.50%	3.33%	3.67%	4.39%
871.3	Pumping Equipment	35	2.86%	5.00%	5.56%	5.56%
889.3	Other Plant & Miscellaneous Equipment	20	5.00%	6.25%	5.56%	6.67%
854.5	Structures & Improvements	50	2.00%	3.13%	3.13%	3.70%
855.5	Power Generation Equipment	25	4.00%	5.00%	5.00%	5.00%
871.5	Pumping Equipment	35	2.86%	5.00%	5.56%	5.56%
874.5	Reuse Distribution Reservoirs	no fit	na	2.70%	2.70%	2.70%
880.5	Treatment & Disposal Equipment	no fit	na	5.56%	5.56%	6.67%
854.6	Structures & Improvements	50	2.00%	3.13%	3.13%	3.70%
867.6	Reuse Meters & Meter Installations	no fit	na	6.67%	3.33%	3.70%
875.6	Reuse Transmission & Distribution System	no fit	na	2.33%	2.60%	3.03%

(Continued next page)

Acct.	Description	Actuarial Indicated ASL (1)	Actuarial Indicated Rate (2)	JEA Existing	Benchmark Survey Median	Benchmark Survey 3rd Quartile
	Combined General Plant Mass Property					
	Computer Hardware	10	10.00%	20.00%	14.22%	19.89%
	Computer Software	no fit	na	20.00%	14.22%	19.89%
	Structures and Improvements	35	2.86%	3.07%	2.30%	2.83%
	Office Furniture and Equipment	10	10.00%	4.00%	6.16%	10.77%
	Transportation Equipment	19	5.33%	7.50%	5.48%	8.29%
	Stores Equipment	15	6.67%	5.39%	4.67%	5.23%
	Tools, Shop, and Garage Equipment	16	6.33%	6.69%	5.00%	6.67%
	Laboratory Equipment	18	5.56%	4.00%	5.70%	6.67%
	Mobile Equipment	18	5.56%	6.63%	5.99%	8.39%
	Communications Equipment	22	4.55%	6.66%	5.68%	10.18%
	Miscellaneous Equipment	25	4.00%	4.00%	5.00%	5.67%
	Other Tangible Property	12	8.33%	8.67%	0.00%	0.00%

(1) Average Service Life rounded to full year.
(2) Excludes allowance for net salvage

Table 5-2 Summary of Existing and Indicated Rates for Mass Property Accounts – Electric Utility

[A]	[B]	[C]	[D]	[E]	[F]	[G]	[H]
	FERC		Depreciable	Base Accrual Rate		Difference in Depreciation	
Line	Acct.	Description	Plant (1)	Existing	Indicated (2)	Amount	Percent
		Transmission					
1	352	Structures and Improvements	45,145,402	2.24%	2.24%	-	0.00%
2	353	Station Equipment	295,722,832	2.54%	2.54%	-	0.00%
3	354	Towers and Fixtures	28,587,227	2.14%	1.92%	(62,892)	-10.28%
4	355	Poles and Attachments	94,388,985	3.24%	2.80%	(415,312)	-13.58%
5	356	Overhead Conductor and Devices	71,827,128	2.51%	2.26%	(179,568)	-9.96%
6	357	Underground Conduit	14,683,400	1.81%	1.72%	(13,215)	-4.97%
7	358	Underground Conductor and Devices	19,292,889	2.18%	2.03%	(28,939)	-6.88%
8	359	Roads and Trails	5,946,643	1.76%	1.76%	-	0.00%
9		Total Transmission	$ 575,594,505	*2.57%*	*2.45%*	$ (699,926)	*-4.73%*
10		Distribution					
11	361	Structures and Improvements	31,566,648	2.43%	2.43%	-	0.00%
12	362	Station Equipment	176,187,487	2.57%	2.49%	(140,950)	-3.11%
13	364	Poles, Towers, and Fixtures	136,365,866	4.20%	4.10%	(136,366)	-2.38%
14	365	Overhead Conductor and Devices	248,344,773	4.24%	3.91%	(819,538)	-7.78%
15	366	Underground Conduit	279,928,517	2.33%	2.33%	-	0.00%
16	367	Underground Conductor and Devices	352,470,826	2.90%	2.90%	-	0.00%
17	368	Line Transformers	428,536,484	3.62%	3.62%	-	0.00%
18	369	Services	159,770,558	4.66%	4.09%	(910,692)	-12.23%
19	370	Meters	130,586,769	6.68%	6.68%	1,306	0.01%
20	373	Street Light and Signal Systems	117,265,225	5.27%	5.27%	-	0.00%
21		Total Distribution	$ 2,061,023,153	*3.70%*	*3.60%*	$ (2,006,240)	*-2.63%*
22		General Plant					
23	382	Computer Hardware	48,339,146	20.00%	20.00%	-	0.00%
24	383	Computer Software	94,175,510	20.00%	20.00%	-	0.00%
25	390	Structures and Improvements	89,417,769	3.07%	2.86%	(187,777)	-6.84%
26	391	Office Furniture and Equipment	4,990,887	4.00%	4.00%	-	0.00%
27	392	Transportation Equipment	69,996,893	7.50%	7.50%	-	0.00%
28	393	Stores Equipment	1,292,666	5.39%	4.67%	(9,307)	-13.36%
29	394	Tools, Shop, and Garage Equipment	10,834,451	6.69%	6.33%	(39,004)	-5.38%
30	395	Laboratory Equipment	4,304,576	4.00%	5.56%	67,151	39.00%
31	396	Mobile Equipment	8,569,709	6.63%	5.56%	(91,696)	-16.14%
32	397	Communications Equipment	65,491,574	6.66%	6.66%	-	0.00%
33	398	Miscellaneous Equipment	3,548,428	4.00%	4.00%	-	0.00%
34	399	Other Tangible Property	9,475,117	8.67%	8.67%	-	0.00%
35		Total General Plant	$ 410,436,725	*10.61%*	*10.55%*	$ (260,633)	*-0.60%*
36		TOTAL MASS PROPERTY	$ 3,047,054,383	*4.41%*	*4.32%*	$ (2,966,799)	*-2.21%*

(1) As of December 2018
(2) Representative of results derived from retirement analyses and comparable utilities survey.

Table 5-3 Summary of Existing and Indicated Rates for Mass Property Accounts – Water Utility

[A]	[B]	[C]	[D]	[E]	[F]	[G]	[H]
			Depreciable	Base Accrual Rate		Difference in Depreciation	
Line	Account No.	Description	Plant (1)	Existing	Indicated (2)	Amount	Percent
1		Source of Supply & Pumping Plant					
2	804.2	Structures & Improvements	25,785,447	3.03%	3.03%	-	0.00%
3	805.2	Collecting & Impounding Reservoirs	20,847,194	2.00%	2.00%	-	0.00%
4	806.2	Lake, River & Other Intakes	90,296	2.50%	2.50%	-	0.00%
5	807.2	Wells & Springs	38,037,422	3.33%	3.33%	-	0.00%
6	808.2	Infiltration Galleries & Tunnels	-	2.50%	2.50%	-	0.00%
7	809.2	Supply Mains	20,869,658	2.86%	2.68%	(37,565)	-6.29%
8	810.2	Power Generation Equipment	9,411,305	5.00%	4.50%	(47,057)	-10.00%
9	811.2	Pumping Equipment	34,755,303	5.00%	5.00%	-	0.00%
10		Total Source of Supply & Pumping Plant	$ 149,796,626	*3.52%*	*3.46%*	$ (84,622)	-1.61%
11		Transmission & Distribution Plant					
12	804.4	Structures & Improvements	4,087,780	3.03%	2.50%	(21,665)	-17.49%
13	811.4	Pumping Equipment	2,789,842	5.00%	5.00%	-	0.00%
14	830.4	Distribution Reservoirs & Standpipes	5,931,919	3.07%	2.85%	(13,050)	-7.17%
15	831.4	Transmission & Distribution Mains	781,704,579	2.33%	2.33%	-	0.00%
16	833.4	Services	128,210,765	2.50%	2.50%	-	0.00%
17	834.4	Meters & Meter Installations	254,437,858	6.67%	6.67%	-	0.00%
18	835.4	Hydrants	59,604,454	2.22%	2.22%	-	0.00%
19	836.4	Backflow Prevention Devices	717,542	6.67%	5.00%	(11,983)	-25.04%
20	839.4	Other Plant & Miscellaneous Equipment	7,045	4.00%	4.00%	-	0.00%
21		Total Transmission & Distribution Plant	$ 1,237,491,785	*3.25%*	*3.25%*	$ (46,698)	-0.12%
22		General Plant					
23	804.5	Structures & Improvements	89,638,438	3.03%	2.86%	(152,385)	-5.61%
24	840.51	Computer Equipment	31,732,252	20.00%	20.00%		
25	840.52	Office Furniture & Equipment	5,103,572	4.00%	4.00%	-	0.00%
26	841.5	Transportation Equipment	31,578,242	7.50%	7.50%	-	0.00%
27	842.5	Stores Equipment	849,709	5.39%	4.67%	(6,118)	-13.36%
28	843.5	Tools, Shop & Garage Equipment	3,112,614	6.69%	6.33%	(11,205)	-5.38%
29	844.5	Laboratory Equipment	1,880,908	4.00%	5.56%	29,342	39.00%
30	845.5	Power Operated Equipment	4,715,975	6.63%	5.56%	(50,461)	-16.14%
31	846.5	Communication Equipment	44,379,865	6.66%	6.66%	-	0.00%
32	847.5	Miscellaneous Equipment	1,460,681	4.00%	4.00%	-	0.00%
33	848.5	Other Tangible Equipment	30,207,882	8.67%	8.67%	-	0.00%
34		Total General Plant	$ 244,660,139	*7.32%*	*7.24%*	$ (190,827)	-1.07%
35		TOTAL MASS PROPERTY	$ 1,631,948,549	*3.88%*	*3.86%*	$ (322,148)	-0.51%

(1) As of December 2018

(2) Representative of results derived from retirement analyses and comparable utilities survey.

Table 5-4 Summary of Existing and Indicated Rates for Mass Property Accounts – Wastewater Utility

[A]	[B]	[C]	[D]	[E]	[F]	[G]	[H]
			Depreciable	Base Accrual Rate		Difference in Depreciation	
Line	Account No.	Description	Plant (1)	Existing	Indicated (2)	Amount	Percent
		Collection Plant					
1	854.2	Structures & Improvements	354,534	3.13%	3.13%	-	0.00%
2	855.2	Power Generation Equipment	102,592	5.00%	4.50%	(513)	-10.00%
3	860.2	Collection Sewers - Force	386,829,533	3.33%	3.33%	-	0.00%
4	861.2	Collection Sewers - Gravity	1,010,062,614	2.23%	2.23%	-	0.00%
5	862.2	Special Collecting Sewers	270,818	2.50%	2.50%	-	0.00%
6	863.2	Services to Customers	98,381,471	2.63%	2.63%	-	0.00%
7	864.2	Flow Measuring Devices	102,479	10.00%	10.00%	-	0.00%
8	865.2	Flow Measuring Installations	93,017	5.96%	3.33%	(2,446)	-44.12%
9	889.2	Other Plant & Miscellaneous Equipment	23,952	6.25%	5.00%	(299)	-19.97%
10		Total Collection Plant	$ 1,496,221,009	*2.54%*	*2.54%*	$ (3,258)	*-0.01%*
11		System Pumping Plant					
12	854.3	Structures & Improvements	139,507,296	3.13%	3.13%	-	0.00%
13	855.3	Power Generation Equipment	28,669,567	5.00%	4.50%	(143,348)	-10.00%
14	870.3	Receiving Wells	22,873,020	3.33%	3.67%	77,768	10.21%
15	871.3	Pumping Equipment	206,995,669	5.00%	5.00%	-	0.00%
16	889.3	Other Plant & Miscellaneous Equipment	2,771,750	6.25%	5.00%	(34,647)	-20.00%
17		Total System Pumping Plant	$ 400,817,302	*4.26%*	*4.24%*	$ (100,227)	*-0.59%*
18		Reclaimed Water Plant					
19	854.5	Structures & Improvements	27,316,662	3.13%	3.13%	-	0.00%
20	855.5	Power Generation Equipment	345,980	5.00%	4.50%	(1,730)	-10.00%
21	871.5	Pumping Equipment	6,816,866	5.00%	5.00%	-	0.00%
22	874.5	Reuse Distribution Reservoirs	305,860	2.70%	2.70%	-	0.00%
23	880.5	Treatment & Disposal Equipment	18,225,367	5.56%	5.56%	-	0.00%
24	881.5	Reuse Plant Sewers	368,589	5.56%	3.20%	(8,699)	-42.45%
25		Total Reclaimed Water Plant	$ 53,379,325	*4.22%*	*4.21%*	$ (10,429)	*-0.46%*
26		Reclaimed Water Distribution Plant					
27	854.6	Structures & Improvements	353,681	3.13%	3.13%	-	0.00%
28	866.6	Reuse Services	3,924,693	3.64%	3.64%	-	0.00%
29	867.6	Reuse Meters & Meter Installations	1,006,498	6.67%	6.67%	-	0.00%
30	871.6	Reuse Pumping Equipment	1,507,975	5.00%	5.00%	-	0.00%
31	875.6	Reuse Transmission & Distribution System	77,230,635	2.33%	2.33%	-	0.00%
32	889.6	Reuse Other Miscellaneous Equipment	17,329	5.56%	5.56%	-	0.00%
33		Reclaimed Water Distribution Plant	$ 84,040,809	*2.50%*	*2.50%*	$ -	*0.00%*
34		General Plant					
35	854.7	Structures & Improvements	5,788,116	3.13%	2.86%	(15,628)	-8.63%
36	890.71	Computer Equipment	6,779,450	20.00%	20.00%	-	0.00%
37	890.72	Office Furniture & Equipment	1,043,747	4.00%	4.00%	-	0.00%
38	891.7	Transportation Equipment	7,973,721	7.50%	7.50%	-	0.00%
39	892.7	Stores Equipment	25,846	5.39%	4.67%	(186)	-13.35%
40	893.7	Tools, Shop & Garage Equipment	3,869,171	6.69%	6.33%	(13,929)	-5.38%
41	894.7	Laboratory Equipment	1,362,624	4.00%	5.56%	21,257	39.00%
42	895.7	Power Operated Equipment	1,616,972	6.63%	5.56%	(17,302)	-16.14%
43	896.7	Communication Equipment	25,814,377	6.66%	6.66%	-	0.00%
44	897.7	Miscellaneous Equipment	1,130,612	4.00%	4.00%	-	0.00%
45	898.7	Other Tangible Equipment	18,940,881	0.00%	0.00%	-	0.00%
46		General Plant	$ 74,345,518	*5.87%*	*5.83%*	$ (25,788)	*-0.59%*
47		TOTAL MASS PROPERTY	$ 2,108,803,964	*3.03%*	*3.02%*	$ (139,702)	*-0.22%*

(1) As of December 2018

(2) Representative of results derived from retirement analyses and comparable utilities survey.

Table 5-5 Summary of Existing and Indicated Rates for Mass Property Accounts – Chilled Water Utility

[A]	[B]	[C]	[D]	[E]	[F]	[G]	[H]
			Depreciable	Base Accrual Rate		Difference in Depreciation	
Line	Account No.	Description	Plant (1)	Existing	Indicated	Amount	Percent
1		Chilled Water					
2	303	CW Intangible Software - DES	-	10.00%	10.00%	$ -	0.00%
3	361	CW Structures and Improvements	-	4.00%	4.00%	-	0.00%
4	365	CW Overhead Conductor and Devices	-	4.00%	4.00%	-	0.00%
5	366	CW UG Conduit	6,510,694	4.00%	4.00%	-	0.00%
6	370	CW Meters	1,811,376	5.00%	5.00%	-	0.00%
7		Total Distribution	$ 8,322,071	*4.22%*	*4.22%*	$ -	0.00%
8		General Plant					
9	382	Computer Hardware	607,860	20.00%	20.00%	-	0.00%
10	383	Computer Software	322,130	20.00%	20.00%	-	0.00%
11	391	CW Office Furniture and Equipment	25,314	4.00%	4.00%	-	0.00%
12	394	CW Tools, Shop, and Garage Equipment	20,148	6.69%	6.33%	(72)	-5.33%
13	396	CW Mobile Equipment	46,917	6.63%	5.56%	(504)	-16.21%
14	397	CW Communications Equipment	1,264,578	6.66%	6.66%	-	0.00%
15		Total General Plant	$ 2,286,947	*12.05%*	*12.03%*	$ (576)	-0.21%
16		TOTAL MASS PROPERTY	$ 10,609,017	*5.91%*	*5.90%*	$ (576)	-0.09%

(1) As of December 2018

Section 6. Recommended Depreciation Rates

In Sections 4 and 5, we develop indicated depreciation expense rates for unit and mass property accounts, respectively. As the final step in developing recommended depreciation rates, we consider our experience, the adequacy of JEA's depreciation reserve levels, and other appropriate factors. In Tables 6-1 through 6-4, we summarize the development of our recommended rates.

As we describe in Section 5, for those mass property accounts for which we were unable to conduct retirement analyses, we rely on the depreciation rates charged by comparable utilities to inform our recommendation. We use the experience of other utilities in the expectation that the service lives and other considerations, which should go into the development of JEA's depreciation rates, are similar to those of these other utilities. We also factored JEA's depreciation reserve balances into our recommendation. The ratio of depreciation reserve to plant in service represents the reserve ratio. We do not expect this ratio, which provides a relative measure of the reserve, to exceed 50 percent (absent consideration for net salvage) for mature systems such as JEA. In general, we limited our recommendations regarding reducing depreciation rates to those accounts that had a reserve ratio greater than 50 percent for mass property accounts.

For both unit and mass properties, we recommend that reserves be transferred between accounts in the amounts shown in Column M of Tables 6-1 (electric), 6-2 (water), 6-3 (waste water), and 6-4 (chilled water). For unit properties, the transfers are generally recommended so that the number of years to depreciate the various accounts is comparable. For mass properties, the transfers are intended to generally reduce the reserve ratio to about 50 to 60 percent. As an initial step, to the extent practical, we transfer reserves (in $100,000 increments) between accounts with in the same category (i.e. steam production) so that the maximum reserve ratio does not exceed 50 percent. By this recommended transfer, we reduce the reserve associated with highly depreciated accounts which, in turn, increases the reserve to accounts less depreciated. However, we have limited the number of reserve transfers in this study to allow for easier tracking of the effect of the recommended depreciation rates on reserve accruals in JEA's next depreciation study.

Our recommended depreciation rates are set forth in Column Q of Tables 6-1, 6-2, 6-3, and 6-4 for the electric, water, wastewater and chilled water utilities, respectively. Overall, the depreciation expense resulting from our recommended rates decreases by 1.5 percent, or approximately $5.7 million.

Our recommended depreciation rates for the electric assets of JEA account for approximately $4.8 million of the reduction to depreciation. For the Steam Production accounts, our recommended depreciation rates result in a small decrease in the composite depreciation rate from 3.60 percent to 3.59 percent, resulting in a decrease of approximately $250,000. For the Other Production accounts, our recommended depreciation rates result in a decrease to the composite depreciation rate from 4.69 percent to 4.50 percent, resulting in a decrease of approximately $1.6 million to annual depreciation expense. The decrease for electric unit property is primarily the result of changes to lifespan estimates for the generation stations. Our recommendation is based on the current level of investment in electric production plant as well as the estimated life spans, capital expenditures and interim activities.

For the electric transmission accounts, our recommended depreciation rates result in a composite decrease from 2.57 percent to 2.45 percent, resulting in an approximate $700,000 reduction. We find that the current depreciation rates are higher than those indicated by our actuarial analysis of JEA's data and the majority of the comparable utilities in our benchmarking study. We recommend reducing depreciation only on the accounts with reserve ratios above 50 percent.

For the electric distribution accounts, our recommended depreciation rates result in a composite decrease from 3.70 percent to 3.60 percent, resulting in an approximate $2 million reduction. The primary drivers of this reduction are Overhead Conductor and Devices and Services which we recommend reducing annual depreciation by approximately $800,00 and $900,000, respectively. We find that JEA's current depreciation rates are higher than the majority of the comparable utilities in our benchmarking study. We also find that the results of our actuarial analysis indicate longer average service lives than the current depreciation rates would imply for these accounts. We recommended reducing depreciation only on the accounts with reserve ratios above 50 percent. Our recommendation adjusts these depreciation rates down to move partway toward the rates indicated in our analyses

Our recommended depreciation rates for the water assets of JEA is minor and spread across all functions. In total our recommended depreciation rates for water assets is approximately $370,000 of the overall reduction to depreciation.

Our recommended depreciation rates for the wastewater assets of JEA account for approximately $600,000 of the reduction to depreciation. Approximately $500,000 of this decrease to depreciation expense is related to wastewater treatment plants. Based on our unit property analysis of JEA's wastewater treatment plants, our recommended depreciation rates result in a decrease from 3.88 percent to 3.78 percent on a composite basis. The decrease is primarily driven by a change in expected lifespans of wastewater treatment plants. Our recommendation is based on the current level of investment in wastewater treatment plant as well as the estimated life spans, capital expenditures and interim activities.

There is minimal change recommended to chilled water assets based on our unit property analysis. Chilled water depreciation expense increases by $110,000 as a result of our recommendation.

We recommend JEA continue to maintain its books and records in accordance with the Uniform System of Accounts to build a more complete CPR for future depreciation studies. We further recommend JEA review the adequacy of its depreciation rates in five years

Table 6-1 Recommended Depreciation Rates – Electric Utility

[A]	[B]	[C]	[D]	[E]	[F]	[G]	[H]	[I]	[J]	[K]	[L]	[M]	[N]	[O]	[P]	[Q]	[R]
								Depreciation				Depreciation Reserve				Recommended	
	Account		Dec. 31, 2018	Net	Total Cost	Base Accrual Rate		Expense	Existing Reserve		Yrs. To		Adjusted	Adjusted	Yrs. To	Accrual	Change In
Line	No.	Description	Plant Balance	Salvage	To Recover	Existing	Indicated	Difference	Amount	Ratio	Depreciate	Transfer	Reserve	Ratio	Depreciate	Rate	Expense
		Production Plant															
		Steam Production															
1	311	Structures and Improvements	126,192,041		126,192,041	3.51%	3.49%	(25,238)	69,830,879	55.34%	12.8	-	69,830,879	55.34%	12.8	3.49%	(25,238)
2	312	Boiler Plant Equipment	801,376,979		801,376,979	3.71%	3.69%	(160,275)	513,755,041	64.11%	9.7	-	513,755,041	64.11%	9.7	3.69%	(160,275)
3	314	Turbogenerator Units	335,201,417		335,201,417	3.38%	3.36%	(67,040)	204,013,240	60.86%	11.6	-	204,013,240	60.86%	11.6	3.36%	(67,040)
4	315	Accessory Generation Equipment	50,626,674		50,626,674	3.43%	3.55%	60,752	16,646,402	32.88%	18.9	-	16,646,402	32.88%	18.9	3.55%	60,752
5	316	Miscellaneous Power Plant Equipment	21,253,558		21,253,558	4.14%	3.86%	(59,510)	12,075,541	56.82%	11.2	-	12,075,541	56.82%	11.2	3.86%	(59,510)
6		Total Steam Production	$ 1,334,650,668		$ 1,334,650,669	*3.60%*	*3.59%*	$ (251,311)	$ 816,321,103	61.16%	10.8	$ -	$ 816,321,103	61.16%	10.8	3.59%	$ (251,311)
7		Other Production															
8	341	Structures and Improvements	65,594,091		65,594,091	4.10%	3.82%	(183,663)	35,091,062	53.50%	12.2	-	35,091,062	53.50%	12.2	3.82%	(183,663)
9	342	Fuel Holders	74,624,637		74,624,637	4.90%	4.64%	(194,024)	30,027,865	40.24%	12.9	-	30,027,865	40.24%	12.9	4.64%	(194,024)
10	343	Prime Movers	285,893,748		285,893,748	4.83%	4.73%	(285,894)	101,264,088	35.42%	13.7	-	101,264,088	35.42%	13.7	4.73%	(285,894)
11	344	Generators	348,210,074		348,210,074	4.75%	4.48%	(940,167)	248,131,858	71.26%	6.4	-	248,131,858	71.26%	6.4	4.48%	(940,167)
12	345	Accessory Electrical Equipment	49,770,187		49,770,187	4.02%	4.05%	14,931	18,058,369	36.28%	15.7	-	18,058,369	36.28%	15.7	4.05%	14,931
13	346	Miscellaneous Power Plant Equipment	7,723,919		7,723,919	3.90%	3.98%	6,179	3,282,970	42.50%	14.4	-	3,282,970	42.50%	14.4	3.98%	6,179
14		Total Other Production	$ 831,816,656		$ 831,816,656	*4.69%*	*4.50%*	$ (1,582,638)	$ 435,856,212	52.40%	10.6	$ -	$ 435,856,212	52.40%	10.6	4.50%	$ (1,582,638)
15		TOTAL PRODUCTION	$ 2,166,467,324		2,166,467,325	*4.02%*	*3.94%*	(1,833,949)	$ 1,252,177,316	*57.80%*	10.7	$ -	$ 1,252,177,316	57.80%	10.7	3.94%	$ (1,833,949)
16		Transmission															
17	352	Structures and Improvements	45,145,402	0.0%	45,145,402	2.24%	2.24%	-	9,149,302	20.27%	35.6	-	9,149,302	20.27%	35.6	2.24%	-
18	353	Station Equipment	295,722,832	0.0%	295,722,832	2.54%	2.54%	-	126,454,309	42.76%	22.5	-	126,454,309	42.76%	22.5	2.54%	-
19	354	Towers and Fixtures	28,587,227	0.0%	28,587,227	2.14%	1.92%	(62,892)	17,713,660	61.96%	19.8	-	17,713,660	61.96%	19.8	1.92%	(62,892)
20	355	Poles and Attachments	94,388,985	0.0%	94,388,985	3.24%	2.80%	(415,312)	67,853,614	71.89%	10.0	-	67,853,614	71.89%	10.0	2.80%	(415,312)
21	356	Overhead Conductor and Devices	71,827,128	0.0%	71,827,128	2.51%	2.26%	(179,568)	44,083,708	61.37%	17.1	-	44,083,708	61.37%	17.1	2.26%	(179,568)
22	357	Underground Conduit	14,683,400	0.0%	14,683,400	1.81%	1.72%	(13,215)	7,501,505	51.09%	28.4	-	7,501,505	51.09%	28.4	1.72%	(13,215)
23	358	Underground Conductor and Devices	19,292,889	0.0%	19,292,889	2.18%	2.03%	(28,939)	11,324,921	58.70%	20.3	-	11,324,921	58.70%	20.3	2.03%	(28,939)
24	359	Roads and Trails	5,946,643	0.0%	5,946,643	1.76%	1.76%	-	1,862,501	31.32%	39.0	-	1,862,501	31.32%	39.0	1.76%	-
25		Total Transmission	$ 575,594,505		$ 575,594,506	*2.57%*	*2.45%*	$ (699,926)	$ 285,943,519	49.68%	20.6	$ -	$ 285,943,519	49.68%	20.6	2.45%	$ (699,926)
26		Distribution															
27	361	Structures and Improvements	31,566,648	0.0%	31,566,648	2.43%	2.43%	-	13,141,550	41.63%	24.0	-	13,141,550	41.63%	24.0	2.43%	-
28	362	Station Equipment	176,187,487	0.0%	176,187,487	2.57%	2.49%	(140,950)	102,373,566	58.10%	16.8	-	102,373,566	58.10%	16.8	2.49%	(140,950)
29	364	Poles, Towers, and Fixtures	136,365,866	-5.0%	143,184,159	4.20%	4.10%	(136,366)	81,146,577	59.51%	11.1	-	81,146,577	59.51%	11.1	4.10%	(136,366)
30	365	Overhead Conductor and Devices	248,344,773	0.0%	248,344,773	4.24%	3.91%	(819,538)	143,643,794	57.84%	10.8	-	143,643,794	57.84%	10.8	3.91%	(819,538)
31	366	Underground Conduit	279,928,517	0.0%	279,928,517	2.33%	2.33%	-	130,646,138	46.67%	22.9	-	130,646,138	46.67%	22.9	2.33%	-
32	367	Underground Conductor and Devices	352,470,826	0.0%	352,470,826	2.90%	2.90%	-	164,551,993	46.69%	18.4	-	164,551,993	46.69%	18.4	2.90%	-
33	368	Line Transformers	428,536,484	0.0%	428,536,484	3.62%	3.62%	-	184,052,403	42.95%	15.8	-	184,052,403	42.95%	15.8	3.62%	-
34	369	Services	159,770,558	0.0%	159,770,558	4.66%	4.09%	(910,692)	115,817,055	72.49%	6.7	-	115,817,055	72.49%	6.7	4.09%	(910,692)
35	370	Meters	130,586,769	0.0%	130,586,769	6.68%	6.68%	-	71,131,199	54.47%	6.8	-	71,131,199	54.47%	6.8	6.68%	-
36	373	Street Light and Signal Systems	117,265,225	0.0%	117,265,225	5.27%	5.27%	-	65,084,386	55.50%	8.4	-	65,084,386	55.50%	8.4	5.27%	-
37		Total Distribution	$ 2,061,023,153		$ 2,067,841,446	*3.70%*	*3.60%*	$ (2,007,546)	$ 1,071,588,661	51.99%	13.4	$ -	$ 1,071,588,661	51.99%	13.4	3.60%	$ (2,007,546)
38		General Plant															
39	382	Computer Hardware	48,339,146	0.0%	48,339,146	20.00%	20.00%	-	47,510,558	98.29%	0.1	-	47,510,558	98.29%	0.1	20.00%	-
40	383	Computer Software	94,175,510	0.0%	94,175,510	20.00%	20.00%	-	90,794,452	96.41%	0.2	-	90,794,452	96.41%	0.2	20.00%	-
41	390	Structures and Improvements	89,417,769	0.0%	89,417,769	3.07%	2.86%	(187,777)	39,570,912	44.25%	19.5	1,000,000	40,570,912	45.37%	19.1	2.86%	(187,777)
42	391	Office Furniture and Equipment	4,990,887	0.0%	4,990,887	4.00%	4.00%	-	3,818,856	76.52%	5.9	(500,000)	3,318,856	66.50%	8.4	4.00%	-
43	392	Transportation Equipment	69,996,893	20.0%	55,997,514	7.50%	7.50%	-	43,832,862	62.62%	2.3	-	43,832,862	62.62%	2.3	7.50%	-
44	393	Stores Equipment	1,292,666	0.0%	1,292,666	5.39%	4.67%	(9,307)	1,084,864	83.92%	3.4	(300,000)	784,864	60.72%	8.4	4.67%	(9,307)
45	394	Tools, Shop, and Garage Equipment	10,834,451	5.0%	10,292,729	6.69%	6.33%	(39,004)	6,480,624	59.81%	5.6	-	6,480,624	59.81%	5.6	6.33%	(39,004)
46	395	Laboratory Equipment	4,304,576	0.0%	4,304,576	4.00%	5.56%	67,151	2,637,008	61.26%	7.0	-	2,637,008	61.26%	7.0	5.56%	67,151
47	396	Mobile Equipment	8,569,709	0.0%	8,569,709	6.63%	5.56%	(91,696)	6,763,984	78.93%	3.8	(200,000)	6,563,984	76.60%	4.2	5.56%	(91,696)
48	397	Communications Equipment	65,491,574	0.0%	65,491,574	6.66%	6.66%	-	51,676,491	78.91%	3.2	-	51,676,491	78.91%	3.2	6.66%	-
49	398	Miscellaneous Equipment	3,548,428	0.0%	3,548,428	4.00%	4.00%	-	2,644,592	74.53%	6.4	-	2,644,592	74.53%	6.4	4.00%	-
50	399	Other Tangible Property	9,475,117	0.0%	9,475,117	8.67%	8.67%	-	821,493	8.67%	10.5	-	821,493	8.67%	10.5	8.67%	-
51		Total General Plant	$ 410,436,725		$ 395,895,625	*10.61%*	*10.55%*	$ (260,633)	$ 297,636,696	72.52%	2.3	$ -	$ 297,636,696	72.52%	2.3	10.55%	$ (260,633)
52		TOTAL MASS PROPERTY	$ 3,047,054,383		$ 3,039,331,577	*4.41%*	*4.32%*	$ (2,968,105)	$ 1,655,168,876	54.32%	10.5	$ -	$ 1,655,168,876	54.32%	10.5	4.32%	$ (2,968,105)
53		GRAND TOTAL	$ 5,213,521,708		$ 5,205,798,902	*4.25%*	*4.16%*	$ (4,802,054)	$ 2,907,346,191	55.77%	10.6	$ -	$ 2,907,346,191	55.77%	10.6	4.16%	$ (4,802,054)

Table 6-2 Recommended Depreciation Rates – Water Utility

[A]	[B]	[C]	[D]	[E]	[F]	[G]	[H]	[I]	[J]	[K]	[L]	[M]	[N]	[O]	[P]	[Q]	[R]
								Depreciation	Depreciation Reserve							Recommended	
Line	Account		Dec. 31, 2018	Net	Total Cost	Base Accrual Rate		Expense	Existing Reserve		Yrs. To		Adjusted	Adjusted	Yrs. To	Accrual	Change In
No.	No.	Description	Plant Balance	Salvage	To Recover	Existing	Indicated	Difference	Amount	Ratio	Depreciate	Transfer	Reserve	Ratio	Depreciate	Rate	Expense
1		Source of Supply & Pumping Plant															
2	804.2	Structures & Improvements	25,785,447	0.0%	25,785,447	3.03%	3.03%	-	13,532,152	52.48%	15.7	-	13,532,152	52.48%	15.7	3.03%	-
3	805.2	Collecting & Impounding Reservoirs	20,847,194	0.0%	20,847,194	2.00%	2.00%	-	7,154,073	34.32%	32.8	2,000,000	9,154,073	43.91%	28.0	2.00%	-
4	806.2	Lake, River & Other Intakes	90,296	0.0%	90,296	2.50%	2.50%	-	46,902	51.94%	19.2	-	46,902	51.94%	19.2	2.50%	-
5	807.2	Wells & Springs	38,037,422	0.0%	38,037,422	3.33%	3.33%	-	17,476,452	45.95%	16.2	-	17,476,452	45.95%	16.2	3.33%	-
7	809.2	Supply Mains	20,869,658	0.0%	20,869,658	2.86%	2.68%	(37,565)	9,667,819	46.32%	20.0	-	9,667,819	46.32%	20.0	2.68%	(37,565)
8	810.2	Power Generation Equipment	9,411,305	0.0%	9,411,305	5.00%	4.50%	(47,057)	5,591,356	59.41%	9.0	-	5,591,356	59.41%	9.0	4.50%	(47,057)
9	811.2	Pumping Equipment	34,755,303	0.0%	34,755,303	5.00%	5.00%	-	22,673,129	65.24%	7.0	(2,000,000)	20,673,129	59.48%	8.1	5.00%	-
10		Total Source of Supply & Pumping Plant	$ 149,796,626		$ 149,796,625	*3.52%*	*3.46%*	$ (84,622)	$ 76,141,883	50.83%	14.2	$ -	$ 76,141,883	50.83%	14.2	3.46%	$ (84,622)
11		Water Treatment Plant															
12	804.3	Structures & Improvements	97,184,770		97,184,770	4.31%	4.22%	(87,466)	38,445,882	39.56%	14.3	-	38,445,882	39.56%	14.3	4.22%	(87,466)
13	811.3	Pumping Equipment	9,505,306		9,505,306	5.00%	5.00%	-	4,389,106	46.18%	10.8	-	4,389,106	46.18%	10.8	5.00%	-
14	820.3	Water Treatment Equipment	46,400,350		46,400,350	3.86%	3.94%	37,120	20,324,426	43.80%	14.3	-	20,324,426	43.80%	14.3	3.94%	37,120
15	839.3	Other Plant & Miscellaneous Equipment	43,798		43,798	4.00%	4.00%	-	41,539	94.84%	1.3	-	41,539	94.84%	1.3	4.00%	-
16		Total Water Treatment Plant	$ 153,134,224		$ 153,134,224	*4.22%*	*4.18%*	$ (50,346)	$ 63,200,953	41.27%	14.0	$ -	$ 63,200,953	41.27%	14.0	4.18%	$ (50,346)
17		Transmission & Distribution Plant															
18	804.4	Structures & Improvements	4,087,780	0.0%	4,087,780	3.03%	2.50%	(21,665)	3,074,382	75.21%	9.9	(1,000,000)	2,074,382	50.75%	19.7	2.50%	(21,665)
19	811.4	Pumping Equipment	2,789,842	0.0%	2,789,842	5.00%	5.00%	-	117,490	4.21%	19.2	800,000	917,490	32.89%	13.4	5.00%	-
20	830.4	Distribution Reservoirs & Standpipes	5,931,919	0.0%	5,931,919	3.07%	2.85%	(13,050)	2,799,453	47.19%	18.5	-	2,799,453	47.19%	18.5	2.85%	(13,050)
21	831.4	Transmission & Distribution Mains	781,704,579	0.0%	781,704,579	2.33%	2.33%	-	247,097,434	31.61%	29.4	500,000	247,597,434	31.67%	29.3	2.33%	-
22	833.4	Services	128,210,765	0.0%	128,210,765	2.50%	2.50%	-	55,433,022	43.24%	22.7	-	55,433,022	43.24%	22.7	2.50%	-
23	834.4	Meters & Meter Installations	254,437,858	0.0%	254,437,858	6.67%	6.67%	-	120,235,017	47.26%	7.9	-	120,235,017	47.26%	7.9	6.67%	-
24	835.4	Hydrants	59,604,454	0.0%	59,604,454	2.22%	2.22%	-	17,932,014	30.09%	31.5	-	17,932,014	30.09%	31.5	2.22%	-
25	836.4	Backflow Prevention Devices	717,542	0.0%	717,542	6.67%	5.00%	(11,983)	656,158	91.45%	1.7	(300,000)	356,158	49.64%	10.1	5.00%	(11,983)
26	839.4	Other Plant & Miscellaneous Equipment	7,045	0.0%	7,045	4.00%	4.00%	-	7,045	100.00%	0.0	-	7,045	100.00%	0.0	4.00%	-
27		Total Transmission & Distribution Plant	$ 1,237,491,785		$ 1,237,491,784	*3.25%*	*3.25%*	$ (46,698)	$ 447,352,015	36.15%	19.7	$ -	$ 447,352,015	36.15%	19.7	3.25%	$ (46,698)
28		General Plant															
29	804.5	Structures & Improvements	89,638,438	0.0%	89,638,438	3.03%	2.86%	(152,385)	38,556,756	43.01%	19.9	-	38,556,756	43.01%	19.9	2.86%	(152,385)
30	840.51	Computer Equipment	31,732,252	0.0%	31,732,252	20.00%	20.00%	-	31,464,656	99.16%	0.0	-	31,464,656	99.16%	0.0	20.00%	-
31	840.52	Office Furniture & Equipment	5,103,572	0.0%	5,103,572	4.00%	4.00%	-	5,050,404	98.96%	0.3	-	5,050,404	98.96%	0.3	4.00%	-
32	841.5	Transportation Equipment	31,578,242	20.0%	25,262,593	7.50%	7.50%	-	14,249,592	45.12%	4.7	-	14,249,592	45.12%	4.7	7.50%	-
33	842.5	Stores Equipment	849,709	0.0%	849,709	5.39%	4.67%	(6,118)	768,383	90.43%	2.0	-	768,383	90.43%	2.0	4.67%	(6,118)
34	843.5	Tools, Shop & Garage Equipment	3,112,614	5.0%	2,956,984	6.69%	6.33%	(11,205)	2,650,800	85.16%	1.6	-	2,650,800	85.16%	1.6	6.33%	(11,205)
35	844.5	Laboratory Equipment	1,880,908	0.0%	1,880,908	4.00%	5.56%	29,342	685,020	36.42%	11.4	-	685,020	36.42%	11.4	5.56%	29,342
36	845.5	Power Operated Equipment	4,715,975	0.0%	4,715,975	6.63%	5.56%	(50,461)	2,756,075	58.44%	7.5	-	2,756,075	58.44%	7.5	5.56%	(50,461)
37	846.5	Communication Equipment	44,379,865	0.0%	44,379,865	6.66%	6.66%	-	32,919,709	74.18%	3.9	-	32,919,709	74.18%	3.9	6.66%	-
38	847.5	Miscellaneous Equipment	1,460,681	0.0%	1,460,681	4.00%	4.00%	-	949,604	65.01%	8.7	-	949,604	65.01%	8.7	4.00%	-
39	848.5	Other Tangible Equipment	30,207,882	0.0%	30,207,882	8.67%	8.67%	-	30,207,882	100.00%	0.0	-	30,207,882	100.00%	0.0	8.67%	-
40		Total General Plant	$ 244,660,139		$ 238,188,859	*7.32%*	*7.24%*	$ (190,827)	$ 160,258,882	65.50%	4.4	$ -	$ 160,258,882	65.50%	4.4	7.24%	$ (190,827)
41		GRAND TOTAL	$ 1,785,082,773		$ 1,778,611,492	*3.91%*	*3.89%*	$ (372,493)	$ 746,953,733	*41.84%*	14.8	$ -	$ 746,953,733	*41.84%*	14.8	*3.89%*	$ (372,493)

Table 6-3 Recommended Depreciation Rates – Wastewater Utility

[A]	[B]	[C]	[D]	[E]	[F]	[G]	[H]	[I]	[J]	[K]	[L]	[M]	[N]	[O]	[P]	[Q]	[R]
	Account		Dec. 31, 2018	Net	Total Cost	Base Accrual Rate		Depreciation Expense	Existing Reserve		Yrs. To	Depreciation Reserve	Adjusted	Adjusted	Yrs. To	Recommended Accrual	Recommended Change In
Line	No.	Description	Plant Balance	Salvage	To Recover	Existing	Indicated	Difference	Amount	Ratio	Depreciate	Transfer	Reserve	Ratio	Depreciate	Rate	Expense
		Collection Plant															
1	854.2	Structures & Improvements	354,534	0.00%	354,534	3.13%	3.13%	-	103,181	29.10%	22.7	-	103,181	29.10%	22.7	3.13%	-
2	855.2	Power Generation Equipment	102,592	0.00%	102,592	5.00%	4.50%	(513)	34,163	33.30%	14.8	-	34,163	33.30%	14.8	4.50%	(513)
3	860.2	Collection Sewers - Force	386,829,533	0.00%	386,829,533	3.33%	3.33%	-	160,858,004	41.58%	17.5	-	160,858,004	41.58%	17.5	3.33%	-
4	861.2	Collection Sewers - Gravity	1,010,062,614	0.00%	1,010,062,614	2.23%	2.23%	-	399,856,613	39.59%	27.1	-	399,856,613	39.59%	27.1	2.23%	-
5	862.2	Special Collecting Sewers	270,818	0.00%	270,818	2.50%	2.50%	-	183,492	67.75%	12.9	-	183,492	67.75%	12.9	2.50%	-
6	863.2	Services to Customers	98,381,471	0.00%	98,381,471	2.63%	2.63%	-	32,053,949	32.58%	25.6	-	32,053,949	32.58%	25.6	2.63%	0
7	864.2	Flow Measuring Devices	102,479	0.00%	102,479	10.00%	10.00%	-	91,235	89.03%	1.1	-	91,235	89.03%	1.1	10.00%	-
8	865.2	Flow Measuring Installations	93,017	0.00%	93,017	5.96%	3.33%	(2,446)	93,017	100.00%	0.0	-	93,017	100.00%	0.0	3.33%	(2,446)
9	889.2	Other Plant & Miscellaneous Equipment	23,952	0.00%	23,952	6.25%	5.00%	(299)	23,952	100.00%	0.0	-	23,952	100.00%	0.0	5.00%	(299)
10		Total Source of Supply & Pumping Plant	$ 1,496,221,009	0.00%	$ 1,496,221,010	2.54%	2.54%	$ (3,258)	$ 593,297,607	39.65%	23.7	$ -	$ 593,297,607	39.65%	23.7	2.54%	$ (3,259)
11		System Pumping Plant															
12	854.3	Structures & Improvements	139,507,296	0.00%	139,507,296	3.13%	3.13%	-	73,556,265	52.73%	15.1	-	73,556,265	52.73%	15.1	3.13%	-
13	855.3	Power Generation Equipment	28,669,567	0.00%	28,669,567	5.00%	4.50%	(143,348)	10,724,925	37.41%	13.9	-	10,724,925	37.41%	13.9	4.50%	(143,348)
14	870.3	Receiving Wells	22,873,020	0.00%	22,873,020	3.33%	3.67%	77,768	7,852,115	34.33%	17.9	-	7,852,115	34.33%	17.9	3.67%	77,768
15	871.3	Pumping Equipment	206,995,669	0.00%	206,995,669	5.00%	5.00%	-	82,097,366	39.66%	12.1	-	82,097,366	39.66%	12.1	5.00%	0
16	889.3	Other Plant & Miscellaneous Equipment	2,771,750	0.00%	2,771,750	6.25%	5.00%	(34,647)	772,641	27.88%	14.4	-	772,641	27.88%	14.4	5.00%	(34,647)
17		Total System Pumping Plant	$ 400,817,302	0.00%	$ 400,817,302	4.26%	4.24%	$ (100,227)	$ 175,003,311	43.66%	13.3	$ -	$ 175,003,311	43.66%	13.3	4.24%	$ (100,226)
18		Treatment & Disposal Plant															
19	854.4	Structures & Improvements	185,169,415		185,169,415	4.12%	4.02%	(185,169)	112,169,489	60.58%	9.8	-	112,169,489	60.58%	9.8	4.02%	(185,169)
20	855.4	Power Generation Equipment	4,253,181		4,253,181	5.84%	4.63%	(51,463)	2,090,901	49.16%	11.0	-	2,090,901	49.16%	11.0	4.63%	(51,463)
21	880.4	Treatment & Disposal Equipment	297,180,124		297,180,124	3.75%	3.67%	(237,744)	171,430,275	57.69%	11.5	-	171,430,275	57.69%	11.5	3.67%	(237,744)
22	881.4	Plant Sewers	17,260,445		17,260,445	3.10%	3.20%	17,260	8,831,094	51.16%	15.3	-	8,831,094	51.16%	15.3	3.20%	17,260
23	882.4	Outfall Sewer Lines	9,423,484		9,423,484	3.57%	3.34%	(21,674)	4,558,076	48.37%	15.5	-	4,558,076	48.37%	15.5	3.34%	(21,674)
24	889.4	Other Plant & Miscellaneous Equipment	91,929		91,929	4.03%	4.00%	(28)	91,929	100.00%	0.0	-	91,929	100.00%	0.0	4.00%	(28)
25		Total Treatment & Disposal Plant	$ 513,378,579	0.00%	$ 513,378,578	3.88%	3.78%	$ (478,818)	$ 299,171,765	58.28%	11.0	$ -	$ 299,171,765	58.28%	11.0	3.78%	$ (478,818)
26		Reclaimed Water Plant															
27	854.5	Structures & Improvements	27,316,662	0.00%	27,316,662	3.13%	3.13%	-	10,775,987	39.45%	19.3	-	10,775,987	39.45%	19.3	3.13%	-
28	855.5	Power Generation Equipment	345,980	0.00%	345,980	5.00%	4.50%	(1,730)	241,325	69.75%	6.7	-	241,325	69.75%	6.7	4.50%	(1,730)
29	871.5	Pumping Equipment	6,816,866	0.00%	6,816,866	5.00%	5.00%	-	2,740,885	40.21%	12.0	-	2,740,885	40.21%	12.0	5.00%	(0)
30	874.5	Reuse Distribution Reservoirs	305,860	0.00%	305,860	2.70%	2.70%	-	188,674	61.69%	14.2	-	188,674	61.69%	14.2	2.70%	-
31	880.5	Treatment & Disposal Equipment	18,225,367	0.00%	18,225,367	5.56%	5.56%	-	10,526,790	57.76%	7.6	-	10,526,790	57.76%	7.6	5.56%	0
32	881.5	Reuse Plant Sewers	368,589	0.00%	368,589	5.56%	3.20%	(8,699)	204,569	55.50%	13.9	-	204,569	55.50%	13.9	3.20%	(8,699)
33		Total Reclaimed Water Plant	$ 53,379,325	0.00%	$ 53,379,324	4.22%	4.21%	$ (10,429)	$ 24,678,231	46.23%	12.8	$ -	$ 24,678,231	46.23%	12.8	4.21%	$ (10,429)
34		Reclaimed Water Distribution Plant															
35	854.6	Structures & Improvements	353,681	0.00%	353,681	3.13%	3.13%	-	129,805	36.70%	20.2	-	129,805	36.70%	20.2	3.13%	-
36	866.6	Reuse Services	3,924,693	0.00%	3,924,693	3.64%	3.64%	-	985,156	25.10%	20.6	-	985,156	25.10%	20.6	3.64%	-
37	867.6	Reuse Meters & Meter Installations	1,006,498	0.00%	1,006,498	6.67%	6.67%	-	547,582	54.40%	6.8	-	547,582	54.40%	6.8	6.67%	-
38	871.6	Reuse Pumping Equipment	1,507,975	0.00%	1,507,975	5.00%	5.00%	-	604,641	40.10%	12.0	-	604,641	40.10%	12.0	5.00%	(0)
39	875.6	Reuse Transmission & Distribution System	77,230,635	0.00%	77,230,635	2.33%	2.33%	-	18,487,966	23.94%	32.6	-	18,487,966	23.94%	32.6	2.33%	-
40	889.6	Reuse Other Miscellaneous Equipment	17,329	0.00%	17,329	5.56%	5.56%	-	2,746	15.85%	15.1	-	2,746	15.85%	15.1	5.56%	-
41		Reclaimed Water Distribution Plant	$ 84,040,809	0.00%	$ 84,040,811	2.50%	2.50%	$ -	$ 20,757,896	24.70%	30.2	$ -	$ 20,757,896	24.70%	30.2	2.50%	$ (0)
42		General Plant															
43	854.7	Structures & Improvements	5,788,116	0.00%	5,788,116	3.13%	2.86%	(15,628)	907,145	15.67%	29.5	-	907,145	15.67%	29.5	2.86%	(15,628)
43	890.71	Computer Equipment	6,779,450	0.00%	6,779,450	20.00%	20.00%	-	6,779,450	100.00%	0.0	-	6,779,450	100.00%	0.0	20.00%	-
44	890.72	Office Furniture & Equipment	1,043,747	0.00%	1,043,747	4.00%	4.00%	-	723,880	69.35%	7.7	-	723,880	69.35%	7.7	4.00%	0
45	891.7	Transportation Equipment	7,973,721	20.00%	6,378,977	7.50%	7.50%	-	3,668,217	46.00%	4.5	-	3,668,217	46.00%	4.5	7.50%	-
46	892.7	Stores Equipment	25,846	0.00%	25,846	5.39%	4.67%	(186)	12,954	50.12%	10.7	-	12,954	50.12%	10.7	4.67%	(186)
47	893.7	Tools, Shop & Garage Equipment	3,869,171	5.00%	3,675,713	6.69%	6.33%	(13,929)	2,662,548	68.81%	4.1	-	2,662,548	68.81%	4.1	6.33%	(13,929)
48	894.7	Laboratory Equipment	1,362,624	0.00%	1,362,624	4.00%	5.56%	21,257	629,697	46.21%	9.7	-	629,697	46.21%	9.7	5.56%	21,257
49	895.7	Power Operated Equipment	1,616,972	0.00%	1,616,972	6.63%	5.56%	(17,302)	1,283,047	79.35%	3.7	-	1,283,047	79.35%	3.7	5.56%	(17,302)
50	896.7	Communication Equipment	25,814,377	0.00%	25,814,377	6.66%	6.66%	-	16,415,477	63.59%	5.5	-	16,415,477	63.59%	5.5	6.66%	(0)
51	897.7	Miscellaneous Equipment	1,130,612	0.00%	1,130,612	4.00%	4.00%	-	905,088	80.05%	5.0	-	905,088	80.05%	5.0	4.00%	(0)
52	898.7	Other Tangible Equipment	18,940,881	0.00%	18,940,881	0.00%	0.00%	-	18,940,881	100.00%		-	18,940,881	100.00%		0.00%	-
53		Total General Plant	$ 74,345,518	2.41%	$ 72,557,315	5.87%	5.83%	$ (25,788)	$ 52,928,383	71.19%	4.5	$ -	$ 52,928,383	71.19%	4.5	5.83%	$ (25,788)
54		GRAND TOTAL	$ 2,622,182,543	0.07%	$ 2,620,394,340	3.19%	3.17%	$ (618,520)	$ 1,165,837,193	44.46%	17.5	$ -	$ 1,165,837,193	44.46%	17.5	3.17%	$ (618,520)

Table 6-4 Recommended Depreciation Rates – Chilled Water Utility

[A]	[B]	[C]	[D]	[E]	[F]	[G]	[H]	[I]	[J]	[K]	[L]	[M]	[N]	[O]	[P]	[Q]	[R]
								Depreciation	Depreciation Reserve							Recommended	
	Account		Dec. 31, 2018	Net	Total Cost	Base Accrual Rate		Expense	Existing Reserve		Yrs. To		Adjusted	Adjusted	Yrs. To	Accrual	Change In
Line	No.	Description	Plant Balance	Salvage	To Recover	Existing	Indicated	Difference	Amount	Ratio	Depreciate	Transfer	Reserve	Ratio	Depreciate	Rate	Expense
		Chilled Water Plant															
1	303	CW Intangible Software - DES	-		-	10.00%	10.00%	-	-								
2	361	CW Structures and Improvements	-		-	4.00%	4.00%	-	-								
3	362	CW Station Equipment	26,451,691		26,451,691	4.19%	4.94%	197,166	10,889,019	41.17%	11.9	-	10,889,019	41.17%	11.9	4.94%	197,166
4	365	CW Overhead Conductor and Devices	-		-	4.00%	4.00%	-	-								
5	366	CW UG Conduit	6,510,694	0.00%	6,510,694	4.00%	4.00%	-	2,911,198	44.71%	13.8	-	2,911,198	44.71%	13.8	4.00%	-
6	369	CW Services	11,657,390		11,657,390	3.87%	3.73%	(16,732)	6,172,260			-	6,172,260	52.95%	12.6	3.73%	(16,732)
7	370	CW Meters	1,811,376	0.00%	1,811,376	5.00%	5.00%	-	767,328	42.36%	11.5	-	767,328	42.36%	11.5	5.00%	-
8		Total Distribution	$ 46,431,152		$ 46,431,151	*4.11%*	*4.50%*	180,434	20,739,805	44.67%	12.3	-	20,739,805	44.67%			180,434
9		General Plant															
10	382	Computer Hardware	607,860	0.00%	607,860	20.00%	20.00%	-	555,119	91.32%	0.4	-	555,119	91.32%	0.4	20.00%	-
11	383	Computer Software	322,130	0.00%	322,130	20.00%	20.00%	-	322,130	100.00%	0.0	-	322,130	100.00%	0.0	20.00%	-
12	390	CW Structures and Improvements	7,657,466		7,657,466	4.15%	3.24%	(69,343)	4,164,910	54.39%	14.1	-	4,164,910	54.39%	14.1	3.24%	(69,343)
13	391	CW Office Furniture and Equipment	25,314	0.00%	25,314	4.00%	4.00%	-	14,758	58.30%	10.4	-	14,758	58.30%	10.4	4.00%	-
14	394	CW Tools, Shop, and Garage Equipment	20,148	0.00%	20,148	6.69%	6.33%	(72)	10,011	49.69%	7.9	-	10,011	49.69%	7.9	6.33%	(72)
15	396	CW Mobile Equipment	46,917	0.00%	46,917	6.63%	5.56%	(504)	40,126	85.53%	2.6	-	40,126	85.53%	2.6	5.56%	(504)
16	397	CW Communications Equipment	1,264,578	0.00%	1,264,578	6.66%	6.66%	-	316,786	25.05%	11.3	-	316,786	25.05%	11.3	6.66%	-
17		Total General Plant	9,944,413		9,944,413	*5.97%*	*5.26%*	$ (69,919)	$ 5,423,840			-	$ 5,423,840	54.54%			(69,919)
18		GRAND TOTAL	$ 56,375,565	*0.00%*	$ 56,375,564	*4.44%*	*4.64%*	$ 110,515	$ 26,163,645	*46.41%*	11.6	$ -	$ 26,163,645	*46.41%*	*11.6*	*4.64%*	$ 110,515

Appendix A – Results of Comparable Utility Survey

Table A-1 – Electric Utility Depreciation Rate Survey Findings

FERC Account Number	Account Name	Baltimore Gas and Electric company	Cleo Power	Duke Energy Carolinas	Duke Energy Progress	Empire District Electric Company	Florida Power & Light	Florida Public Utilities	Georgia Power Company	Gulf Power Company	Indiana Michigan Power Company	Kansas City Power & Light	Northern Illinois Public Service Company	Oklahoma Gas & Electric	Potomac Electric Power Company - DC	Potomac Electric Power Company - MD	Santee Cooper	Tampa Electric Company	JEA (Existing)	Median	Average	1st Qaurtile	3rd Quartile	Count
311	Structures & Improvements		2.33%	3.07%	1.95%	3.19%											2.39%		3.51%	2.39%	2.59%	2.33%	3.07%	5
312	Boiler Plant Equipment		2.66%	2.96%	4.02%	3.51%											2.39%		3.71%	2.96%	3.11%	2.66%	3.51%	5
314	Turbogenerator Equipment		3.75%	3.95%	3.04%	2.78%											2.39%		3.38%	3.04%	3.18%	2.78%	3.75%	5
315	Accessory Electric Equipment		4.23%	3.35%	3.55%	2.45%											2.39%		3.43%	3.35%	3.19%	2.45%	3.55%	5
316	Miscellaneous Plant Equipment		2.26%	4.09%	3.89%	2.89%											2.39%		4.14%	2.89%	3.10%	2.39%	3.89%	5
341	Structures & Improvements		2.51%	2.80%	2.95%	4.05%				4.70%							4.04%		4.10%	3.50%	3.51%	2.84%	4.05%	6
342	Fuel Holders, Producers / Accessories		2.51%	2.62%	2.25%	2.38%				4.70%							4.04%		4.90%	2.57%	3.08%	2.41%	3.69%	6
343	Prime Movers		3.13%	2.87%	3.18%	2.74%				4.70%							4.04%		4.83%	3.16%	3.44%	2.94%	3.83%	6
344	Generators		3.03%	2.80%	2.83%	2.28%				4.70%							4.04%		4.75%	2.93%	3.28%	2.81%	3.79%	6
345	Accessory Electric Equipment		2.51%	3.17%	3.67%	3.00%				4.70%							4.04%		4.02%	3.42%	3.52%	3.04%	3.95%	6
346	Miscellaneous Plant Equipment		2.50%	2.99%	3.46%	2.29%				4.70%							4.04%		3.90%	3.23%	3.33%	2.62%	3.90%	6
352	Structures & Improvements	2.78%	1.78%	1.96%	1.78%	1.82%	1.70%	1.80%	1.45%	1.70%	1.53%	1.71%	2.01%	1.66%	2.44%	3.27%	1.95%	1.70%	2.24%	1.78%	1.94%	1.70%	1.96%	17
353	Station Equipment	1.97%	1.86%	2.13%	1.90%	2.23%	2.04%	2.60%	1.99%	2.80%	1.85%	1.54%	2.34%	1.78%	1.95%	3.07%	1.27%	2.30%	2.54%	1.99%	2.10%	1.86%	2.30%	17
354	Towers & Fixtures	4.10%	2.47%	1.69%	1.35%	1.54%	1.11%	2.10%	1.56%	2.00%	1.65%	0.67%	0.46%	1.40%	1.69%	1.91%	1.82%	2.30%	2.14%	1.69%	1.75%	1.40%	2.00%	17
355	Poles & Fixtures	2.35%	3.75%	2.27%	2.22%	3.51%	2.32%	4.10%	2.25%	4.60%	2.84%	2.34%	1.83%	2.29%	2.63%	2.91%	1.70%	3.60%	3.24%	2.35%	2.79%	2.27%	3.51%	17
356	Overhead Conductors & Devices	2.14%	2.15%	2.00%	1.56%	1.71%	2.38%	2.50%	2.33%	2.60%	1.94%	1.08%	1.01%	2.29%	1.80%	1.51%	1.64%	2.80%	2.51%	2.00%	1.97%	1.64%	2.33%	17
357	Underground Conduit	1.80%		1.12%			1.43%		1.26%		1.83%	1.14%	2.27%		1.75%	1.50%		1.80%	1.81%	1.63%	1.59%	1.30%	1.80%	10
358	Underground Conductors & Devices	2.22%	0.79%	1.39%	2.30%		1.87%		2.11%	1.50%	1.69%	1.30%	3.20%	0.27%	1.93%	1.24%	2.77%	2.30%	2.18%	1.87%	1.79%	1.35%	2.26%	15
359	Roads & Trails	1.94%	1.33%	1.46%	1.37%		1.33%	1.50%	1.48%	1.90%	1.49%		0.65%		1.87%	1.49%	1.68%	1.50%	1.76%	1.49%	1.50%	1.39%	1.64%	14
361	Structures & Improvements	1.60%	1.64%	1.94%	1.52%	1.56%	1.75%	1.70%	1.88%	1.90%	1.44%	1.55%	1.59%	1.47%	1.76%	1.21%	1.47%	1.80%	2.43%	1.60%	1.63%	1.52%	1.76%	17
362	Station Equipment	1.89%	1.67%	2.59%	2.33%	2.19%	1.90%	2.40%	2.70%	3.10%	2.03%	1.75%	2.08%	1.83%	2.54%	1.85%	1.81%	2.40%	2.57%	2.08%	2.18%	1.85%	2.40%	17
364	Poles, Towers & Fixtures	2.26%	2.71%	1.98%	3.95%	4.00%	3.58%	3.90%	2.33%	4.30%	5.25%	11.76%	2.79%	2.74%	3.69%	2.38%	0.40%	4.40%	4.20%	3.58%	3.67%	2.38%	4.00%	17
365	Overhead Conductors & Devices	1.91%	1.70%	1.94%	2.15%	3.39%	2.57%	3.40%	3.06%	3.00%	3.26%	2.72%	1.35%	2.66%	3.95%	2.41%	3.38%	3.10%	4.24%	2.72%	2.70%	2.15%	3.26%	17
366	Underground Conduit	1.75%	2.13%	1.57%	2.26%	2.62%	1.42%	1.80%	1.86%	1.10%	1.84%	2.02%	1.30%	1.81%	2.07%	1.61%	1.87%	1.80%	2.33%	1.81%	1.81%	1.61%	2.02%	17
367	Underground Conductors & Devices	1.97%	1.83%	2.00%	1.76%	2.58%	1.96%	3.20%	2.18%	2.40%	1.96%	1.71%	1.82%	1.83%	2.19%	1.99%	2.93%	3.00%	2.90%	1.99%	2.19%	1.83%	2.40%	17
368	Line Transformers	1.69%	2.99%	1.77%	2.54%	2.08%	2.98%	4.00%	2.39%	3.40%	5.00%	1.56%	1.61%	2.82%	3.96%	2.63%	2.99%	4.40%	3.62%	2.82%	2.87%	2.08%	3.40%	17
369	Services	2.95%	3.50%	1.32%	1.96%	4.44%	2.40%	3.60%	2.04%		3.05%	4.82%	55.00%	1.99%	2.89%	2.55%	2.21%	3.40%	4.66%	2.92%	6.13%	2.17%	3.53%	16
370	Meters	12.03%	3.08%	7.19%	6.41%	2.37%	2.84%	3.70%	3.92%	7.90%	6.78%	4.96%	7.11%	6.51%	7.10%	10.00%	1.92%	7.20%	6.68%	6.51%	5.94%	3.70%	7.19%	17
371	Installations on Customers' Premises	7.04%	42.38%	2.16%	1.15%	4.43%	3.33%	4.50%			9.04%	0.03%	4.02%	5.28%	0.70%	-5.58%			4.00%	4.02%	6.04%	1.15%	5.28%	13
372	Leased Property		2.62%						4.57%								2.55%			2.62%	3.25%	2.59%	3.60%	3
373	Street Lighting & Signal Systems	2.75%	2.01%	2.69%	3.87%	3.49%	2.47%	4.90%	3.94%	4.10%	5.57%	4.55%	2.25%	4.20%	3.31%	2.30%	5.69%	5.40%	5.27%	3.87%	3.73%	2.69%	4.55%	17
382	Computer Hardware	7.39%	20.00%	12.50%	12.50%	10.00%		20.00%				15.94%			10.00%	19.56%		25.00%	20.00%	14.22%	15.29%	10.63%	19.89%	10
383	Computer Software	7.39%	20.00%	12.50%	12.50%	10.00%		20.00%				15.94%			10.00%	19.56%		25.00%	20.00%	14.22%	15.29%	10.63%	19.89%	10
390	Structures & Improvements	7.11%	2.83%	3.22%	2.42%	3.57%	1.50%	2.00%	2.11%	2.00%	2.04%	2.79%	1.86%	1.58%	2.66%	13.97%	1.82%	2.30%	3.07%	2.30%	3.28%	2.00%	2.83%	17
391	Office Furniture & Equipment	5.65%	12.16%	6.67%	5.00%	4.76%		14.29%	11.90%		4.69%	5.00%	4.93%	7.39%	1.99%	6.67%		14.30%	4.00%	6.16%	7.53%	4.95%	10.77%	14
392	Transportation Equipment		5.00%	5.23%	10.29%	7.15%	5.48%	11.90%				9.42%	6.34%	5.33%			5.42%	5.10%	7.50%	5.48%	6.97%	5.28%	8.29%	11
393	Stores Equipment	6.38%	2.42%	5.00%	5.00%	2.50%		14.29%			4.11%	4.00%	5.23%	4.00%	4.00%	4.67%		14.30%	5.39%	4.67%	5.84%	4.00%	5.23%	13
394	Tools, Shop & Garage Equipment	4.94%	3.31%	5.00%	5.00%	5.00%		14.29%			6.70%	4.08%	3.71%	4.00%	4.00%	6.67%		14.30%	6.69%	5.00%	6.23%	4.00%	6.67%	13
395	Laboratory Equipment	16.03%	2.37%	6.67%	6.67%	2.17%		14.29%			5.47%	4.08%	4.15%	5.00%	6.67%	5.70%		14.30%	4.00%	5.70%	7.20%	4.15%	6.67%	13
396	Power Operated Equipment		2.01%	6.54%	5.99%	5.65%	7.05%	4.40%	16.44%	1.40%	4.35%	8.39%		4.87%			10.09%	14.30%	6.63%	5.99%	7.04%	4.40%	8.39%	13
397	Communications Equipment	3.11%	6.16%	10.00%	5.00%	4.76%	1.95%	20.00%	4.01%	5.20%	3.83%	4.62%	10.73%	10.00%	6.63%	14.51%		14.30%	6.66%	5.68%	7.80%	4.47%	10.18%	16
398	Miscellaneous Equipment	5.08%	4.09%	5.00%	5.00%	3.13%		14.29%	5.67%		3.15%		5.29%	5.00%	5.00%	6.65%		14.30%	4.00%	5.00%	6.28%	5.00%	5.67%	13
399	Other Tangible Property							20.00%											8.67%	20.00%	20.00%	20.00%	20.00%	1

Table A-2 – Water Utility Depreciation Rate Survey Findings

JEA Account Number	NARUC Account Number	Account Name	Lake Utility Services Inc. - FL	Lighthouse Utilities Company, Inc.	Marion Utilities, Inc. - FL	North Beach Utilities, Inc.	Parkland Utilities, Inc.	Peoples Water Service Companuy of Florida, Inc.	Royal Utility Company	Southlake Utilities, Inc.	Sunshine Utilities of Central Florida, Inc.	Tradewinds Utilities, Inc.	Utilities, Inc. of Florida	Water Management Services, Inc.	JEA (Existing)	Median	Average	1st Qaurtile	3rd Quartile	Count
	301	Organization					2.50%					25.00%	2.50%			2.50%	10.00%	2.50%	13.75%	3
	302	Franchises	2.50%						2.50%				2.50%			2.50%	2.50%	2.50%	2.50%	3
804.2	304	Structure and Improvements	3.13%	3.03%	3.03%	3.57%	3.70%	3.13%	3.03%	3.03%	3.03%		3.13%	3.03%	3.03%	3.03%	3.17%	3.03%	3.13%	11
805.2	305	Collecting and Impounding Reservoirs	2.00%										2.00%		2.00%	2.00%	2.00%	2.00%	2.00%	2
806.2	306	Lake, River and Other Intakes	2.50%										2.50%		2.50%	2.50%	2.50%	2.50%	2.50%	2
807.2	307	Wells and Springs	3.33%	3.33%	3.33%	3.70%	3.70%	3.33%	5.00%	3.33%	3.33%	6.67%	3.33%	3.33%	3.33%	3.33%	3.81%	3.33%	3.70%	12
808.2	308	Infiltration Galleries and Tunnels	2.50%												2.50%	2.50%	2.50%	2.50%	2.50%	1
809.2	309	Supply Mains	2.86%	2.86%		3.13%	5.88%		2.86%		2.86%	3.13%	2.86%	2.86%	2.86%	2.86%	3.26%	2.86%	3.13%	9
810.2	310	Power Generation Equipment	5.00%	4.55%		5.88%			5.00%	5.00%	6.67%	6.67%	5.00%	5.00%	5.00%	5.00%	5.42%	5.00%	5.88%	9
811.2	311	Pumping Equipment	5.00%	5.00%	5.00%	5.88%	6.67%	5.00%	5.00%	5.00%	5.00%	6.67%	5.00%	5.00%	5.00%	5.00%	5.35%	5.00%	5.22%	12
820.3	320	Water Treatment Equipment	4.55%	4.55%	4.55%	5.88%	5.88%	4.55%	4.55%	4.55%	4.55%	14.29%	4.55%	4.55%	3.86%	4.55%	5.58%	4.55%	4.88%	12
830.4	330	Distribution Reservoirs and Standpipes	2.70%	2.70%	2.70%	3.03%		2.70%	2.70%	2.70%	4.55%	3.33%	2.70%	2.70%	3.07%	2.70%	2.96%	2.70%	2.87%	11
831.4	331	Transmission and Distribution Mains	2.33%	3.03%	2.33%	2.63%	2.63%	2.33%	2.22%	2.33%	2.33%	2.50%	2.33%	2.33%	2.33%	2.33%	2.44%	2.33%	2.53%	12
833.4	333	Services	2.50%	2.50%	2.50%	2.86%	2.86%	2.50%	2.50%	2.50%	2.33%	2.86%	2.50%	2.50%	2.50%	2.50%	2.58%	2.50%	2.59%	12
834.4	334	Meters and Meter Installations	5.00%	5.00%	5.00%	5.88%	5.88%	5.00%	5.00%	5.00%	5.00%	5.88%	5.00%	5.00%	6.67%	5.00%	5.22%	5.00%	5.22%	12
835.4	335	Hydrants	2.22%	5.00%		2.50%	2.50%	2.22%	2.22%	2.22%	2.22%	5.00%	2.22%	2.22%	2.22%	2.22%	2.78%	2.22%	2.50%	11
836.4	336	Backflow Prevention Devices	6.67%					6.67%					6.67%		6.67%	6.67%	6.67%	6.67%	6.67%	3
839.2	339	Other Plant / Miscellaneous Equipment	5.56%	5.00%			4.00%	5.56%	4.00%	4.00%	4.00%	16.67%	5.56%		4.00%	5.00%	6.04%	4.00%	5.56%	9
840.51	340	Office Furniture and Equipment - Computers													20.00%					0
840.52	340	Office Furniture and Equipment	6.67%		6.67%	6.67%	6.67%	6.67%	6.67%	6.67%	6.67%	16.67%	6.67%	6.67%	4.00%	6.67%	7.58%	6.67%	6.67%	11
841.5	341	Transportation Equipment	20.00%	16.67%	16.67%	16.67%	16.67%	16.67%	16.67%		16.67%	16.67%	20.00%	16.67%	7.50%	16.67%	17.28%	16.67%	16.67%	11
842.5	342	Stores Equipment	5.56%					5.56%			5.00%		5.56%		5.39%	5.56%	5.42%	5.42%	5.56%	4
843.5	343	Tools, Shop and Garage Equipment	6.25%	5.00%	6.25%	7.14%	6.25%	6.25%	6.25%	6.25%	6.25%	6.67%	6.25%	6.25%	6.69%	6.25%	6.26%	6.25%	6.25%	12
844.5	344	Laboratory Equipment	6.67%					6.67%	6.67%		10.00%		6.67%		4.00%	6.67%	7.34%	6.67%	6.67%	5
845.5	345	Power Operated Equipment	8.33%	5.00%		10.00%		8.33%		8.33%	8.33%		8.33%	8.33%	6.63%	8.33%	8.12%	8.33%	8.33%	8
846.5	346	Communication Equipment	10.00%		10.00%			10.00%			10.00%		10.00%	10.00%	6.66%	10.00%	10.00%	10.00%	10.00%	6
847.5	347	Miscellaneous Equipment	6.67%						6.67%		6.67%		6.67%		4.00%	6.67%	6.67%	6.67%	6.67%	4
848.5	348	Other Tangible Plant	10.00%	20.00%	10.00%	10.00%			10.00%	10.00%			10.00%		8.67%	10.00%	11.43%	10.00%	10.00%	7

***Data from the Florida Public Service Commission Website 2018 Annual Reports**

Table A-3 – Wastewater Utility Depreciation Rate Survey Findings

JEA Account Number	NARUC Account Number	Account Name	Forest Utilities, Inc.	Lake Utility Services INC	Marion Utilities, Inc.	Mid County Services Inc	North Beach Utilities, Inc.	North Peninsula Utility Corporation	Parkland Utilities, Inc.	Royal Utility Company	Southlake Utilities, Inc.	Tradewinds Utilities, Inc.	Utilities, Inc. of Florida	JEA (Existing)	Median	Average	1st Qaurtile	3rd Quartile	Count
851.1	351	Organization							2.50%			3.45%	2.00%	33.33%	2.50%	2.65%	2.25%	2.98%	3
852.1	352	Franchises	2.50%	2.50%		2.50%		2.50%				33.33%	2.50%	33.33%	2.50%	7.64%	2.50%	2.50%	6
854.2	354	Structures and Improvements	2.86%	3.13%	3.03%	3.13%	3.70%	3.70%	3.70%	2.86%	3.13%	3.70%	3.13%	3.13%	3.13%	3.28%	3.08%	3.70%	11
855.2	355	Power Generation Equipment	5.00%	5.00%		5.00%				5.00%			5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5
860.2	360	Collection Sewers - Force	3.33%	3.33%	3.33%	3.33%	3.70%	3.70%	3.70%	3.33%	3.33%	3.70%	3.33%	3.33%	3.33%	3.46%	3.33%	3.70%	11
861.2	361	Collection Sewers - Gravity	2.86%	2.22%		2.22%		2.50%	2.50%	2.22%	2.22%	2.50%	2.22%	2.23%	2.22%	2.38%	2.22%	2.50%	9
862.2	362	Special Collecting Structures	4.00%	2.50%	2.70%	2.50%			4.00%		2.50%	2.70%	2.50%	2.50%	2.60%	2.93%	2.50%	3.03%	8
863.2	363	Services to Customers	2.63%	2.63%	2.63%	2.63%	2.86%	2.86%	2.86%		2.63%	2.86%	2.63%	2.63%	2.63%	2.72%	2.63%	2.86%	10
864.2	364	Flow Measuring Devices	20.00%	20.00%		20.00%			20.00%	20.00%		5.88%	20.00%	10.00%	20.00%	17.98%	20.00%	20.00%	7
865.2	365	Flow Measuring Installations		2.63%		2.63%							2.63%	5.96%	2.63%	2.63%	2.63%	2.63%	3
866.6	366	Reuse Services		2.50%		2.50%							2.50%	3.64%	2.50%	2.50%	2.50%	2.50%	3
867.6	367	Reuse Meters and Meter Installations		5.00%		5.00%							5.00%	6.67%	5.00%	5.00%	5.00%	5.00%	3
870.3	370	Receiving Wells		3.33%	3.33%	3.33%	4.00%	4.00%	5.56%			5.56%	3.33%	3.33%	3.67%	4.06%	3.33%	4.39%	8
871.3	371	Pumping Equipment	5.56%	5.56%	5.00%	5.56%	6.67%	5.88%		5.56%	4.00%		5.56%	5.00%	5.56%	5.48%	5.56%	5.56%	9
874.5	374	Reuse Distribution Reservoirs	2.70%											2.70%	2.70%	2.70%	2.70%	2.70%	1
875.6	375	Reuse Transmission and Distribution System	4.55%	2.33%		2.33%							2.33%	2.33%	2.33%	2.89%	2.33%	2.89%	4
880.4	380	Treatment and Disposal Equipment	3.70%	5.56%	5.56%	5.56%	6.67%	6.67%			5.56%	6.67%	5.56%	3.75%	5.56%	5.72%	5.56%	6.67%	9
881.4	381	Plant Sewers		2.86%		2.86%							2.86%	3.10%	2.86%	2.86%	2.86%	2.86%	3
882.4	382	Outfall Sewer Lines		3.33%	3.33%	3.33%						6.67%	3.33%	3.57%	3.33%	4.00%	3.33%	3.33%	5
889.2	389	Other Plant / Miscellaneous Equipment		5.56%	5.56%	5.56%	10.00%		6.67%	5.56%	5.56%	2.86%	10.00%	6.25%	5.56%	6.37%	5.56%	6.67%	9
890.71	390	Office Furniture and Equipment - Computers												20.00%					
890.72	390	Office Furniture and Equipment	16.67%	6.67%		6.67%	6.67%			6.67%	6.67%	16.67%	6.67%	4.00%	6.67%	9.17%	6.67%	9.17%	8
891.7	391	Transportation Equipment	16.67%	20.00%		20.00%	16.67%		16.67%	16.67%			20.00%	7.50%	16.67%	18.10%	16.67%	20.00%	7
892.7	392	Stores Equipment		5.56%		5.56%							5.56%	5.39%	5.56%	5.56%	5.56%	5.56%	3
893.7	393	Tools, Shop and Garage Equipment		6.25%		6.25%	7.14%		6.25%	6.25%		6.67%	6.25%	6.69%	6.25%	6.44%	6.25%	6.46%	7
894.7	394	Laboratory Equipment	6.67%	6.67%		6.67%				6.67%			6.67%	4.00%	6.67%	6.67%	6.67%	6.67%	5
895.7	395	Power Operated Equipment	6.67%	8.33%		8.33%	10.00%				8.33%	10.00%	8.33%	6.63%	8.33%	8.57%	8.33%	9.17%	7
896.7	396	Communication Equipment		10.00%		10.00%							10.00%	6.66%	10.00%	10.00%	10.00%	10.00%	3
897.7	397	Miscellaneous Equipment		6.67%		6.67%				6.67%			6.67%	4.00%	6.67%	6.67%	6.67%	6.67%	4
898.7	398	Other Tangible Plant		10.00%	3.03%	10.00%				10.00%	10.00%		10.00%	0.00%	10.00%	8.84%	10.00%	10.00%	6

***Data from the Florida Public Service Commission Website 2018 Annual Reports**

Table A-4 – Chilled Water Utility Depreciation Rate Survey Findings

Account Number	Chilled Water Account Name	Orlando Utilities Commission (FL)	Citizen's Thermal (IN)	JEA (Existing)
303	CW Intangible Software - DES	20.00%		10.00%
361	CW Structures and Improvements	2.84%	1.79%	4.00%
362	CW Station Equipment	5.00%	2.13%	4.19%
365	CW Overhead Conductor and Devices			4.00%
366	CW UG Conduit	2.64%	2.92%	4.00%
369	CW Services	2.61%	3.19%	3.87%
370	CW Meters	5.00%	2.97%	5.00%
	Total Distribution			
	General Plant			
382	Computer Hardware	20.00%	20.00%	20.00%
383	Computer Software	20.00%	20.00%	20.00%
390	CW Structures and Improvements	4.62%		4.15%
391	CW Office Furniture and Equipment	14.29%	4.00%	4.00%
394	CW Tools, Shop, and Garage Equipment		3.87%	6.69%
396	CW Mobile Equipment	20.00%	3.27%	6.63%
397	CW Communications Equipment	33.33%	6.39%	6.66%
	Total General Plant			

	Electric Actual 16	Electric Actual 17	Electric Actual 18
SALARIES	107,277,578	108,665,251	117,802,856
TEMPORARY SALARIES	171,461	201,811	169,904
SALARIES REGULAR AND TEMP	107,449,039	108,867,062	117,972,760
OVERTIME	9,651,265	16,625,237	12,679,214
EMPLOYEE BENEFITS & OTHER COMP.- ACCRUAL	419,644	185,771	(289,001)
OTHER COMPENSATION AND BENEFITS	1,356,852	1,351,078	1,376,246
HEALTH INSURANCE	13,315,113	10,451,993	11,248,601
PENSION CONTRIBUTION	32,400,291	36,993,581	27,803,101
INCENTIVE PAY	1,027,309	3,779,893	2,469,947
401A CONTRIBUTION	598,914	701,287	712,252
TERMINAL LEAVE	1,066,107	1,072,634	840,913
LEAVE ROLLBACK,SELLBACK	1,867,730	1,786,604	1,960,511
EMPLOYER SOCIAL SECURITY AND MEDICARE	1,201,864	1,771,147	1,868,580
LIFE INSURANCE	489,117	511,187	397,782
EDUCATIONAL ASSISTANCE	208,601	206,188	155,137
OTHER POST EMPLOYMENT BENEFITS	3,213,633	3,301,543	2,528,505
UNEMPLOYMENT TAXES	7,887	4,051	12,565
EMPLOYER 457 CONTRIBUTION	1,768	2,676	3,580
BENEFIT BURDEN ACCOUNT	(266,597)	(251,164)	(274,153)
EMPLOYEE BENEFITS	56,908,233	61,868,470	50,814,565
SALARIES, OT AND BENEFITS	174,008,537	187,360,769	181,466,539

*All Salaries and Benefits are Gross of Capitalization and exclude accrual adjustments

** High Salaries OT and Benefits for FY17 & FY18 due to Hurricanes Matthew and Irma

*** Pension Reform effective FY 18

	Water/WW Actual 16	Water/WW Actual 17	Water/WW Actual 18
SALARIES	37,533,779	38,832,637	42,991,167
TEMPORARY SALARIES	17,312	14,682	-
SALARIES REGULAR AND TEMP	37,551,090	38,847,319	42,991,167
OVERTIME	6,148,441	8,681,434	7,732,378
EMPLOYEE BENEFITS & OTHER COMP.- ACCRUAL	167,772	89,418	(103,001)
OTHER COMPENSATION AND BENEFITS	200,851	212,622	249,363
HEALTH INSURANCE	5,829,780	3,986,846	4,844,577
PENSION CONTRIBUTION	11,467,002	13,342,819	10,094,343
INCENTIVE PAY	444,226	1,094,862	567,764
401A CONTRIBUTION	89,320	101,431	116,589
TERMINAL LEAVE	239,598	348,318	471,643
LEAVE ROLLBACK,SELLBACK	848,574	733,451	811,239
EMPLOYER SOCIAL SECURITY AND MEDICARE	441,168	679,752	719,762
LIFE INSURANCE	167,538	178,728	157,574
EDUCATIONAL ASSISTANCE	138	-	-
OTHER POST EMPLOYMENT BENEFITS	1,887,371	1,939,002	1,549,729
BENEFIT BURDEN ACCOUNT	239,293	207,782	246,849
EMPLOYEE BENEFITS	22,022,631	22,915,030	19,726,432
SALARIES, OT AND BENEFITS	65,722,162	70,443,783	70,449,976

*All Salaries and Benefits are Gross of Capitalization and exclude accrual adjustments

** High Salaries OT and Benefits for FY17 & FY18 due to Hurricanes Matthew and Irma

*** Pension Reform effective FY 18

	District Energy Actual 16	District Energy Actual 17	District Energy Actual 18
SALARIES	333,810	332,685	390,282
TEMPORARY SALARIES	-	-	-
SALARIES REGULAR AND TEMP	333,810	332,685	390,282
OVERTIME	18,506	20,121	16,827
EMPLOYEE BENEFITS & OTHER COMP.- ACCRUAL	-	-	5,344
OTHER COMPENSATION AND BENEFITS	2,450	3,350	3,600
HEALTH INSURANCE	38,666	34,011	44,813
PENSION CONTRIBUTION	118,822	116,620	84,164
INCENTIVE PAY	3,724	11,238	2,582
401A CONTRIBUTION	1,370	1,394	1,895
TERMINAL LEAVE	11,743	-	19,268
LEAVE ROLLBACK,SELLBACK	37	-	-
EMPLOYER SOCIAL SECURITY AND MEDICARE	4,143	4,934	5,731
LIFE INSURANCE	1,087	819	768
BENEFIT BURDEN ACCOUNT	373	3,352	1,771
EMPLOYEE BENEFITS	182,415	175,718	169,936
SALARIES, OT AND BENEFITS	534,731	528,524	577,046

*All Salaries and Benefits are Gross of Capitalization and exclude accrual adjustments

IRS Department of the Treasury
Internal Revenue Service

ATLANTA GA 39901-0001

In reply refer to: 0752153593
Jan. 02, 2018 LTR 4076C 0
59-2983007 000000 00
00027788
BODC: SB

JEA
% ALAN GOLDMAN
21 WEST CHURCH ST
JACKSONVILLE FL 32202-3155

13680

Federal Identification Number: 59-2983007
Person to Contact: Mr. Reis
Toll Free Telephone Number: 1-877-829-5500

Dear JEA:

This responds to your request for information about your federal tax status. Our records do not specify your federal tax status. However, the following general information about the tax treatment of state and local governments and affiliated organizations may be of interest to you.

GOVERNMENTAL UNITS
Governmental units, such as States and their political subdivisions, are not generally subject to federal income tax. Political subdivisions of a State are entities with one or more of the sovereign powers of the State such as the power to tax. Typically they include counties or municipalities and their agencies or departments. Charitable contributions to governmental units are tax-deductible under section 170(c)(1) of the Internal Revenue Code if made for a public purpose.

ENTITIES MEETING THE REQUIREMENTS OF SECTION 115(1)
An entity that is not a governmental unit but that performs an essential government function may not be subject to federal income tax, pursuant to Code section 115(1). The income of such entities is excluded from the definition of gross income as long as the income (1) is derived from a public utility or the exercise of an essential government function, and (2) accrues to a State, a political subdivision of a State, or the District of Columbia. Contributions made to entities whose income is excluded income under section 115 may not be tax deductible to contributors.

TAX-EXEMPT CHARITABLE ORGANIZATIONS
An organization affiliated with a State, county, or municipal government may qualify for exemption from federal income tax under section 501(c)(3) of the Code, if (1) it is not an integral part of the government, and (2) it does not have governmental powers inconsistent with exemption (such as the power to tax or to exercise enforcement or regulatory powers). Note that entities may meet the requirements of both sections 501(c)(3) and 115 under certain circumstances. See Revenue Procedure 2003-12, 2003-1 C.B. 316.

01/17/18

FLORIDA Department of Revenue

Consumer's Certificate of Exemption

Issued Pursuant to Chapter 212, Florida Statutes

DR-14
R. 10/15

85-8012753002C-9	02/28/2018	02/28/2023	MUNICIPAL GOVERNMENT
Certificate Number	Effective Date	Expiration Date	Exemption Category

This certifies that

JEA INC
21 W CHURCH ST
JACKSONVILLE FL 32202-3155

is exempt from the payment of Florida sales and use tax on real property rented, transient rental property rented, tangible personal property purchased or rented, or services purchased.

FLORIDA Department of Revenue

Important Information for Exempt Organizations

DR-14
R. 10/15

1. You must provide all vendors and suppliers with an exemption certificate before making tax-exempt purchases. See Rule 12A-1.038, Florida Administrative Code (F.A.C.).

2. Your *Consumer's Certificate of Exemption* is to be used solely by your organization for your organization's customary nonprofit activities.

3. Purchases made by an individual on behalf of the organization are taxable, even if the individual will be reimbursed by the organization.

4. This exemption applies only to purchases your organization makes. The sale or lease to others of tangible personal property, sleeping accommodations, or other real property is taxable. Your organization must register, and collect and remit sales and use tax on such taxable transactions. Note: Churches are exempt from this requirement except when they are the lessor of real property (Rule 12A-1.070, F.A.C.).

5. It is a criminal offense to fraudulently present this certificate to evade the payment of sales tax. Under no circumstances should this certificate be used for the personal benefit of any individual. Violators will be liable for payment of the sales tax plus a penalty of 200% of the tax, and may be subject to conviction of a third-degree felony. Any violation will require the revocation of this certificate.

6. If you have questions regarding your exemption certificate, please contact the Exemption Unit of Account Management at 800-352-3671. From the available options, select "Registration of Taxes," then "Registration Information," and finally "Exemption Certificates and Nonprofit Entities." The mailing address is PO Box 6480, Tallahassee, FL 32314-6480.

JEA WATER, WASTEWATER, AND RECLAIMED RATE HISTORY

Residential @ 6 Kgal	Oct-01	Oct-04	Oct-05	Oct-06	Oct-07	Oct-08	Oct-09	Oct-10
Water	$ 13.10	$ 13.13	$ 13.13	$ 14.02	$ 15.01	$ 15.65	$ 17.26	$ 19.15
Wastewater	$ 26.66	$ 26.68	$ 28.54	$ 30.53	$ 32.67	$ 33.98	$ 37.58	$ 41.36
Total Water & Sewer Charges w/out Taxes & Fees	**$ 39.76**	**$ 39.81**	**$ 41.67**	**$ 44.55**	**$ 47.68**	**$ 49.63**	**$ 54.84**	**$ 60.51**

Rates	Oct-01	Oct-04	Oct-05	Oct-06	Oct-07	Oct-08	Oct-09	Oct-10
WATER SYSTEM								
Service Availability Charges								
Residential Potable								
5/8" Meter	$ 8.45	$ 8.45	$ 8.45	$ 9.04	$ 9.67	$ 10.07	$ 11.08	$ 12.19
3/4" Meter	$ 10.65	$ 10.65	$ 12.68	$ 13.56	$ 14.51	$ 15.10	$ 16.62	$ 18.29
1" Meter	$ 15.20	$ 15.20	$ 21.13	$ 22.60	$ 24.19	$ 25.18	$ 27.70	$ 30.48
1 1/2" Meter	$ 26.35	$ 26.35	$ 42.25	$ 45.21	$ 48.37	$ 50.35	$ 55.40	$ 60.95
2" Meter	$ 39.70	$ 39.70	$ 67.60	$ 72.33	$ 77.40	$ 80.57	$ 88.64	$ 97.52
3" Meter	$ 75.35	$ 75.35	$ 135.20	$ 144.66	$ 154.79	$ 161.14	$ 177.28	$ 195.04
4" Meter	$ 115.35	$ 115.35	$ 211.25	$ 226.04	$ 241.86	$ 251.78		
6" Meter	$ 226.85	$ 226.85	$ 422.50	$ 452.08	$ 483.72	$ 503.55		
8" Meter	$ 360.35	$ 360.35	$ 676.00	$ 723.32	$ 773.95	$ 805.68		
10" Meter	$ 516.25	$ 516.25	$ 971.75	$ 1,039.77	$ 1,112.56	$ 1,158.17		
12" Meter	$ 961.60	$ 961.60	$ 1,816.75	$ 1,943.92	$ 2,080.00	$ 2,165.28		
20" Meter	$ 2,009.30	$ 2,009.30	$ 3,802.50	$ 4,068.68	$ 4,353.48	$ 4,531.97		
Residential Irrigation								
5/8" Meter	$ 8.45	$ 8.45	$ 8.45	$ 9.04	$ 9.67	$ 10.07	$ 11.08	$ 12.19
3/4" Meter	$ 10.65	$ 10.65	$ 12.68	$ 13.56	$ 14.51	$ 15.10	$ 16.62	$ 18.29
1" Meter	$ 15.20	$ 15.20	$ 21.13	$ 22.60	$ 24.19	$ 25.18	$ 27.70	$ 30.48
1 1/2" Meter	$ 26.35	$ 26.35	$ 42.25	$ 45.21	$ 48.37	$ 50.35	$ 55.40	$ 60.95
2" Meter	$ 39.70	$ 39.70	$ 67.60	$ 72.33	$ 77.40	$ 80.57	$ 88.64	$ 97.52
3" Meter	$ 75.35	$ 75.35	$ 135.20	$ 144.66	$ 154.79	$ 161.14	$ 177.28	$ 195.04
4" Meter	$ 115.35	$ 115.35	$ 211.25	$ 226.04	$ 241.86	$ 251.78		
6" Meter	$ 226.85	$ 226.85	$ 422.50	$ 452.08	$ 483.72	$ 503.55		
8" Meter	$ 360.35	$ 360.35	$ 676.00	$ 723.32	$ 773.95	$ 805.68		
Multi-Family Potable								
5/8" Meter	$ 8.45	$ 8.45	$ 8.45	$ 9.04	$ 9.67	$ 10.07	$ 14.26	$ 17.10
3/4" Meter	$ 10.65	$ 10.65	$ 12.68	$ 13.56	$ 14.51	$ 15.10	$ 21.39	$ 25.65
1" Meter	$ 15.20	$ 15.20	$ 21.13	$ 22.60	$ 24.19	$ 25.18	$ 35.65	$ 42.75
1 1/2" Meter	$ 26.35	$ 26.35	$ 42.25	$ 45.21	$ 48.37	$ 50.35	$ 71.30	$ 85.50
2" Meter	$ 39.70	$ 39.70	$ 67.60	$ 72.33	$ 77.40	$ 80.57	$ 114.08	$ 136.80
3" Meter	$ 75.35	$ 75.35	$ 135.20	$ 144.66	$ 154.79	$ 161.14	$ 228.16	$ 273.60
4" Meter	$ 115.35	$ 115.35	$ 211.25	$ 226.04	$ 241.86	$ 251.78	$ 356.50	$ 427.50
6" Meter	$ 226.85	$ 226.85	$ 422.50	$ 452.08	$ 483.72	$ 503.55	$ 713.00	$ 855.00
8" Meter	$ 360.35	$ 360.35	$ 676.00	$ 723.32	$ 773.95	$ 805.68	$ 1,140.80	$ 1,368.00
10" Meter	$ 516.25	$ 516.25	$ 971.75	$ 1,039.77	$ 1,112.56	$ 1,158.17	$ 1,639.90	$ 1,966.50
12" Meter	$ 961.60	$ 961.60	$ 1,816.75	$ 1,943.92	$ 2,080.00	$ 2,165.28	$ 3,065.90	$ 3,676.50
20" Meter	$ 2,009.30	$ 2,009.30	$ 3,802.50	$ 4,068.68	$ 4,353.48	$ 4,531.97	$ 6,417.00	$ 7,695.00
Commercial Potable								
5/8" Meter	$ 8.45	$ 8.45	$ 8.45	$ 9.04	$ 9.67	$ 10.07	$ 11.08	$ 12.19
3/4" Meter	$ 10.65	$ 10.65	$ 12.68	$ 13.56	$ 14.51	$ 15.10	$ 16.62	$ 18.29
1" Meter	$ 15.20	$ 15.20	$ 21.13	$ 22.60	$ 24.19	$ 25.18	$ 27.70	$ 30.48
1 1/2" Meter	$ 26.35	$ 26.35	$ 42.25	$ 45.21	$ 48.37	$ 50.35	$ 55.40	$ 60.95
2" Meter	$ 39.70	$ 39.70	$ 67.60	$ 72.33	$ 77.40	$ 80.57	$ 88.64	$ 97.52
3" Meter	$ 75.35	$ 75.35	$ 135.20	$ 144.66	$ 154.79	$ 161.14	$ 177.28	$ 195.04
4" Meter	$ 115.35	$ 115.35	$ 211.25	$ 226.04	$ 241.86	$ 251.78	$ 277.00	$ 304.75
6" Meter	$ 226.85	$ 226.85	$ 422.50	$ 452.08	$ 483.72	$ 503.55	$ 554.00	$ 609.50
8" Meter	$ 360.35	$ 360.35	$ 676.00	$ 723.32	$ 773.95	$ 805.68	$ 886.40	$ 975.20
10" Meter	$ 516.25	$ 516.25	$ 971.75	$ 1,039.77	$ 1,112.56	$ 1,158.17	$ 1,836.55	$ 1,925.10
12" Meter	$ 961.60	$ 961.60	$ 1,816.75	$ 1,943.92	$ 2,080.00	$ 2,165.28	$ 3,433.55	$ 3,599.10
20" Meter	$ 2,009.30	$ 2,009.30	$ 3,802.50	$ 4,068.68	$ 4,353.48	$ 4,531.97	$ 7,186.50	$ 7,533.00
Commercial & Multi-Family Irrigation								
5/8" Meter	$ 8.45	$ 8.45	$ 8.45	$ 9.04	$ 9.67	$ 10.07	$ 11.08	$ 12.19
3/4" Meter	$ 10.65	$ 10.65	$ 12.68	$ 13.56	$ 14.51	$ 15.10	$ 16.62	$ 18.29
1" Meter	$ 15.20	$ 15.20	$ 21.13	$ 22.60	$ 24.19	$ 25.18	$ 27.70	$ 30.48
1 1/2" Meter	$ 26.35	$ 26.35	$ 42.25	$ 45.21	$ 48.37	$ 50.35	$ 55.40	$ 60.95
2" Meter	$ 39.70	$ 39.70	$ 67.60	$ 72.33	$ 77.40	$ 80.57	$ 88.64	$ 97.52
3" Meter	$ 75.35	$ 75.35	$ 135.20	$ 144.66	$ 154.79	$ 161.14	$ 177.28	$ 195.04
4" Meter	$ 115.35	$ 115.35	$ 211.25	$ 226.04	$ 241.86	$ 251.78	$ 277.00	$ 304.75
6" Meter	$ 226.85	$ 226.85	$ 422.50	$ 452.08	$ 483.72	$ 503.55	$ 554.00	$ 609.50
8" Meter	$ 360.35	$ 360.35	$ 676.00	$ 723.32	$ 773.95	$ 805.68	$ 886.40	$ 975.20
Commodity Charges per Thousand Gallons								
Residential								
1-11 Kgal	$ 0.78	$ 0.78	$ 0.78	$ 0.83	$ 0.89	$ 0.93		
12-22 Kgal	$ 0.98	$ 0.97	$ 0.97	$ 1.04	$ 1.11	$ 1.16		
> 22 Kgal	$ 1.28	$ 4.00	$ 4.00	$ 4.28	$ 4.58	$ 4.77		
1-6 Kgal							$ 0.93	$ 0.93
7-20 Kgal							$ 1.45	$ 1.82
> 20 Kgal							$ 4.96	$ 5.15
Residential Irrigation								
1-22 Kgal	$ 0.98							
> 22 Kgal	$ 1.28							
1-15 Kgal		$ 0.97	$ 0.97	$ 1.04	$ 1.11	$ 1.16		
16-30 Kgal		$ 1.56	$ 1.56	$ 1.67	$ 1.79	$ 1.86		
> 30 Kgal		$ 4.00	$ 4.00	$ 4.28	$ 4.58	$ 4.77		
1-14 Kgal							$ 1.45	$ 1.82
> 14 Kgal							$ 4.96	$ 5.15
Multi-Family - 8" Meters and Smaller								
All Metered Water Use	$ 0.84	$ 0.84	$ 0.84	$ 0.90	$ 0.96	$ 1.00	$ 1.00	$ 1.00
Multi-Family - 10" Meters and Greater								
All Metered Water Use	$ 0.63	$ 0.63	$ 0.63	$ 0.67	$ 0.72	$ 0.75	$ 1.00	$ 1.00
Commercial - 8" Meters and Smaller								
All Metered Water Use	$ 0.84	$ 0.84	$ 0.84	$ 0.90	$ 0.96	$ 1.00	$ 1.31	$ 1.43
Commercial - 10" Meters and Greater								
All Metered Water Use	$ 0.63	$ 0.63	$ 0.63	$ 0.67	$ 0.72	$ 0.75	$ 1.06	$ 1.18
Commercial & Multi-Family Irrigation								
1-22 Kgal	$ 0.98	$ 0.97	$ 0.97	$ 1.04	$ 1.11	$ 1.16		
> 22 Kgal	$ 1.28	$ 1.28	$ 1.28	$ 1.37	$ 1.47	$ 1.53		
1-14 Kgal							$ 1.73	$ 2.30
> 14 Kgal							$ 2.14	$ 2.75
Fire Protection Charges								
Unmetered Connections (Annual Charge)								
≤ 4" Meter	$ 49.00	$ 49.00	$ 49.00	$ 49.00	$ 49.00	$ 51.00	$ 58.00	$ 64.00
6" Meter	$ 97.00	$ 97.00	$ 97.00	$ 97.00	$ 97.00	$ 101.00	$ 115.00	$ 127.00
8" Meter	$ 200.00	$ 200.00	$ 200.00	$ 200.00	$ 200.00	$ 208.00	$ 236.00	$ 262.00
≥ 10" Meter	$ 356.00	$ 356.00	$ 356.00	$ 356.00	$ 356.00	$ 371.00	$ 421.00	$ 467.00
Metered Connections (Monthly Charge)								
≤ 4" Meter	$ 15.00	$ 15.00	$ 15.00	$ 15.00	$ 15.00	$ 16.00	$ 18.00	$ 20.00
6" Meter	$ 20.00	$ 20.00	$ 20.00	$ 20.00	$ 20.00	$ 21.00	$ 24.00	$ 26.00
8" Meter	$ 30.00	$ 30.00	$ 30.00	$ 30.00	$ 30.00	$ 32.00	$ 36.00	$ 40.00
≥ 10" Meter	$ 40.00	$ 40.00	$ 40.00	$ 40.00	$ 40.00	$ 42.00	$ 48.00	$ 53.00

JEA WATER, WASTEWATER, AND RECLAIMED RATE HISTORY

Residential @ 6 Kgal	Oct-01	Oct-04	Oct-05	Oct-06	Oct-07	Oct-08	Oct-09	Oct-10
Water	$ 13.10	$ 13.13	$ 13.13	$ 14.02	$ 15.01	$ 15.65	$ 17.26	$ 19.15
Wastewater	$ 26.66	$ 26.68	$ 28.54	$ 30.53	$ 32.67	$ 33.98	$ 37.58	$ 41.36
Total Water & Sewer Charges w/out Taxes & Fees	**$ 39.76**	**$ 39.81**	**$ 41.67**	**$ 44.55**	**$ 47.68**	**$ 49.63**	**$ 54.84**	**$ 60.51**

WASTEWATER SYSTEM

Service Availability Charges

Rates	Oct-01	Oct-04	Oct-05	Oct-06	Oct-07	Oct-08	Oct-09	Oct-10
Residential								
5/8" Meter	$ 3.40	$ 3.40	$ 3.64	$ 3.89	$ 4.17	$ 4.34	$ 7.34	$ 10.34
3/4" Meter	$ 5.15	$ 5.15	$ 5.51	$ 5.90	$ 6.31	$ 6.57	$ 11.01	$ 15.51
1" Meter	$ 8.55	$ 8.55	$ 9.15	$ 9.79	$ 10.47	$ 10.90	$ 18.35	$ 25.85
1 1/2" Meter	$ 17.10	$ 17.10	$ 18.30	$ 19.58	$ 20.95	$ 21.81	$ 36.70	$ 51.70
2" Meter	$ 27.30	$ 27.30	$ 29.21	$ 31.26	$ 33.44	$ 34.81	$ 58.72	$ 82.72
3" Meter	$ 54.50	$ 54.50	$ 58.32	$ 62.40	$ 66.76	$ 69.50	$ 117.44	$ 165.44
4" Meter	$ 85.15	$ 85.15	$ 91.11	$ 97.49	$ 104.31	$ 108.59		
6" Meter	$ 170.45	$ 170.45	$ 182.38	$ 195.15	$ 208.81	$ 217.37		
8" Meter	$ 272.60	$ 272.60	$ 291.68	$ 312.10	$ 333.95	$ 347.64		
10" Meter	$ 391.90	$ 391.90	$ 419.33	$ 448.69	$ 480.09	$ 499.77		
12" Meter	$ 732.55	$ 732.55	$ 783.83	$ 838.75	$ 897.41	$ 934.20		
20" Meter	$ 1,533.20	$ 1,533.20	$ 1,640.52	$ 1,755.36	$ 1,878.24	$ 1,955.25		
Multi-Family								
5/8" Meter	$ 3.40	$ 3.40	$ 3.64	$ 3.89	$ 4.17	$ 4.34	$ 12.85	$ 18.10
3/4" Meter	$ 5.15	$ 5.15	$ 5.51	$ 5.90	$ 6.31	$ 6.57	$ 19.27	$ 27.14
1" Meter	$ 8.55	$ 8.55	$ 9.15	$ 9.79	$ 10.47	$ 10.90	$ 32.11	$ 45.24
1 1/2" Meter	$ 17.10	$ 17.10	$ 18.30	$ 19.58	$ 20.95	$ 21.81	$ 64.23	$ 90.48
2" Meter	$ 27.30	$ 27.30	$ 29.21	$ 31.26	$ 33.44	$ 34.81	$ 102.76	$ 144.76
3" Meter	$ 54.50	$ 54.50	$ 58.32	$ 62.40	$ 66.76	$ 69.50	$ 205.52	$ 289.52
4" Meter	$ 85.15	$ 85.15	$ 91.11	$ 97.49	$ 104.31	$ 108.59	$ 321.13	$ 452.38
6" Meter	$ 170.45	$ 170.45	$ 182.38	$ 195.15	$ 208.81	$ 217.37	$ 642.25	$ 904.75
8" Meter	$ 272.60	$ 272.60	$ 291.68	$ 312.10	$ 333.95	$ 347.64	$ 1,027.60	$ 1,447.60
10" Meter	$ 391.90	$ 391.90	$ 419.33	$ 448.69	$ 480.09	$ 499.77	$ 1,477.18	$ 2,080.93
12" Meter	$ 732.55	$ 732.55	$ 783.83	$ 838.75	$ 897.41	$ 934.20	$ 2,761.68	$ 3,890.43
20" Meter	$ 1,533.20	$ 1,533.20	$ 1,640.52	$ 1,755.36	$ 1,878.24	$ 1,955.25	$ 5,780.25	$ 8,142.75
Commercial								
5/8" Meter	$ 3.40	$ 3.40	$ 3.64	$ 3.89	$ 4.17	$ 4.34	$ 11.01	$ 15.51
3/4" Meter	$ 5.15	$ 5.15	$ 5.51	$ 5.90	$ 6.31	$ 6.57	$ 16.52	$ 23.27
1" Meter	$ 8.55	$ 8.55	$ 9.15	$ 9.79	$ 10.47	$ 10.90	$ 27.53	$ 38.78
1 1/2" Meter	$ 17.10	$ 17.10	$ 18.30	$ 19.58	$ 20.95	$ 21.81	$ 55.05	$ 77.55
2" Meter	$ 27.30	$ 27.30	$ 29.21	$ 31.26	$ 33.44	$ 34.81	$ 88.08	$ 124.08
3" Meter	$ 54.50	$ 54.50	$ 58.32	$ 62.40	$ 66.76	$ 69.50	$ 176.16	$ 248.16
4" Meter	$ 85.15	$ 85.15	$ 91.11	$ 97.49	$ 104.31	$ 108.59	$ 275.25	$ 387.75
6" Meter	$ 170.45	$ 170.45	$ 182.38	$ 195.15	$ 208.81	$ 217.37	$ 550.50	$ 775.50
8" Meter	$ 272.60	$ 272.60	$ 291.68	$ 312.10	$ 333.95	$ 347.64	$ 880.80	$ 1,240.80
10" Meter	$ 391.90	$ 391.90	$ 419.33	$ 448.69	$ 480.09	$ 499.77	$ 1,266.15	$ 1,783.65
12" Meter	$ 732.55	$ 732.55	$ 783.83	$ 838.75	$ 897.41	$ 934.20	$ 2,367.15	$ 3,334.65
20" Meter	$ 1,533.20	$ 1,533.20	$ 1,640.52	$ 1,755.36	$ 1,878.24	$ 1,955.25	$ 4,954.50	$ 6,979.50

Commodity Charges per Thousand Gallons

	Oct-01	Oct-04	Oct-05	Oct-06	Oct-07	Oct-08	Oct-09	Oct-10
Residential								
1-22 Kgal	$ 3.88	$ 3.88	$ 4.15	$ 4.44	$ 4.75	$ 4.94		
> 22 Kgal								
1-6 Kgal							$ 4.94	$ 4.94
7-20 Kgal							$ 5.19	$ 5.45
> 20 Kgal								
Multi-Family								
All Metered Water Use	$ 3.88	$ 3.88	$ 4.15	$ 4.44	$ 4.75	$ 4.94	$ 5.19	$ 5.45
Commercial								
All Metered Water Use	$ 3.88	$ 3.88	$ 4.15	$ 4.44	$ 4.75	$ 4.94	$ 5.19	$ 5.45
Limited Sewer								
All Metered Water Use	$ 2.33	$ 2.33	$ 2.49	$ 2.67	$ 2.85	$ 2.97	$ 3.35	$ 3.80

RECLAIMED WATER SYSTEM

Service Availability Charges

	Oct-01	Oct-04	Oct-05	Oct-06	Oct-07	Oct-08	Oct-09	Oct-10
Residential (1)								
5/8" Meter		$ 8.45	$ 8.45	$ 9.04	$ 9.67	$ 10.07	$ 11.08	$ 12.19
3/4" Meter		$ 10.65	$ 12.68	$ 13.56	$ 14.51	$ 15.10	$ 16.62	$ 18.29
1" Meter		$ 15.20	$ 21.13	$ 22.60	$ 24.19	$ 25.18	$ 27.70	$ 30.48
1 1/2" Meter		$ 26.35	$ 42.25	$ 45.21	$ 48.37	$ 50.35	$ 55.40	$ 60.95
2" Meter		$ 39.70	$ 67.60	$ 72.33	$ 77.40	$ 80.57	$ 88.64	$ 97.52
3" Meter		$ 75.35	$ 135.20	$ 144.66	$ 154.79	$ 161.14	$ 177.28	$ 195.04
4" Meter		$ 115.35	$ 211.25	$ 226.04	$ 241.86	$ 251.78		
6" Meter		$ 226.85	$ 422.50	$ 452.08	$ 483.72	$ 503.55		
8" Meter		$ 360.35	$ 676.00	$ 723.32	$ 773.95	$ 805.68		
Commercial & Multi-Family (1)								
5/8" Meter	$ 8.45	$ 8.45	$ 8.45	$ 9.04	$ 9.67	$ 10.07	$ 11.08	$ 12.19
3/4" Meter	$ 10.65	$ 10.65	$ 12.68	$ 13.56	$ 14.51	$ 15.10	$ 16.62	$ 18.29
1" Meter	$ 15.20	$ 15.20	$ 21.13	$ 22.60	$ 24.19	$ 25.18	$ 27.70	$ 30.48
1 1/2" Meter	$ 26.35	$ 26.35	$ 42.25	$ 45.21	$ 48.37	$ 50.35	$ 55.40	$ 60.95
2" Meter	$ 39.70	$ 39.70	$ 67.60	$ 72.33	$ 77.40	$ 80.57	$ 88.64	$ 97.52
3" Meter	$ 75.35	$ 75.35	$ 135.20	$ 144.66	$ 154.79	$ 161.14	$ 177.28	$ 195.04
4" Meter	$ 115.35	$ 115.35	$ 211.25	$ 226.04	$ 241.86	$ 251.78	$ 277.00	$ 304.75
6" Meter	$ 226.85	$ 226.85	$ 422.50	$ 452.08	$ 483.72	$ 503.55	$ 554.00	$ 609.50
8" Meter	$ 360.35	$ 360.35	$ 676.00	$ 723.32	$ 773.95	$ 805.68	$ 886.40	$ 975.20

Commodity Charges per Thousand Gallons

	Oct-01	Oct-04	Oct-05	Oct-06	Oct-07	Oct-08	Oct-09	Oct-10
Residential								
1-15 Kgal		$ 0.97	$ 0.97	$ 1.04	$ 1.11	$ 1.16		
16-30 Kgal		$ 1.56	$ 1.56	$ 1.67	$ 1.79	$ 1.86		
> 30 Kgal		$ 4.00	$ 4.00	$ 4.28	$ 4.58	$ 4.77		
1-14 Kgal							$ 1.45	$ 1.82
> 14 Kgal							$ 4.96	$ 5.15
Commercial & Multi-Family								
1-15 Kgal		$ 0.97	$ 0.97	$ 1.04				
16-30 Kgal		$ 1.56	$ 1.56	$ 1.67				
> 30 Kgal		$ 4.00	$ 4.00	$ 4.28				
1-22 Kgal					$ 1.11	$ 1.16		
> 22 Kgal					$ 1.47	$ 1.53		
1-14 Kgal							$ 1.73	$ 2.30
> 14 Kgal							$ 2.14	$ 2.75
Bulk Reclaimed								
All Kgal (2)	$ 0.19	$ 0.13	$ 0.13	$ 0.13	$ 0.13	$ 0.14	$ 0.14	$ 0.14
All Kgal (3)	$ 0.27	$ 0.27	$ 0.27	$ 0.27	$ 0.27	$ 0.28	$ 0.28	$ 0.28

Environmental Charge

Water System - per Thousand Gallons	$ 0.10	$ 0.23	$ 0.37	$ 0.50
Irrigation - per Thousand Gallons	$ 0.10	$ 0.23	$ 0.37	$ 0.50
Wastewater System - per Thousand Gallons	$ 0.10	$ 0.23	$ 0.37	$ 0.50
Reclaimed Water System - per Thousand Gallons not including bulk	$ 0.10	$ 0.23	$ 0.37	$ 0.50

Notes:
(1) Non-bulk reclaimed customers in a DRI will be charged an additional $6.00 regardless of meter size to cover costs due to regulatory requirements.
(2) Bulk Reclaimed rater per kgal for bulk reclaimed irrigation customers that are relinquishing, suspending, or foregoing an application for a Consumptive Use Permit or ground water withdrawals from SJRWMD. Rates apply in accordance with JEA standard bulk reclaimed water service agreement until such time as JEA may no longer offer reclaimed water service under such agreement.
(3) Bulk Reclaimed rate per kgal for all other bulk reclaimed irrigation customers. Rates apply in accordance with JEA standard bulk reclaimed water service agreement until such time as JEA may no longer offer reclaimed water service under such agreement.

JEA WATER, WASTEWATER, AND RECLAIMED RATE HISTORY

NO WATER, WASTEWATER AND RECLAIMED RATE CHANGES SINCE OCTOBER 2011

Residential @ 6 Kgal	Oct-11	Oct-12	Oct-13	Oct-14	Oct-15	Oct-16	Oct-17	Oct-18
Water	$ 20.40	$ 20.40	$ 20.40	$ 20.40	$ 20.40	$ 20.40	$ 20.40	$ 20.40
Wastewater	$ 45.96	$ 45.96	$ 45.96	$ 45.96	$ 45.96	$ 45.96	$ 45.96	$ 45.96
Total Water & Sewer Charges w/out Taxes & Fees	**$ 66.36**	**$ 66.36**	**$ 66.36**	**$ 66.36**	**$ 66.36**	**$ 66.36**	**$ 66.36**	**$ 66.36**

Rates	Oct-11	Oct-12	Oct-13	Oct-14	Oct-15	Oct-16	Oct-17	Oct-18
WATER SYSTEM								
Service Availability Charges								
Residential Potable								
5/8" Meter	$ 12.60	$ 12.60	$ 12.60	$ 12.60	$ 12.60	$ 12.60	$ 12.60	$ 12.60
3/4" Meter	$ 18.90	$ 18.90	$ 18.90	$ 18.90	$ 18.90	$ 18.90	$ 18.90	$ 18.90
1" Meter	$ 31.50	$ 31.50	$ 31.50	$ 31.50	$ 31.50	$ 31.50	$ 31.50	$ 31.50
1 1/2" Meter	$ 63.00	$ 63.00	$ 63.00	$ 63.00	$ 63.00	$ 63.00	$ 63.00	$ 63.00
2" Meter	$ 100.80	$ 100.80	$ 100.80	$ 100.80	$ 100.80	$ 100.80	$ 100.80	$ 100.80
3" Meter	$ 201.60	$ 201.60	$ 201.60	$ 201.60	$ 201.60	$ 201.60	$ 201.60	$ 201.60
Residential Irrigation								
5/8" Meter	$ 12.60	$ 12.60	$ 12.60	$ 12.60	$ 12.60	$ 12.60	$ 12.60	$ 12.60
3/4" Meter	$ 18.90	$ 18.90	$ 18.90	$ 18.90	$ 18.90	$ 18.90	$ 18.90	$ 18.90
1" Meter	$ 31.50	$ 31.50	$ 31.50	$ 31.50	$ 31.50	$ 31.50	$ 31.50	$ 31.50
1 1/2" Meter	$ 63.00	$ 63.00	$ 63.00	$ 63.00	$ 63.00	$ 63.00	$ 63.00	$ 63.00
2" Meter	$ 100.80	$ 100.80	$ 100.80	$ 100.80	$ 100.80	$ 100.80	$ 100.80	$ 100.80
3" Meter	$ 201.60	$ 201.60	$ 201.60	$ 201.60	$ 201.60	$ 201.60	$ 201.60	$ 201.60
Multi-Family Potable								
5/8" Meter	$ 18.41	$ 18.41	$ 18.41	$ 18.41	$ 18.41	$ 18.41	$ 18.41	$ 18.41
3/4" Meter	$ 27.62	$ 27.62	$ 27.62	$ 27.62	$ 27.62	$ 27.62	$ 27.62	$ 27.62
1" Meter	$ 46.03	$ 46.03	$ 46.03	$ 46.03	$ 46.03	$ 46.03	$ 46.03	$ 46.03
1 1/2" Meter	$ 92.05	$ 92.05	$ 92.05	$ 92.05	$ 92.05	$ 92.05	$ 92.05	$ 92.05
2" Meter	$ 147.28	$ 147.28	$ 147.28	$ 147.28	$ 147.28	$ 147.28	$ 147.28	$ 147.28
3" Meter	$ 294.56	$ 294.56	$ 294.56	$ 294.56	$ 294.56	$ 294.56	$ 294.56	$ 294.56
4" Meter	$ 460.25	$ 460.25	$ 460.25	$ 460.25	$ 460.25	$ 460.25	$ 460.25	$ 460.25
6" Meter	$ 920.50	$ 920.50	$ 920.50	$ 920.50	$ 920.50	$ 920.50	$ 920.50	$ 920.50
8" Meter	$ 1,472.80	$ 1,472.80	$ 1,472.80	$ 1,472.80	$ 1,472.80	$ 1,472.80	$ 1,472.80	$ 1,472.80
10" Meter	$ 2,117.15	$ 2,117.15	$ 2,117.15	$ 2,117.15	$ 2,117.15	$ 2,117.15	$ 2,117.15	$ 2,117.15
12" Meter	$ 3,958.15	$ 3,958.15	$ 3,958.15	$ 3,958.15	$ 3,958.15	$ 3,958.15	$ 3,958.15	$ 3,958.15
20" Meter	$ 8,284.50	$ 8,284.50	$ 8,284.50	$ 8,284.50	$ 8,284.50	$ 8,284.50	$ 8,284.50	$ 8,284.50
Commercial Potable								
5/8" Meter	$ 12.60	$ 12.60	$ 12.60	$ 12.60	$ 12.60	$ 12.60	$ 12.60	$ 12.60
3/4" Meter	$ 18.90	$ 18.90	$ 18.90	$ 18.90	$ 18.90	$ 18.90	$ 18.90	$ 18.90
1" Meter	$ 31.50	$ 31.50	$ 31.50	$ 31.50	$ 31.50	$ 31.50	$ 31.50	$ 31.50
1 1/2" Meter	$ 63.00	$ 63.00	$ 63.00	$ 63.00	$ 63.00	$ 63.00	$ 63.00	$ 63.00
2" Meter	$ 100.80	$ 100.80	$ 100.80	$ 100.80	$ 100.80	$ 100.80	$ 100.80	$ 100.80
3" Meter	$ 201.60	$ 201.60	$ 201.60	$ 201.60	$ 201.60	$ 201.60	$ 201.60	$ 201.60
4" Meter	$ 315.00	$ 315.00	$ 315.00	$ 315.00	$ 315.00	$ 315.00	$ 315.00	$ 315.00
6" Meter	$ 630.00	$ 630.00	$ 630.00	$ 630.00	$ 630.00	$ 630.00	$ 630.00	$ 630.00
8" Meter	$ 1,008.00	$ 1,008.00	$ 1,008.00	$ 1,008.00	$ 1,008.00	$ 1,008.00	$ 1,008.00	$ 1,008.00
10" Meter	$ 1,974.55	$ 1,974.55	$ 1,974.55	$ 1,974.55	$ 1,974.55	$ 1,974.55	$ 1,974.55	$ 1,974.55
12" Meter	$ 3,691.55	$ 3,691.55	$ 3,691.55	$ 3,691.55	$ 3,691.55	$ 3,691.55	$ 3,691.55	$ 3,691.55
20" Meter	$ 7,726.50	$ 7,726.50	$ 7,726.50	$ 7,726.50	$ 7,726.50	$ 7,726.50	$ 7,726.50	$ 7,726.50
Commercial & Multi-Family Irrigation								
5/8" Meter	$ 12.60	$ 12.60	$ 12.60	$ 12.60	$ 12.60	$ 12.60	$ 12.60	$ 12.60
3/4" Meter	$ 18.90	$ 18.90	$ 18.90	$ 18.90	$ 18.90	$ 18.90	$ 18.90	$ 18.90
1" Meter	$ 31.50	$ 31.50	$ 31.50	$ 31.50	$ 31.50	$ 31.50	$ 31.50	$ 31.50
1 1/2" Meter	$ 63.00	$ 63.00	$ 63.00	$ 63.00	$ 63.00	$ 63.00	$ 63.00	$ 63.00
2" Meter	$ 100.80	$ 100.80	$ 100.80	$ 100.80	$ 100.80	$ 100.80	$ 100.80	$ 100.80
3" Meter	$ 201.60	$ 201.60	$ 201.60	$ 201.60	$ 201.60	$ 201.60	$ 201.60	$ 201.60
4" Meter	$ 315.00	$ 315.00	$ 315.00	$ 315.00	$ 315.00	$ 315.00	$ 315.00	$ 315.00
6" Meter	$ 630.00	$ 630.00	$ 630.00	$ 630.00	$ 630.00	$ 630.00	$ 630.00	$ 630.00
8" Meter	$ 1,008.00	$ 1,008.00	$ 1,008.00	$ 1,008.00	$ 1,008.00	$ 1,008.00	$ 1,008.00	$ 1,008.00
Commodity Charges per Thousand Gallons								
Residential								
1-6 Kgal	$ 0.93	$ 0.93	$ 0.93	$ 0.93	$ 0.93	$ 0.93	$ 0.93	$ 0.93
7-20 Kgal	$ 2.28	$ 2.60	$ 2.60	$ 2.60	$ 2.60	$ 2.60	$ 2.60	$ 2.60
> 20 Kgal	$ 5.35	$ 5.60	$ 5.60	$ 5.60	$ 5.60	$ 5.60	$ 5.60	$ 5.60
Residential Irrigation								
1-14 Kgal	$ 2.28	$ 2.60	$ 2.60	$ 2.60	$ 2.60	$ 2.60	$ 2.60	$ 2.60
> 14 Kgal	$ 5.35	$ 5.60	$ 5.60	$ 5.60	$ 5.60	$ 5.60	$ 5.60	$ 5.60
Multi-Family - 8" Meters and Smaller								
All Metered Water Use	$ 1.00	$ 1.00	$ 1.00	$ 1.00	$ 1.00	$ 1.00	$ 1.00	$ 1.00
Multi-Family - 10" Meters and Greater								
All Metered Water Use	$ 1.00	$ 1.00	$ 1.00	$ 1.00	$ 1.00	$ 1.00	$ 1.00	$ 1.00
Commercial - 8" Meters and Smaller								
All Metered Water Use	$ 1.48	$ 1.49	$ 1.49	$ 1.49	$ 1.49	$ 1.49	$ 1.49	$ 1.49
Commercial - 10" Meters and Greater								
All Metered Water Use	$ 1.23	$ 1.24	$ 1.24	$ 1.24	$ 1.24	$ 1.24	$ 1.24	$ 1.24
Commercial & Multi-Family Irrigation								
1-14 Kgal	$ 2.87	$ 3.44	$ 3.44	$ 3.44	$ 3.44	$ 3.44	$ 3.44	$ 3.44
> 14 Kgal	$ 3.36	$ 3.96	$ 3.96	$ 3.96	$ 3.96	$ 3.96	$ 3.96	$ 3.96
Fire Protection Charges								
Unmetered Connections (Annual Charge)								
≤ 4" Meter	$ 67.00	$ 67.00	$ 67.00	$ 67.00	$ 67.00	$ 67.00	$ 67.00	$ 67.00
6" Meter	$ 133.00	$ 133.00	$ 133.00	$ 133.00	$ 133.00	$ 133.00	$ 133.00	$ 133.00
8" Meter	$ 274.00	$ 274.00	$ 274.00	$ 274.00	$ 274.00	$ 274.00	$ 274.00	$ 274.00
≥ 10" Meter	$ 488.00	$ 488.00	$ 488.00	$ 488.00	$ 488.00	$ 488.00	$ 488.00	$ 488.00
Metered Connections (Monthly Charge)								
≤ 4" Meter	$ 21.00	$ 21.00	$ 21.00	$ 21.00	$ 21.00	$ 21.00	$ 21.00	$ 21.00
6" Meter	$ 28.00	$ 28.00	$ 28.00	$ 28.00	$ 28.00	$ 28.00	$ 28.00	$ 28.00
8" Meter	$ 42.00	$ 42.00	$ 42.00	$ 42.00	$ 42.00	$ 42.00	$ 42.00	$ 42.00
≥ 10" Meter	$ 55.00	$ 55.00	$ 55.00	$ 55.00	$ 55.00	$ 55.00	$ 55.00	$ 55.00
WASTEWATER SYSTEM								
Service Availability Charges								
Residential								
5/8" Meter	$ 14.10	$ 14.10	$ 14.10	$ 14.10	$ 14.10	$ 14.10	$ 14.10	$ 14.10
3/4" Meter	$ 21.15	$ 21.15	$ 21.15	$ 21.15	$ 21.15	$ 21.15	$ 21.15	$ 21.15
1" Meter	$ 35.25	$ 35.25	$ 35.25	$ 35.25	$ 35.25	$ 35.25	$ 35.25	$ 35.25
1 1/2" Meter	$ 70.50	$ 70.50	$ 70.50	$ 70.50	$ 70.50	$ 70.50	$ 70.50	$ 70.50
2" Meter	$ 112.80	$ 112.80	$ 112.80	$ 112.80	$ 112.80	$ 112.80	$ 112.80	$ 112.80

JEA WATER, WASTEWATER, AND RECLAIMED RATE HISTORY

NO WATER, WASTEWATER AND RECLAIMED RATE CHANGES SINCE OCTOBER 2011

Residential @ 6 Kgal	Oct-11	Oct-12	Oct-13	Oct-14	Oct-15	Oct-16	Oct-17	Oct-18
Water	$ 20.40	$ 20.40	$ 20.40	$ 20.40	$ 20.40	$ 20.40	$ 20.40	$ 20.40
Wastewater	$ 45.96	$ 45.96	$ 45.96	$ 45.96	$ 45.96	$ 45.96	$ 45.96	$ 45.96
Total Water & Sewer Charges w/out Taxes & Fees	**$ 66.36**	**$ 66.36**	**$ 66.36**	**$ 66.36**	**$ 66.36**	**$ 66.36**	**$ 66.36**	**$ 66.36**
3" Meter	$ 225.60	$ 225.60	$ 225.60	$ 225.60	$ 225.60	$ 225.60	$ 225.60	$ 225.60
Multi-Family								
5/8" Meter	$ 24.68	$ 24.68	$ 24.68	$ 24.68	$ 24.68	$ 24.68	$ 24.68	$ 24.68
3/4" Meter	$ 37.01	$ 37.01	$ 37.01	$ 37.01	$ 37.01	$ 37.01	$ 37.01	$ 37.01
1" Meter	$ 61.69	$ 61.69	$ 61.69	$ 61.69	$ 61.69	$ 61.69	$ 61.69	$ 61.69
1 1/2" Meter	$ 123.38	$ 123.38	$ 123.38	$ 123.38	$ 123.38	$ 123.38	$ 123.38	$ 123.38
2" Meter	$ 197.40	$ 197.40	$ 197.40	$ 197.40	$ 197.40	$ 197.40	$ 197.40	$ 197.40
3" Meter	$ 394.80	$ 394.80	$ 394.80	$ 394.80	$ 394.80	$ 394.80	$ 394.80	$ 394.80
4" Meter	$ 616.88	$ 616.88	$ 616.88	$ 616.88	$ 616.88	$ 616.88	$ 616.88	$ 616.88
6" Meter	$ 1,233.75	$ 1,233.75	$ 1,233.75	$ 1,233.75	$ 1,233.75	$ 1,233.75	$ 1,233.75	$ 1,233.75
8" Meter	$ 1,974.00	$ 1,974.00	$ 1,974.00	$ 1,974.00	$ 1,974.00	$ 1,974.00	$ 1,974.00	$ 1,974.00
10" Meter	$ 2,837.63	$ 2,837.63	$ 2,837.63	$ 2,837.63	$ 2,837.63	$ 2,837.63	$ 2,837.63	$ 2,837.63
12" Meter	$ 5,305.13	$ 5,305.13	$ 5,305.13	$ 5,305.13	$ 5,305.13	$ 5,305.13	$ 5,305.13	$ 5,305.13
20" Meter	$ 11,103.75	$ 11,103.75	$ 11,103.75	$ 11,103.75	$ 11,103.75	$ 11,103.75	$ 11,103.75	$ 11,103.75
Commercial								
5/8" Meter	$ 21.15	$ 21.15	$ 21.15	$ 21.15	$ 21.15	$ 21.15	$ 21.15	$ 21.15
3/4" Meter	$ 31.73	$ 31.73	$ 31.73	$ 31.73	$ 31.73	$ 31.73	$ 31.73	$ 31.73
1" Meter	$ 52.88	$ 52.88	$ 52.88	$ 52.88	$ 52.88	$ 52.88	$ 52.88	$ 52.88
1 1/2" Meter	$ 105.75	$ 105.75	$ 105.75	$ 105.75	$ 105.75	$ 105.75	$ 105.75	$ 105.75
2" Meter	$ 169.20	$ 169.20	$ 169.20	$ 169.20	$ 169.20	$ 169.20	$ 169.20	$ 169.20
3" Meter	$ 338.40	$ 338.40	$ 338.40	$ 338.40	$ 338.40	$ 338.40	$ 338.40	$ 338.40
4" Meter	$ 528.75	$ 528.75	$ 528.75	$ 528.75	$ 528.75	$ 528.75	$ 528.75	$ 528.75
6" Meter	$ 1,057.50	$ 1,057.50	$ 1,057.50	$ 1,057.50	$ 1,057.50	$ 1,057.50	$ 1,057.50	$ 1,057.50
8" Meter	$ 1,692.00	$ 1,692.00	$ 1,692.00	$ 1,692.00	$ 1,692.00	$ 1,692.00	$ 1,692.00	$ 1,692.00
10" Meter	$ 2,432.25	$ 2,432.25	$ 2,432.25	$ 2,432.25	$ 2,432.25	$ 2,432.25	$ 2,432.25	$ 2,432.25
12" Meter	$ 4,547.25	$ 4,547.25	$ 4,547.25	$ 4,547.25	$ 4,547.25	$ 4,547.25	$ 4,547.25	$ 4,547.25
20" Meter	$ 9,517.50	$ 9,517.50	$ 9,517.50	$ 9,517.50	$ 9,517.50	$ 9,517.50	$ 9,517.50	$ 9,517.50
Commodity Charges per Thousand Gallons								
Residential								
1-6 Kgal	$ 4.94	$ 4.94	$ 4.94	$ 4.94	$ 4.94	$ 4.94	$ 4.94	$ 4.94
7-20 Kgal	$ 5.73	$ 6.02	$ 6.02	$ 6.02	$ 6.02	$ 6.02	$ 6.02	$ 6.02
Multi-Family								
All kgal	$ 5.73	$ 6.02	$ 6.02	$ 6.02	$ 6.02	$ 6.02	$ 6.02	$ 6.02
Commercial								
All kgal	$ 5.73	$ 6.02	$ 6.02	$ 6.02	$ 6.02	$ 6.02	$ 6.02	$ 6.02
Limited Sewer								
All kgal	$ 4.30	$ 4.74	$ 4.74	$ 4.74	$ 4.74	$ 4.74	$ 4.74	$ 4.74
RECLAIMED WATER SYSTEM								
Service Availability Charges								
Residential (1)								
5/8" Meter	$ 12.60	$ 12.60	$ 12.60	$ 12.60	$ 12.60	$ 12.60	$ 12.60	$ 12.60
3/4" Meter	$ 18.90	$ 18.90	$ 18.90	$ 18.90	$ 18.90	$ 18.90	$ 18.90	$ 18.90
1" Meter	$ 31.50	$ 31.50	$ 31.50	$ 31.50	$ 31.50	$ 31.50	$ 31.50	$ 31.50
1 1/2" Meter	$ 63.00	$ 63.00	$ 63.00	$ 63.00	$ 63.00	$ 63.00	$ 63.00	$ 63.00
2" Meter	$ 100.80	$ 100.80	$ 100.80	$ 100.80	$ 100.80	$ 100.80	$ 100.80	$ 100.80
3" Meter	$ 201.60	$ 201.60	$ 201.60	$ 201.60	$ 201.60	$ 201.60	$ 201.60	$ 201.60
Commercial & Multi-Family (1)								
5/8" Meter	$ 12.60	$ 12.60	$ 12.60	$ 12.60	$ 12.60	$ 12.60	$ 12.60	$ 12.60
3/4" Meter	$ 18.90	$ 18.90	$ 18.90	$ 18.90	$ 18.90	$ 18.90	$ 18.90	$ 18.90
1" Meter	$ 31.50	$ 31.50	$ 31.50	$ 31.50	$ 31.50	$ 31.50	$ 31.50	$ 31.50
1 1/2" Meter	$ 63.00	$ 63.00	$ 63.00	$ 63.00	$ 63.00	$ 63.00	$ 63.00	$ 63.00
2" Meter	$ 100.80	$ 100.80	$ 100.80	$ 100.80	$ 100.80	$ 100.80	$ 100.80	$ 100.80
3" Meter	$ 201.60	$ 201.60	$ 201.60	$ 201.60	$ 201.60	$ 201.60	$ 201.60	$ 201.60
4" Meter	$ 315.00	$ 315.00	$ 315.00	$ 315.00	$ 315.00	$ 315.00	$ 315.00	$ 315.00
6" Meter	$ 630.00	$ 630.00	$ 630.00	$ 630.00	$ 630.00	$ 630.00	$ 630.00	$ 630.00
8" Meter	$ 1,008.00	$ 1,008.00	$ 1,008.00	$ 1,008.00	$ 1,008.00	$ 1,008.00	$ 1,008.00	$ 1,008.00
Commodity Charges per Thousand Gallons								
Residential								
1-14 Kgal	$ 2.28	$ 2.60	$ 2.60	$ 2.60	$ 2.60	$ 2.60	$ 2.60	$ 2.60
> 14 Kgal	$ 5.35	$ 5.60	$ 5.60	$ 5.60	$ 5.60	$ 5.60	$ 5.60	$ 5.60
Commercial & Multi-Family								
1-14 Kgal	$ 2.87	$ 3.44	$ 3.44	$ 3.44	$ 3.44	$ 3.44	$ 3.44	$ 3.44
> 14 Kgal	$ 3.36	$ 3.96	$ 3.96	$ 3.96	$ 3.96	$ 3.96	$ 3.96	$ 3.96
Bulk Reclaimed								
All Kgal (2)	$ 0.14	$ 0.14	$ 0.14	$ 0.14	$ 0.14	$ 0.14	$ 0.14	$ 0.14
All Kgal (3)	$ 0.28	$ 0.28	$ 0.28	$ 0.28	$ 0.28	$ 0.28	$ 0.28	$ 0.28
Environmental Charge								
Water System - per kgal	$ 0.37	$ 0.37	$ 0.37	$ 0.37	$ 0.37	$ 0.37	$ 0.37	$ 0.37
Irrigation - per kgal	$ 0.37	$ 0.37	$ 0.37	$ 0.37	$ 0.37	$ 0.37	$ 0.37	$ 0.37
Wastewater - Residential 1-20 kgal - Other All kgal	$ 0.37	$ 0.37	$ 0.37	$ 0.37	$ 0.37	$ 0.37	$ 0.37	$ 0.37
Reclaimed Water System - per kgal not including bulk	$ 0.37	$ 0.37	$ 0.37	$ 0.37	$ 0.37	$ 0.37	$ 0.37	$ 0.37

Notes:
(1) Non-bulk reclaimed customers in a DRI will be charged an additional $6.00 regardless of meter size to cover costs due to regulatory requirements.
(2) Bulk Reclaimed rater per kgal for bulk reclaimed irrigation customers that are relinquishing, suspending, or foregoing an application for a Consumptive Use Permit or ground water withdrawals from SJRWMD. Rates apply in accordance with JEA standard bulk reclaimed water service agreement until such time as JEA may no longer offer reclaimed water service under such agreement.
(3) Bulk Reclaimed rate per kgal for all other bulk reclaimed irrigation customers. Rates apply in accordance with JEA standard bulk reclaimed water service agreement until such time as JEA may no longer offer reclaimed water service under such agreement.

FINAL REPORT

Integrated Water Resource Planning Project

JEA

February 2013

CDM Smith

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Figures

Executive Summary

JEA has completed the Integrated Water Resource Planning (IWRP) Project incorporating the potable water, sewer and reclaimed water systems in a long-term planning tool to analyze the current system, identify water resource challenges and opportunities, and develop a method for assessing future water resources investments and policies. At the start of the IWRP Project, the following mission statement was developed to guide the study:

> *"The project team will develop an integrated water resource planning process that is designed to provide a road map for assessing future investments and developing policies to sustainably meet water needs through year 2035. The project will develop processes and tools for ongoing assessment and adaptive management."*

A systems model was developed as part of this study in order to answer the following types of questions:

- When will water demand outpace existing water supply?
- What supply alternatives will offer the most cost-effective and reliable solutions?
- How can supply-side and demand-side management be used together cost-effectively?
- How should new infrastructure and facilities be phased?

In addition to the systems model, an evaluation framework and decision tool was also developed. The decision tool incorporates performance metrics from the systems model along with other qualitative metrics, in order to rank alternatives against multiple criteria. To demonstrate the systems model and decision tool, several illustrative alternatives were created. While these illustrative alternatives utilize reasonable information, they assume certain conditions which will likely change. Therefore, these alternatives should in no way be construed as alternatives that JEA is pursuing at this time. Rather, they were developed to demonstrate how the systems model, evaluation framework and decision tool can be used by JEA to evaluate future water resources and develop an appropriate long-term strategy.

The IWRP process starts by defining planning objectives and performance measures that are important to the utility, customers, regulators and other stakeholders. These guiding objectives were outlined at the first workshop with JEA's Planning Team, then reviewed and modified by the broader group of JEA staff and leadership. Each objective and its related performance measures are listed in **Table ES-1** along with the weights assigned to each used in scoring and analyzing the illustrative alternatives. The performance measures are either quantitative, and calculated within the integrated model, or qualitative, and determined outside the model based on experience and professional judgment.

Table ES-1 Objectives, Performance Measures and Weights

Objective	Weight	Performance Measure	Sub-Weight	Units	Better Scores Are:
Maximize Cost-Effectiveness	0.167	Total customer lifecycle costs	0.4	2012 dollars (billions)	lower
		JEA levelized costs	0.4	2012 dollars per million gallon	lower
		Ratio of JEA fixed costs to JEA total costs	0.2	Fixed costs/total costs	lower
Reliably Meet Water Demands	0.167	Magnitude of water shortage	0.6	Million gallons	lower
		Time of water shortage	0.4	% of months showing deficit > 5%	lower
Maximize Flexibility	0.167	Operational flexibility	0.5	% of months showing South Grid deficit >5%	lower
		Diversity of supply	0.5	% supply remaining after removing top source	higher
Promote Environmental Sustainability	0.167	Aquifer sustainability	0.5	% supplies not from Floridan Aquifer	higher
		Water use efficiency	0.4	% demand reduced by conservation/reuse	higher
		River impacts	0.1	% supply from surface water	lower
Maximize Implementation	0.167	Reliance on proven technology	0.4	Qualitative score of 1 to 5, 1 - unproven technology, 5 - common technology	higher
		Ability to permit	0.4	Qualitative score of 1 to 5, 1 - difficult to permit, 5 - no permitting hurdles	higher
		Public acceptance	0.2	Qualitative score of 1 to 5, 1 - unlikely public acceptance, 5 - no new public acceptance needed	higher
Meet Customer Water Quality	0.167	Water quality blending/secondary water quality	1	Qualitative score of 1 to 5, 1 - difficult to blend sources, 5 - no blending challenges	higher

The next step in the IWRP process is the identification and characterization of various supply and demand-side options. A full list of options modeled is listed in **Table ES-2**. Each of these options has been previously studied and information concerning the configuration, potential yield, constraints and costs were taken from previous reports for incorporation into the model.

Table ES-2 Modeled Options within the System Planning Tool

Water Supply Options	Water Reuse Options	Demand Management Options
▪ CUP Allocations ▪ Regional Surface Water Reservoirs on either Ortega River, Big Davis Creek, or Durbin Creek ▪ Non-Floridan Private Irrigation Promotion for either current self supply customers or for wider adoptions ▪ Desalination of either brackish groundwater, brackish St. Johns River water, lower St. Johns River water or the ocean. ▪ Intermediate Aquifer Wells	▪ Indirect Potable Reuse ▪ Keystone Lake Regional Reuse ▪ Regional Reuse throughout the whole St. Johns River Water Management District ▪ Targeted Reuse focusing on either the Stone Container Corporation, creation of a South Grid Salinity barrier, or providing reclaimed water to identified 'Water Hogs'.	▪ Conservation ▪ Reduction of unaccounted for water

Because no single option is likely able to meet all of the specified planning objectives, options are combined into complete alternatives. During a JEA workshop, several themed-alternatives were initially developed and then expanded into the five listed below. These alternatives are NOT intended to represent actual plans or recommendations – rather, they were formulated solely to demonstrate the comparison process with the IWRP tools.

1. No Options – Water is supplied solely from the Floridan Aquifer by way of the CUP.

2. Low Cost – In addition to the planned North to South Grid transfer capacity, up to an additional 5 mgd of supply is provided from intermediate aquifer supply wells (IAS wells). Targeted reuse expansion options are included to offset potable demand. This alternative results in future deficits.

3. High Reliability with Groundwater Desalination – All options in the Low Cost alternative (IAS wells and targeted reuse) are included, along with a 30 mgd brackish groundwater desalination plant.

4. High Reliability with Surface Water Desalination - All options in the Low Cost alternative (IAS wells and targeted reuse) are included, along with a 30 mgd brackish St. Johns River water desalination plant.

5. High Reliability with Indirect Potable Reuse (IPR) – All options in the Low Cost alternative (IAS wells and targeted reuse) are included, along with up to 30 mgd of indirect potable reuse capacity in the South Grid.

The alternatives are then evaluated using an integrated systems model that simulates system constraints, supply reliability, lifecycle costs, water quality and other metrics.

To facilitate the programming of the systems model, a conceptual schematic of JEA's water system was developed (see **Figure ES-1**). In this figure, the size of the circles represents the relative size of water demand and CUP allocation in the year 2036. As shown in the figure, the North and South Grids represent the majority of the system water demands. A range of low, medium and high demand projections are included for each grid. These demands are met by the CUP allocation allowed per grid and then by any of the selected additional supply options or demand management options.

The systems model is run for a 25-year planning period from 2012 to 2035 allowing factors such as demand or the availability of supply sources to change over time. The model was created using the software STELLA and can be operated through a set of user-friendly interface management panels. From these panels all options can be turned on or off to build the alternatives for investigation. Navigation buttons easily allow changes and updates to any of the project data or assumptions included within the model structure. Additionally, the user can adjust the priority order in which the water supply options are utilized. The model utilizes the water from one source to meet demand until it is exhausted and then moves on to the next source on the priority list until the demand is satisfied or no additional water supply options remain.

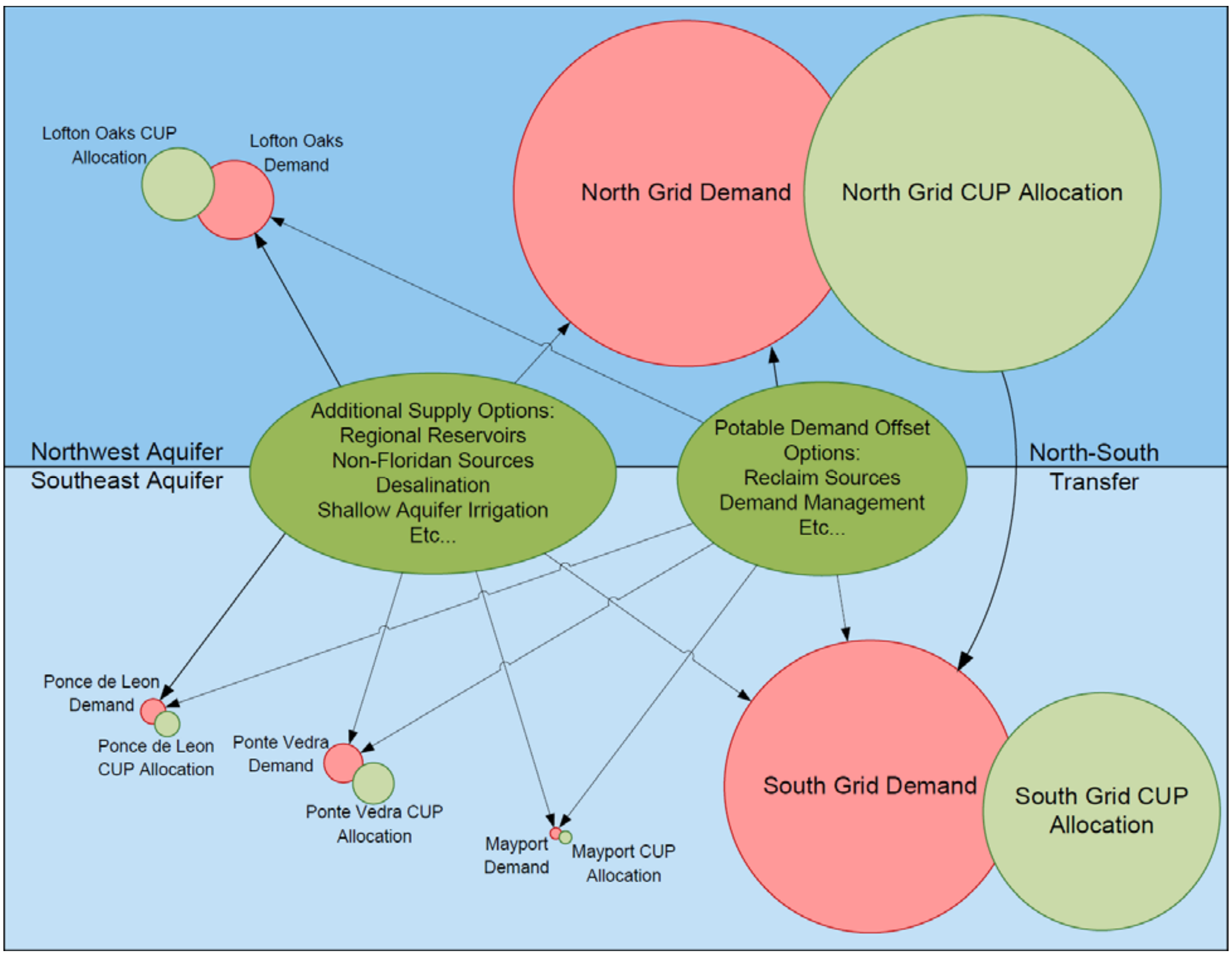

Figure ES-1
Modeled System Schematic, Based on 2036 Demands and CUP Allocation

The systems model will produce raw output for the various quantitative metrics. To facilitate the ranking of alternatives, a decision software tool called Criterium Decision Plus (CDP), was utilized. CDP uses a method called multi-attribute rating to convert raw performance metrics (both quantitative and qualitative) into standardized scores (removing units such as dollars for cost or mgd for water supply), and then applies the relative weights in order to compare and rank alternatives.

The scoring of the illustrative alternatives produces the following scores and ranking (Table ES-3 and Figure ES-2). The score is a composite of the sum of the normalized scores for each objective category; theoretically, an alternative that scores perfectly in all objective categories would have a composite score of 1.0.

Table ES-3 Results of Illustrative Alternative Ranking

Alternative	Composite Score	Rank
High Reliability with Groundwater Desalination	0.67	1
High Reliability with Surface Water Desalination	0.63	2
High Reliability with Indirect Potable Reuse	0.59	3
Low Cost	0.57	4
No Options	0.55	5

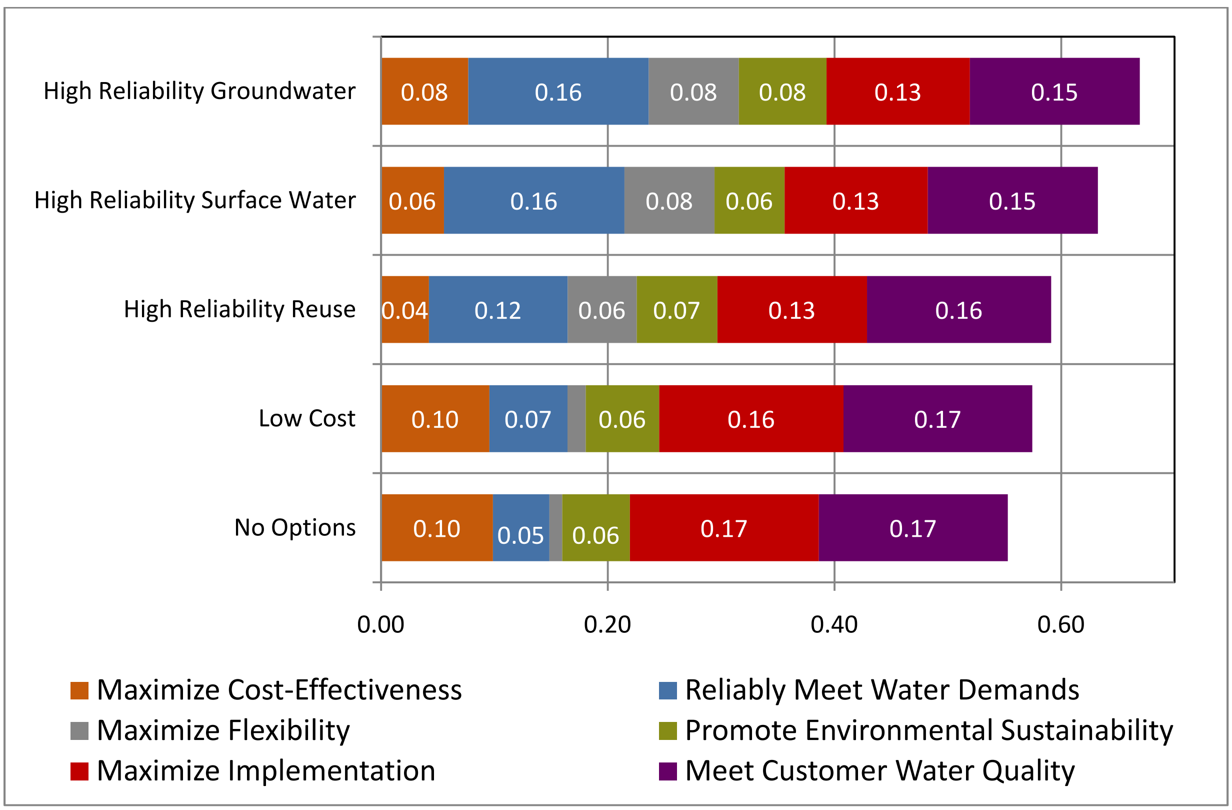

Figure ES-2
Illustrative Alternative Scores

The groundwater desalination alternative scored the best because, despite having a higher cost, the supply options chosen resulted in higher supply reliability when compared to lower cost alternatives. A sensitivity analysis on the weights of the objectives—which were weighted equally at 17 percent each in the baseline scenario—showed that as the weight of the cost objective is increased beyond 75 percent, the less expensive and less reliable alternatives rank higher.

This report demonstrated how the current systems model can be used to compare alternatives with respect to supply reliability, economic viability, and other criteria. The report and the planning process were not intended to yield a recommended plan for future water supply. However, there are some important observations that can be made from this study, these being:

- While an overall future water supply deficit is predicted for the JEA system if no new options are selected, this deficit is largely present only in the South Grid and Lofton Oaks Grid. The CUP allocation is sufficient to meet the currently projected North Grid demands and those of many of the smaller grids through 2035. Thus the focus on alternative supplies should remain on those with a potential impact for the South Grid system.

- Significant water supply deficits (i.e., greater than 5 mgd) do not occur until after 2025 under a low population forecast scenario, and not until after 2015 under current or high population forecast scenarios.

- There is not always the need to move the full flow capacity through the interconnect between the North and South Grids. The optimal timing for the use of the interconnect depends on the time of year and options selected. Future optimization of the best way to utilize this infrastructure should be considered and could be performed using the system model with some modest refinement.

- The final rankings of the illustrative example were found to be fairly sensitive to cost. Thus, as JEA continues to use the model, specific attention should be paid to continuing to refine the cost of selected alternatives.

Moving forward, JEA can use the model in two ways:

- **Planning Mode:** The model can be used exactly as demonstrated in this report to formulate alternative combinations of supply and demand management options, simulate their performance over the planning period, and compare cost, reliability, and other factors. It can also be used to form hybrid alternatives with options that seem to address or satisfy many of the specified planning objectives. In this way, a preferred plan can be formulated by studying tradeoffs, combining the options that satisfy the objectives broadly, and tuning them to appropriate yield levels.

- **Operations Mode:** The model can also be used (with its accompanying output spreadsheet) to formulate an annual operating plan at any point in time, given the infrastructure that would be currently available. For example, JEA could use the model to formulate an operating plan for 2013 by enabling the current supply options and experimenting with demand management alternatives to see how they might offset potable demand, and what the economic implications would be. In future years, when additional supply sources are brought online, JEA can experiment with alternative prioritization strategies for the suite of installed supplies to help optimize for cost.

As recently discussed with JEA at the project completion workshop, JEA may want to consider the following suggestions for ways to expand and improve the system model:

- **Create more refined alternatives.** The options included in the systems model were all summarized from previous reports and studies. As certain options and combinations of options become favored, the costs and yields should be revisited and refined. More attention to the scaling or phasing of infrastructure can also be considered and modeled.

- **Enhance the financial output.** The current systems model has a significant economic component set up to compute levelized cost and total lifecycle costs. However, an additional export spreadsheet could be created to calculate additional financial output that can feed into a more comprehensive JEA financial analysis for rate making and bonding analysis.

- **Continue model maintenance.** The systems model relies on multiple future projections out to the year 2035. These will need to be updated regularly to remain relevant with current conditions and changing planning activities.

- **Invest in staff training.** JEA may want to consider additional staff to fully utilize both the systems model and CDP decision software.

Section 1

Introduction

JEA operates as an integrated utility providing water, sewer and power to customers in the Jacksonville, Florida area in addition to operating a reclaimed water system. Operating these systems together, JEA inherently understands their connectivity and the need for considering the full system holistically when planning their long-term water resources strategy. To accomplish this goal, JEA's planning group commissioned an Integrated Water Resource Planning (IWRP) Project to analyze the current system, identify water resource challenges and opportunities, and develop a tool for assessing future water resources investments and policies.

1.1 JEA Service Area

In order to assess JEA's water resources challenges and opportunities, it is important to understand JEA's three water resource systems: water, wastewater and reclaimed water.

1.1.1 Water

The water distribution system serves approximately 305,000 customers, and is divided into two major interconnected grids (North Grid and South Grid) as well as four smaller discrete grids. The North Grid and South Grid are interconnected through a pipeline river crossing that allows for the transfer of water from the North Grid to the South Grid. The four smaller grids include the Ponte Vedra and Ponce de Leon systems in St. Johns County, Lofton Oaks in Nassau County, and Mayport in Duval County (see **Figure 1-1**).

All grids use deep wells to draw water from the Floridan Aquifer. Raw water is pumped to small scale water treatment plants for disinfection and ultimately into the water distribution systems.

Population within the JEA service area is projected to grow 43 percent by 2035, with especially high growth in the Lofton Oaks area. This is projected to increase water demands

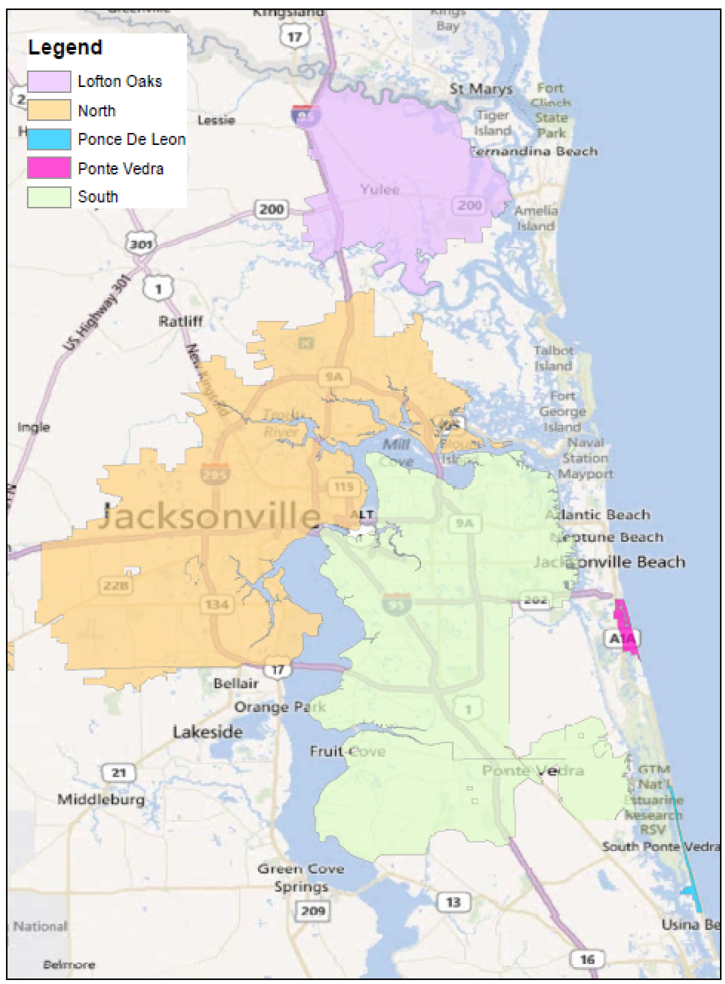

Figure 1-1
JEA Water Grid Geographical Extents

in the region by the same proportion. As of September 2011 the average daily flow of the water system was 124 million gallons per day (mgd) with maximum daily flow reaching 172 mgd.[1]

1.1.2 Wastewater

The wastewater system is broken into service areas that do not align directly with the water distribution grids. JEA's wastewater system serves approximately 230,000 customers. The majority of the wastewater treatment plants discharge into the St. Johns River. JEA is already meeting 2013 TMDL nutrient requirements through the phase-out of smaller facilities and the increased distribution of reclaimed water. Following the completion of all phase-outs, three wastewater treatment plants will remain in the north grid area (Buckman, District II/Cedar Bay, and Southwest), four treatment plants within the South Grid (Arlington East, Blacks Ford, Monterey, and Mandarin), and one plant each within the Ponte Vedra, Ponce De Leon and Lofton Oaks grids. These plants are not simulated explicitly in the IWRP model, but the reclaimed water derived from wastewater plants throughout the system is included.

The peak capacity for the sewer system as of September 2011 was 246 mgd with an average daily flow of 64 mgd and maximum daily flow of 101 mgd. By 2035, the end of the project planning period, average daily wastewater flow is projected to be 103 mgd.

1.1.3 Reclaimed Water

JEA currently has 11 reclaimed water production facilities with a total capacity of 30.8 mgd to serve an average daily flow of 13 mgd. Demand for reclaimed water is projected to more than triple by 2035.

Current reclaimed capacity is split between the North Grid, South Grid and satellite grids. The South Grid currently has the capacity to deliver 14.7 mgd to a customer distribution system where the water is used predominately for irrigation. However, in the North Grid the available capacity of 13.5 mgd is currently non-public access reclaimed water for reuse within the treatment facilities and one transmission pipeline to three industrial customers. The smaller satellite grids currently have combined reclaimed water capacity of 2.6 mgd, which includes transmission pipelines from the treatment facilities mainly to specifically identified customers.

1.2 Water Resources Challenges

JEA's 20-year Consumptive Use Permit (CUP) was approved in May 2011 and revised in August 2012 to include 142.26 mgd of groundwater from the Floridan aquifer, which can be increased to 162.6 mgd provided JEA can replace/offset other permitted Floridan aquifer uses with expanded utilization of reclaimed water.

While the current CUP allocation is able to provide for customer water demands, as population in the region rises, JEA may need to turn to alternative water supply options and expanded demand management. **Figure 1-2** shows the potential gap between the CUP allocation and water demand based on varying population projections. More detail about this analysis and assumptions made in determining population increases and water demand are found in **Appendix A**.

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[1] JEA (2011) *2012 Annual Water Resource Master Plan: Water – Wastewater – Reclaimed*. Corporate Planning Department, Water/Sewer System Planning. September 2011.

Withdrawals from some South Grid wellfields have been leading to increasing saline water intrusion. Because of this, CUP allocations in the South Grid are scheduled to decrease over time instead of rise as in other areas. This strengthens the need to investigate alternative water supplies within the South Grid geographical area. JEA carefully monitors the salinity at the wells as well as the potentiometric surface of the aquifer. While there is a confining layer between the Floridan aquifer and the upper surficial aquifers, there continues to be concern over the effect of groundwater pumping on local lakes and wetlands in the area that could put further restrictions on groundwater pumping in the future.

Another water resource challenge is improving the water quality of the St. Johns River. A revised Total Maximum Daily Load (TMDL) effective October 2013 sets the total nitrogen limit at 720 tons/yr or 7 parts per million (ppm) for all wastewater treatment facilities in aggregate, which is a drop from the previous limit of 1,536 tons/yr or 15 ppm. Besides improving the wastewater treatment facilities, expanding the reclaimed water system not only provides a reduction to the potable water demand but reduces nitrogen released to the river.

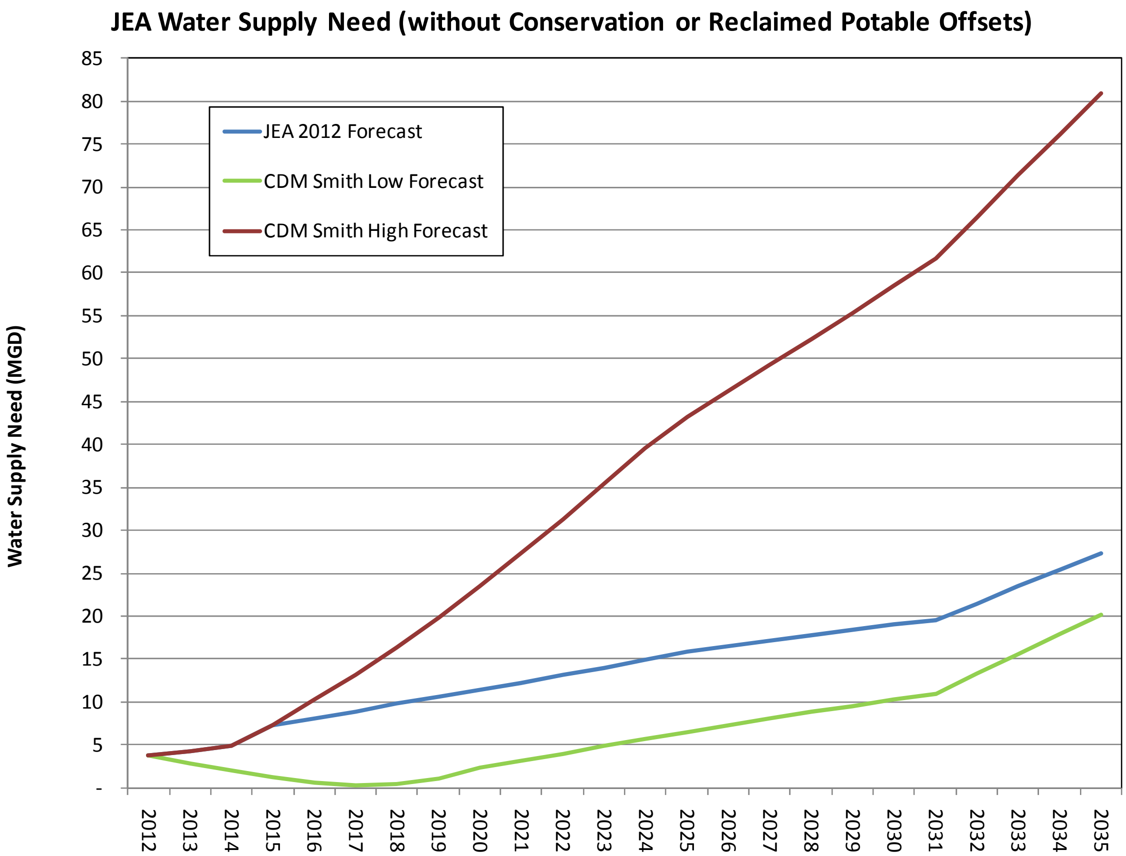


Figure 1-2
Range of Water Supply Need

1.3 Purpose of the Study

At the start of the IWRP Project, the following mission statement was developed to guide the study:

> *"The project team will develop an integrated water resource planning process that is designed to provide a road map for assessing future investments and developing policies to sustainably meet water needs through year 2035. The project will develop processes and tools for ongoing assessment and adaptive management."*

A systems model was developed as part of this study in order to answer the following types of questions:

- When will water demand outpace existing water supply?
- What supply alternatives will offer the most cost-effective and reliable solutions?
- How can supply-side and demand-side management be used together cost-effectively?
- How should new infrastructure and facilities be phased?

In addition to the systems model, an evaluation framework and decision tool was also developed. The decision tool incorporates performance metrics from the systems model along with other qualitative metrics, in order to rank alternatives against multiple criteria. To demonstrate the systems model and decision tool, several illustrative alternatives were created. While these illustrative alternatives utilize reasonable information, they assume certain conditions which will likely change. Therefore, these alternatives should in no way be construed as alternatives that JEA is pursuing at this time. Rather, they were developed to demonstrate how the systems model, evaluation framework and decision tool can be used by JEA to evaluate future water resources and develop an appropriate long-term strategy.

Section 2

IWRP Evaluation Framework

2.1 IWRP Process and Terms

The main purpose of the IWRP Project is to develop a framework and set of tools for JEA in order to evaluate alternatives and develop a long-term, sustainable water resources strategy. The outcome is a high-level, strategic planning tool that can illustrate key interrelationships and trade-offs between water resources alternatives. This will allow JEA to make informed decisions and adaptively manage their resources and infrastructure in the face of future uncertainty.

Terms commonly used within this IWRP process include:

- **Objectives:** Represent major goals of plan, defined in broad, understandable terms (e.g., ensure water reliability).
- **Metrics/Performance Measures:** Indicate how well an objective is being achieved (e.g., frequency and magnitude of water shortages). Objectives combined with their corresponding metrics represent the criteria by which alternatives are compared against.
- **Options:** Represent individual projects or demand management measures.
- **Alternatives:** Represent combinations of options designed to best meet the stated objectives, and will be evaluated against the criteria (objectives and metrics).

The IWRP process starts by defining planning objectives and performance measures that are important to the utility, customers, regulators and other stakeholders. Then the process continues with the identification and characterization of various supply and demand-side options. Because no single option is likely able to meet all of the specified planning objectives, options are combined in various ways into complete alternatives. The alternatives are then evaluated using an integrated systems model that simulates system constraints, supply reliability, lifecycle costs, water quality and other metrics. The output from the systems model, along with some qualitative metrics, is summarized in a decision tool to facilitate ranking of alternatives. **Figure 2-1** presents the overall IWRP process for JEA.

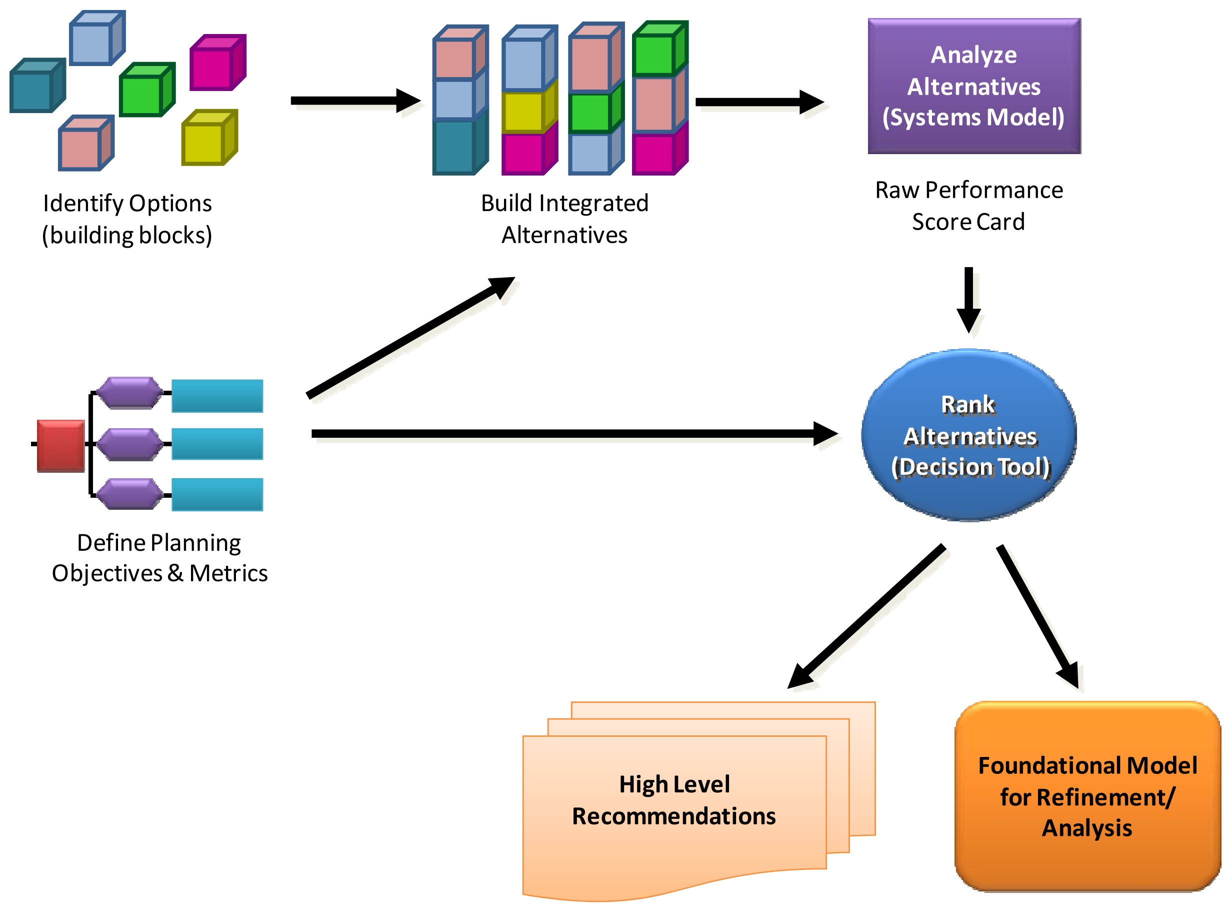


Figure 2-1
IWRP Process

2.2 Objectives and Performance Measures

The first workshop with JEA's Planning Team identified the guiding objectives for the IWRP. Associated with each objective are performance measures, which were reviewed and modified by the broader group of JEA staff and leadership at the kickoff meeting. One of the expectations of the integrated model is that it will provide numerical output in the form of the performance measures that are deemed to be quantitative, as opposed to qualitative. These will then be used in a scorecard along with any qualitative scores to provide balanced, broad-based comparisons of alternatives. The objectives and performance measures are listed in **Table 2-1** with more detail on their use provided in Section 4.

Table 2-1 Objectives and Performance Measures

Objective	Performance Measure
Maximize Cost-Effectiveness	Total customer lifecycle costs JEA levelized costs Ratio of JEA fixed costs to JEA total costs
Reliably Meet Water Demands	Magnitude of water shortage Time of water shortage
Maximize Flexibility	Operational flexibility Diversity of supply
Promote Environmental Sustainability	Aquifer sustainability Water use efficiency River impacts
Maximize Implementation	Reliance on proven technology Ability to permit Public acceptance
Meet Customer Water Quality	Water quality blending/secondary water quality

2.3 Integrated Systems Model

An important aspect of any IWRP study is the ability to analyze alternatives in an integrated, interconnected manner. This is especially important when water, wastewater, and reclaimed water intersect in decision making. While there are numerous models and tools that can be used to evaluate IWRP alternatives, "systems models" have several advantages, including the following:

- Extremely customizable and integrated, allowing for all of the most pertinent systems or parts of systems to be accounted for
- Ability to simulate demands, supplies, major system constraints, costs and other metrics in a comprehensive manner
- Highly visual, with built-in graphics, and performance indicators for on-the-fly simulations
- Quick run time, facilitating systems learning and exploration of "what-if" analyses

2.3.1 Systems Model Software Selection

At the beginning of the IWRP Project, a thorough evaluation of various systems models and customized spreadsheet tools were evaluated for JEA. Based on the needs of the project, software cost, and flexibility, the systems model STELLA (Systems Thinking Experimental Learning Laboratory with Animation) was selected for this project. STELLA is a dynamic and graphical systems model that uses object-oriented programming to develop virtually any type of system (e.g., physical, biological, financial, facilities) or multiple systems. It is frequently used in environmental engineering studies to better understand the implications of decisions across a broad array of physical, social and environmental sectors that are essential for integrated water resource planning.

STELLA allows users to model physical flow systems with operations or planning level resolution. An on-screen control interface is then developed that facilitates rapid adjustments of system variables for alternatives and sensitivity analysis. STELLA does not make decisions, but is used to generate information and promote more informed and balanced decisions via rapid comparison of the performance of alternatives using physical, environmental, and economic metrics. Its ability to include multi-sectoral interests in an analytical framework is what distinguishes it from more traditional hydraulic or numeric groundwater models, which evaluate systems in a purely one-dimensional physical setting. While systems models are not typically used to model detailed hydraulics or complex water allocations and surface hydrology, they excel at quickly simulating multiple systems in a very comprehensive manner. The model selection process is outlined in **Appendix B** and the economic modeling methodology is documented in **Appendix C**.

2.3.2 System Attributes

To facilitate the programming of the systems model, a conceptual schematic of JEA's water system was developed (see **Figure 2-2**). In this figure, the size of the circles represents the relative size of water demand and CUP allocation in 2036. As shown in the figure, the North and South Grids represent the majority of the system water demands. A range of low, medium and high demand projections are included for each grid. These demands are met first by the CUP allocation allowed per grid and then by any of the selected additional supply options or demand management options.

The systems model is run for a 25-year planning period from 2012 to 2035, allowing factors such as demand or the availability of supply sources to change over time. Generally, data are input into the model as annual numbers, with seasonal factors applied to generate monthly values (the seasonal peaking factors are described in **Appendix D)**.

The planned capacity and projected use of the reclaimed water system is also tracked within the model and constrained by the total wastewater available. **Table 2-2** shows the current and future projections for this system.

Table 2-2 Wastewater and Reclaimed Water System Projections

	Year	North Grid	South Grid	Ponce de Leon	Ponte Vedra	Nassau
Wastewater Projections (mgd)	2012	42.29	30.21	0.62	0.09	0.87
	2035	60.41	39.85	0.63	0.14	1.47
Reclaimed Plant Capacity (mgd)	2012	13.5	14.7	0.24	0.8	1.55
	2035	17.5	38.7	0.24	0.8	1.55
Reclaimed Demand Projections (mgd)	2012	5.44	6.5	0.08	0.53	0.89
	2035	12.69	30.06	0.08	0.53	0.89

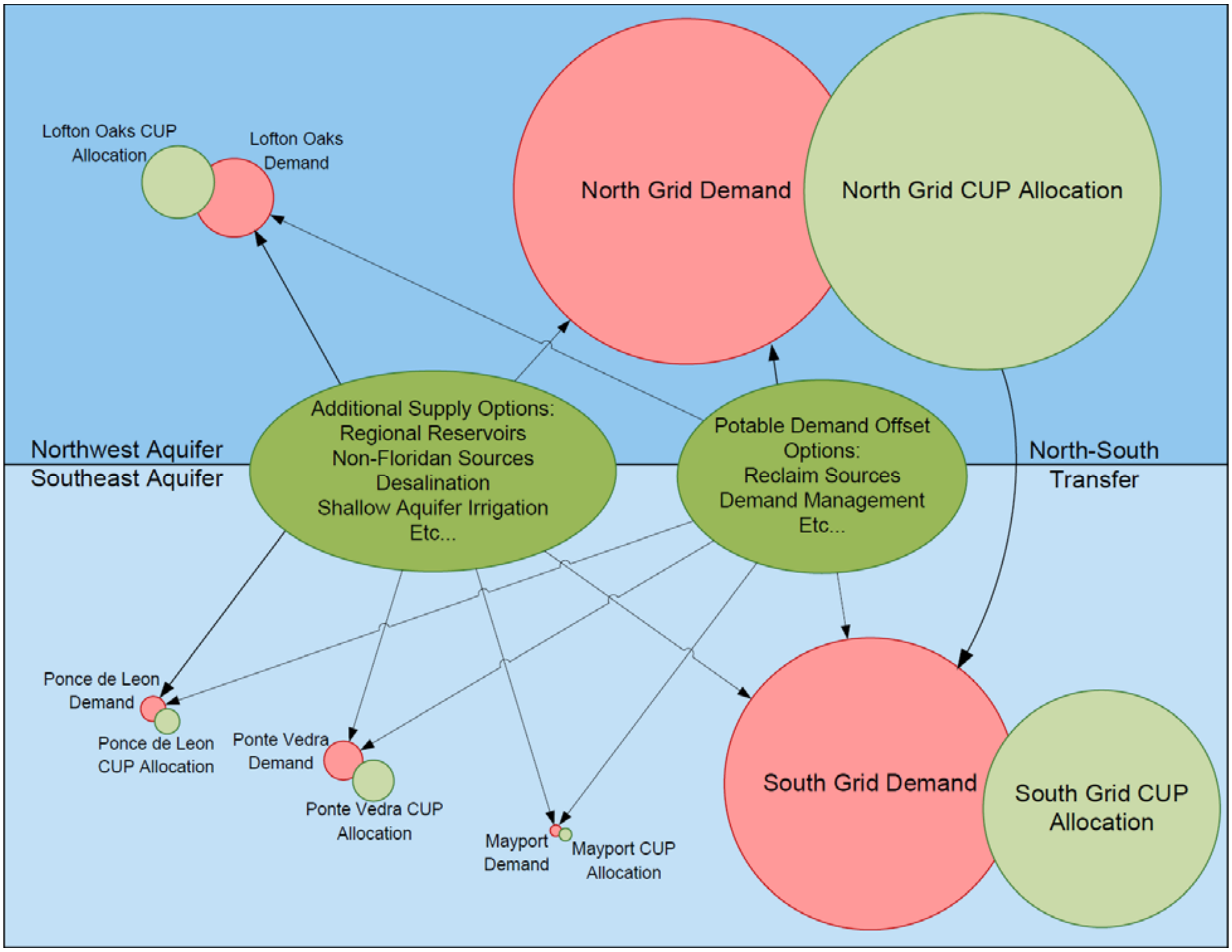


Figure 2-2
Modeled System Schematic, Based on Demands and CUP Allocations in 2036

The systems model is set-up to be operated through a set of user-friendly interface management panels (see **Figure 2-3** for an example). From these panels all options can be turned on or off to build the alternatives for investigation. The navigation buttons also easily allow changes and updates to any of the project data or assumptions included within the model structure. Additionally, the user can adjust the priority order in which the water supply options are utilized. The model utilizes the water from one source to meet demand until it is exhausted and then moves on to the next source on the priority list until the demand is satisfied or no additional water supply options remain.

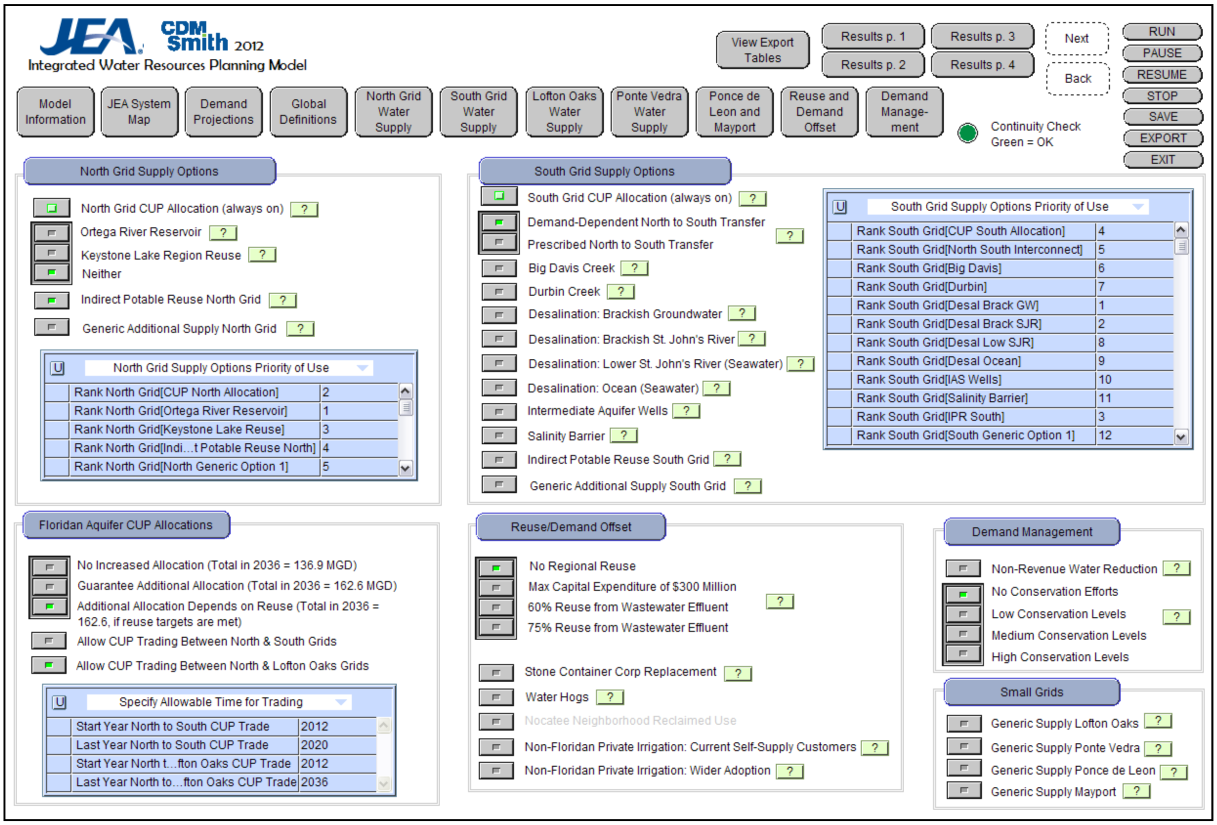


Figure 2-3
Systems Model Interface Panel

2.4 Cost Analysis Methodology

To help evaluate the projects and alternatives, an economic modeling approach was programmed into the STELLA model allowing for the tracking of all costs and reporting out in standard economic terms. Within the model, each potential option is assigned a capital costs, fixed O&M cost per year, and variable O&M cost in dollars per million gallons of water delivered. These costs came from the many planning studies JEA has conducted over the past several years on the various modeled options with all costs brought forward to 2012 dollars. Additional general economic factors used within the model are listed in **Table 2-3**. These are the starting default values based on the last 10 years of historical trends but can be easily updated within the model as desired.

Table 2-3 Default Economic Constants

Economic Factor	Value
Interest Rate	5%
Discount Rate	5%
Escalation Rate	3%
Percent of Capital Financed	50%

Within the model, the main economic tool used to compare options and alternatives is levelized cost along with the total lifecycle cost. Total lifecycle cost represents the sum of future capital costs (plus financing) and O&M costs brought back to present value terms using a discount rate. Levelized cost takes into account both the time value of money and the beneficial water supply that is provided by JEA, and is expressed as a unit cost (dollars per million gallons). Beneficial water supply is the amount of water that is needed as opposed to just the capacity of supply that can be produced. Levelized costs are a proxy for potential rate impacts to JEA's customers. Additional details regarding the cost analysis methodology can be found in Appendix C.

2.5 Ranking Methodology

The systems model will produce raw output of various quantitative metrics. In addition, there are qualitative metrics that are important to consider in the overall ranking of alternatives. Both of these types of metrics are rolled up to the primary objectives shown in Table 2-1. Tying these metrics and objectives together are weightings of relative importance. To facilitate the ranking of alternatives, a decision software tool called Criterium Decision Plus (CDP), developed by InfoHarvest, was utilized. CDP uses a method called multi-attribute rating to convert raw performance metrics (both quantitative and qualitative) into standardized scores (removing units such as dollars for cost or mgd for water supply), and then applies relative weights in order to compare and rank alternatives. **Figure 2-4** summarizes the multi-attribute rating approach used by CDP, which is summarized below.

- Step 1 compares the raw performance metric of a given objective for all the alternatives being evaluated. In this example, Alternative 6 has a raw cost (or performance) of $10 million.
- Step 2 standardizes the raw performance metric for each objective into comparable numeric scores (the higher the score the better the performance). In this example, Alternative 6 has relatively high costs when compared to the other alternatives, so the standardized score for this objective (between 0 and 10) is 3.4, a fairly low performance.
- Steps 3 and 4 calculate the partial score for the alternative, based on the standardized score and the relative weight for the objective being calculated. In this example, the cost objective was given a weight of 9 percent (out of a possible 100 percent). The partial score for this objective represents the standardized score (3.4) multiplied by the objective weight (0.09), which equals 0.306.
- Step 5 plots the partial score of 0.306 for Alternative 6, and this procedure repeats for all of the other objectives for Alternative 6 until a total score for the project is calculated [see Step 6]. The process is repeated for all alternatives so they can be compared and ranked.

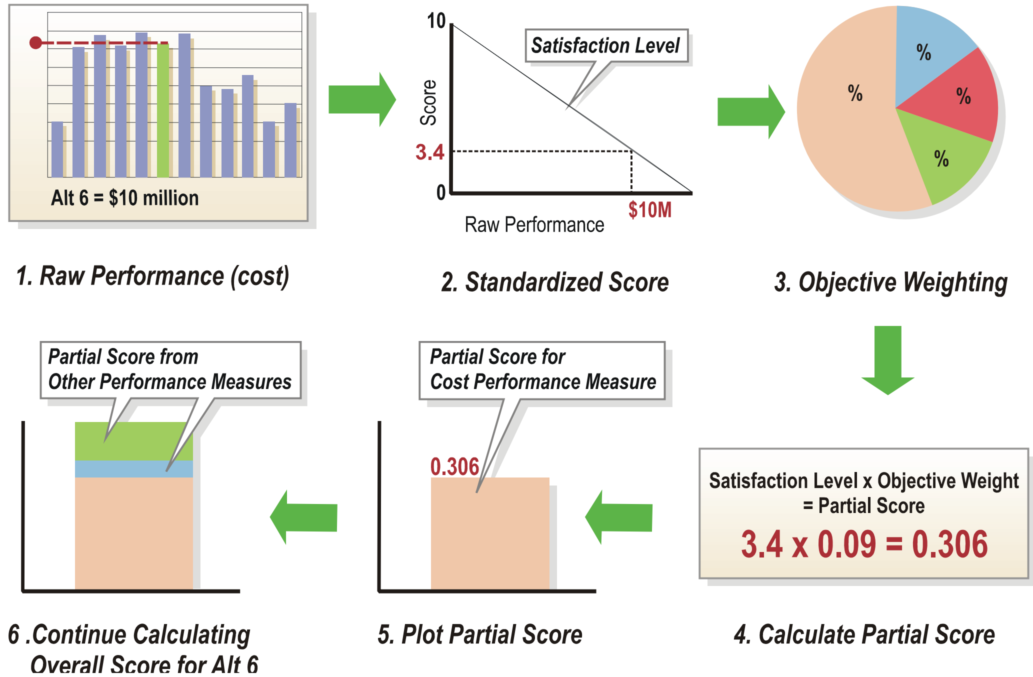


Figure 2-4
Multi-Attribute Rating Method

Section 3

Potential Options and Projects

Potential options to meet future water demands were split into the three broad categories: (1) water supply options, (2) water reuse options, and (3) demand management options. The options modeled within each of these categories are listed in **Table 3-1** and are described in the following sections, along with assumptions made about the current system operations. Each of these options has been previously studied and information concerning the configuration, potential yield, constraints and costs were taken from previous reports for incorporation into the model. Additional detail on all the options and references to the source reports can be found in Appendix D.

Table 3-1 Summary of Options for JEA IWRP Project

Water Supply Options	Water Reuse Options	Demand Management Options
▪ CUP Allocations ▪ Regional Surface Water Reservoirs on either Ortega River, Big Davis Creek, or Durbin Creek ▪ Non-Floridan Private Irrigation Promotion for either current self supply customers or for wider adoptions ▪ Desalination of either brackish groundwater, brackish St. Johns River water, lower St. Johns River water or the ocean. ▪ Intermediate Aquifer Wells	▪ Indirect Potable Reuse ▪ Keystone Lake Regional Reuse ▪ Regional Reuse throughout the whole St. Johns River Water Management District ▪ Targeted Reuse focusing on either the Stone Container Corporation, creation of a South Grid Salinity barrier, or providing reclaimed water to identified 'Water Hogs'.	▪ Conservation ▪ Reduction of unaccounted for water

As an additional way to assess future supply options, generic projects were programmed into the systems model. Each generic option is treated as a new supply options. The user can specify the amount of supply yield, capital cost, fixed O&M cost, variable O&M cost, start year, project life, and finance terms.

The generic supply options, however, are stand alone and do not currently interact with other model features (such as reliance on other facilities or system constraints). For example, the supply will not be checked against reclaimed capacity nor will the supply go toward meeting the reclaimed requirements to increase the CUP allocation. This can be updated later as additional options become better defined.

3.1 JEA Current System Assumptions

Within the model, options selected build upon JEA's current water supply system. It was important to accurately represent the constraints of this system as well as the operating costs to understand the best way alternatives compare to the baseline condition of no action. Assumptions used in modeling the current JEA system are described below.

- The CUP outlines the total volume which can be withdrawn from the Floridan aquifer each year. However, within the permit are a series of conditions affecting the CUP allocation. Values within the CUP provide the total volume allowable per year per wellfield. The values provided for 2011 through 2021 are used as the baseline allocation for each grid. After 2021 the allocation is held constant pursuant to condition 12 of the permit which does not allow for an increase in the allocation unless additional requirements are met. One of these requirements is the amount of reclaimed water provided for reuse. An exemption to meeting these reclaimed water targets is provided in condition 38: "except to the extent the permittee demonstrates that some portion of the amount of reuse required below is not economically, environmentally, or technologically feasible." To account for these conditions and exceptions, the model has a series of choices for how the CUP allocations can be handled:
  - **No increased allocation**: This option can be selected to maintain the allocation at the baseline conditions.
  - **Guarantee additional allocation**: This option automatically provides the increase in allocation independent of reclaimed water availability and usage.
  - **Additional allocation depends on reuse**: Within this option the amount of reclaimed water made available by JEA is compared to the targets and the CUP allocation is not increased until the targets are met.
- Another condition of the CUP allows for individual wellfields to surpass their allocation by 20 percent as long as the total system allocation is not exceeded. Within the model, there is an option to allow this internal system trading between the North and South Grids or between the North and Lofton Oaks Grids between specified years to help meet grid specific deficits. There is no cost assigned to this option.
- The amount of groundwater supplied to each grid is constrained by the CUP allocation but also by the physical limits of the system either at the wellfields or the water treatment plants. Constraints used within the model can be found in the CUP Allocation Factsheet within Appendix D. Under the currently modeled conditions, the CUP allocations remain more restrictive than any of the physical system constraints.
- It is assumed that 30 percent of JEA's total reported operating costs for water and sewer are spent on water withdrawal, treatment and distribution. A higher percentage of the costs were attributed to sewer over water due to an assumed higher cost for wastewater treatment compared to treatment of a relatively clean groundwater source to drinking water quality. Based on an average of 2010 and 2011 data this equates to $74,355,000 in O&M per year for the water system. Within the model $0.43 per 1000 gallons (or $430 per million gallons) is assumed to be variable O&M based on the total water produced. This leaves $55,484,000 per year as a fixed O&M cost for running the existing water system.
- It was assumed that 50 percent of JEA's current debt financing could be attributed to the water system. Taking the average of annual debt service for 2010 and 2011 this was $62,000,000 per year.
- Another component of the current system is the ability to move water from the North Grid to the South Grid through a pipeline river crossing. The flow through this interconnect can be handled in the model in two different ways. It can either be assigned volume per year or the

model can determine the amount needed based on the remaining demand in the South Grid but with the constraint of not exceeding the hydraulic capacity of the pipeline. Based on JEA provided data, the cost for utilizing the interconnect is $132 per million gallons for average annual transfers less than or equal to 15 mgd and $148 per million gallons for average annual transfers above 15 mgd.

3.2 Water Supply Options

An overview of the water supply options is provided in **Table 3-2** with a short summary of the options in the following subsections and additional detail available in Appendix D.

Table 3-2 Water Supply Options

Option	Sub-Options	Included Items	Yield (mgd)	Capital (total)	Fixed O&M per Year	Variable O&M ($/MG)
Regional Surface Water Reservoirs	Ortega	River diversion, dam, reservoir, treatment plant, land, connection to distribution system	6.7	$56,000,000	$2,100,000	$572
	Big Davis		1.3	$23,000,000	$660,000	$927
	Durbin		3.4	$38,700,000	$1,260,000	$677
Non-Floridan Private Irrigation	Current Self Supply	Subsidized shallow wells	4.4	$2,130,000	$0	$0
	Wider Adoption	Partially subsidized shallow wells	15	$18,500,000	$0	$0
Desalination	Brackish Groundwater	Intake, Treatment, Concentrate Disposal, Connection to the Distribution System	5	$43,100,000	$520,000	$1,140
			15	$88,800,000	$1,160,000	$847
			30	$136,000,000	$1,940,000	$709
			50	$207,000,000	$2,840,000	$622
	Brackish St. John's River Water		5	$85,500,000	$640,000	$1,403
			15	$160,000,000	$1,540,000	$1,125
			30	$238,000,000	$2,700,000	$986
			50	$335,000,000	$4,060,000	$890
	Lower St. John's River (Seawater)		5	$173,000,000	$1,120,000	$2,455
			15	$352,000,000	$2,800,000	$2,046
			30	$562,000,000	$5,320,000	$1,943
			50	$795,000,000	$8,680,000	$1,902
	Ocean (Seawater)		5	$185,000,000	$1,120,000	$2,455
			15	$376,000,000	$2,800,000	$2,046
			30	$590,000,000	$5,320,000	$1,943
			50	$825,000,000	$8,680,000	$1,902
Intermediate Aquifer Wells		New wells co-located at existing wellfields	5	$1,950,000	$28,000	$61

Note: Costs from 2010 AWS Study were escalated to 2012 dollars

3.2.1 Regional Surface Water Reservoirs

This option consists of construction of an off-line storage reservoir on a tributary to the St. Johns River to store wet weather flow to be treated and used as potable supply. Three locations have been carried forward for consideration including Ortega River, Big Davis Creek, and Durbin Creek. Using the Ortega

River location has the potential to provide 6.7 mgd to the North Grid, the Big Davis Creek location can provide 1.3 mgd to the South Grid, and the Durbin Creek location can provide 3.4 mgd also to the South Grid.

3.2.2 Non-Floridan Private Irrigation

This option consists of construction of groundwater wells either in the surficial aquifer or the intermediate aquifer in order to supply irrigation water to private residences. This use would replace the Floridan aquifer supply currently being used to meet those demands. Two options are proposed: (1) converting those already on self-supply from the Floridan aquifer to a different aquifer, and (2) wider scale adoption by moving current JEA customers to private irrigation wells. This supply source is available within the model to all grids.

3.2.3 Desalination

This option consists of desalination to produce a new source of potable water supply. Four different desalination options are considered: (1) extraction of brackish groundwater from the Lower Floridan aquifer, (2) withdrawing brackish river water from the upper St. Johns River, (3) withdrawing seawater-quality influent from the lower St. Johns River, or (4) withdrawing seawater from the ocean. All options could be sized to accommodate various treatment capacities. Options of 5, 15, 30 and 50 mgd are provided with costing within the model. All options are modeled to meet demand in the South Grid only.

3.2.4 Intermediate Aquifer Wells

This option consists of construction of wells or a wellfield targeting the intermediate aquifer as the source of supply for potable or irrigation use. The intermediate aquifer is a hydrogeologic unit that separates the higher surficial aquifer system from the Floridan aquifer system where currently the majority of water is withdrawn. The middle of the South Grid area was determined to be the best target for exploration of this source and new wells could hopefully be co-located at existing wellfields to diminish additional piping needs. A total yield of 5 mgd ramping up over time as the new source is investigated is included as a supply option within the model for the South Grid.

3.3 Water Reuse Options

An overview of the water reuse options is provided in **Table 3-3** with a short summary of the options in the following subsections and additional detail available in Appendix D.

Table 3-3 Water Reuse Options

Option	Sub-Options	Included Items	Yield (mgd)	Capital (total)	Fixed O&M per Year	Variable O&M ($/MG)
Indirect Potable Reuse	North Grid	Direct injection wells and process upgrades to wastewater treatment plants	5	$98,000,000	$1,280,000	$1,052
			15	$175,700,000	$3,080,000	$844
			30	$295,800,000	$5,400,000	$740
			50	$587,800,000	$8,120,000	$667
	South Grid		5	$101,600,000	$1,280,000	$1,052
			15	$182,700,000	$3,080,000	$844
			30	$309,800,000	$5,400,000	$740
			50	$498,300,000	$8,120,000	$667
Keystone Lake Region Reuse		Direct injection wells, process upgrades to wastewater treatment plant, Ortega Reservoir Construction with surface water treatment plant	15	$177,500,000	$2,000,000	$365
Regional Reuse	$300 Mil Max	Treatment plant expansions, pump stations, pipeline, storage, rapid infiltration basins	23	$157,400,000	$2,200,000	$262
	60% Reuse		41	$302,200,000	$3,700,000	$247
	75% Reuse		56	$479,000,000	$4,950,000	$242
Targeted Reuse	Stone Container Corp	new reclaimed water line	3.3	$27,600,000	$250,000	$232
	Salinity Barrier	new reclaimed water line and injection wells	5	$94,000,000	$276,000	$227
	Water Hogs	Install new reclaimed water infrastructure	1.05	$20,000,000	$300,000	$78

3.3.1 Indirect Potable Reuse

This option consists of treating wastewater effluent from one or more of JEA's large wastewater treatment facilities to meet the requirements for indirect potable reuse or groundwater recharge. The reclaimed water produced from this type of facility would be used to directly recharge the Floridan aquifer. Treatment capacities of 5, 15, 30, and 50 mgd are included within the model for both the north and South Grids.

3.3.2 Keystone Lake Regional Reuse

This option consists of using reclaimed water from the Southwest WWTP to directly recharge the Floridan aquifer through direct injection. It is likely that there may not be sufficient reclaimed water available for recharge exclusively from the Southwest WWTP since average wastewater flows at this facility (as of December 2010) were approximately 8.8 mgd. Therefore, it may be possible to augment the reclaimed water supply with surface water from the Ortega River, which is located in close proximity to this facility to increase the total available reuse to 15 mgd. Within the model, this option is only available to the North Grid and cannot be combined with the regional surface water reservoir on the Ortega River.

3.3.3 Regional Reuse

This option increases the supply of available reclaimed water throughout the entire St. Johns River Water Management District. Three different scales of options are considered: (1) increasing reclaimed water availability with a max capital expenditure of $300 million; (2) achieving 60 percent reuse from wastewater effluent; and (3) achieving 75 percent reuse from wastewater effluent.

3.3.4 Targeted Reuse

This option consists of using available reclaimed water for the specific targeted uses such as:

- Replacing the Stone Container Corporation use of potable water for reclaimed water in their commercial processes. The nearest reclaimed water pipeline is served from the Cedar Bay facility, which currently has 3.3 mgd potentially available for use. This option is modeled to provide a potable offset of 3.3 mgd in the North Grid.
- Use of reclaimed water from the Arlington East Water Reclamation Facility for groundwater salinity management in the South Grid. This option is modeled to provide a potable offset of 5 mgd.
- Providing reclaimed water to large residential users or 'water hogs' in the South Grid for irrigation. Bringing reclaimed water to the four high use areas of Queen's Harbor, Deerwood, Hidden Hills and Glen Kernan would provide a potable offset of 1.05 mgd in the South Grid.

3.4 Demand Management Options

An overview of the demand management options is provided in **Table 3-4** with a short summary of the options in the following subsections and additional detail available in Appendix D.

Table 3-4 Demand Management Options

Option	Sub-Options	Included Items	Yield (mgd)	Capital (total)	Fixed O&M per Year	Variable O&M ($/MG)
Conservation	Low	Lost revenue	6.74	$0	$500,000	$0
	Medium		10.22	$0	$750,000	$0
	High		13.47	$0	$1,000,000	$0
Reduce Unaccounted for Water		Leak detection Program, repairs	8.9	$5,000,000	$1,000,000	$0

3.4.1 Conservation

This option involves reducing demand through conservation efforts. Within the model the proposed conservation targets in the CUP were taken as the medium conservation scenario, with lower and higher conservation options created as sub-options. Conservation is split proportionately across all grids based on demand. It should be noted, while conservation reduces demand, and therefore total lifecycle costs, it also reduces revenues for JEA. Thus, when growth is high and the marginal cost of new water supplies is also high, conservation will have a net positive on levelized costs (dollars per million gallons of water sold by JEA). But when growth is not high or the marginal cost of new water is lower, conservation will have a net negative impact on levelized cost.

3.4.2 Reduce Unaccounted for Water

This option reduces unaccounted for water within the current system through a leak reduction program. Data from 2011 show 17.9 mgd of system losses. Assuming that half of the losses can be addressed through leak reduction programs, there would be 8.9 mgd in water savings. However, 5 mgd was considered a more reasonable goal and is the initial default value within the model. Currently this value is split with 80 percent of the savings in the North Grid and 20 percent of the savings in the South Grid.

Section 4

Evaluation of Illustrative Alternatives

In order to demonstrate the IWRP process, illustrative alternatives were developed. These illustrative alternatives should not be interpreted as recommendations being made or accepted by CDM Smith Inc. or JEA. Rather, they were developed for the sole purpose of testing the systems model, analysis approach and ranking method. While they may offer JEA insights as to which options may have merits, they are for illustrative purposes only.

4.1 Developing Illustrative Alternatives

To develop these illustrative alternatives, several options were chosen from the list of projects described in Section 3. During a JEA workshop, several themed-alternatives were initially developed and then expanded to include the following:

1. No New Options – This is the status quo or baseline alternative. Water is supplied solely from the Floridan Aquifer by way of the CUP. The planned North to South Grid transfer capacity and costs are included in this alternative.

2. Low Cost – In addition to the planned North to South Grid transfer capacity, up to an additional 5 mgd of supply is provided from intermediate aquifer supply wells (IAS wells). Targeted reuse expansion options and additional water conservation are included to offset potable water demand.

3. High Reliability with Groundwater Desalination – This alternative includes all options included in the Low Cost alternative, and adds the construction of a 30 mgd desalination plant to treat brackish groundwater.

4. High Reliability with Surface Water Desalination - This alternative is similar to No. 3 above, but uses Brackish St. Johns River as the source for desalination to test the scoring mechanism's sensitivity to surface water versus groundwater sources.

5. High Reliability with Indirect Potable Reuse (IPR) – This alternative is similar to No. 3 and No. 4 above, but relies on IPR in the South Grid instead of a desalination source.

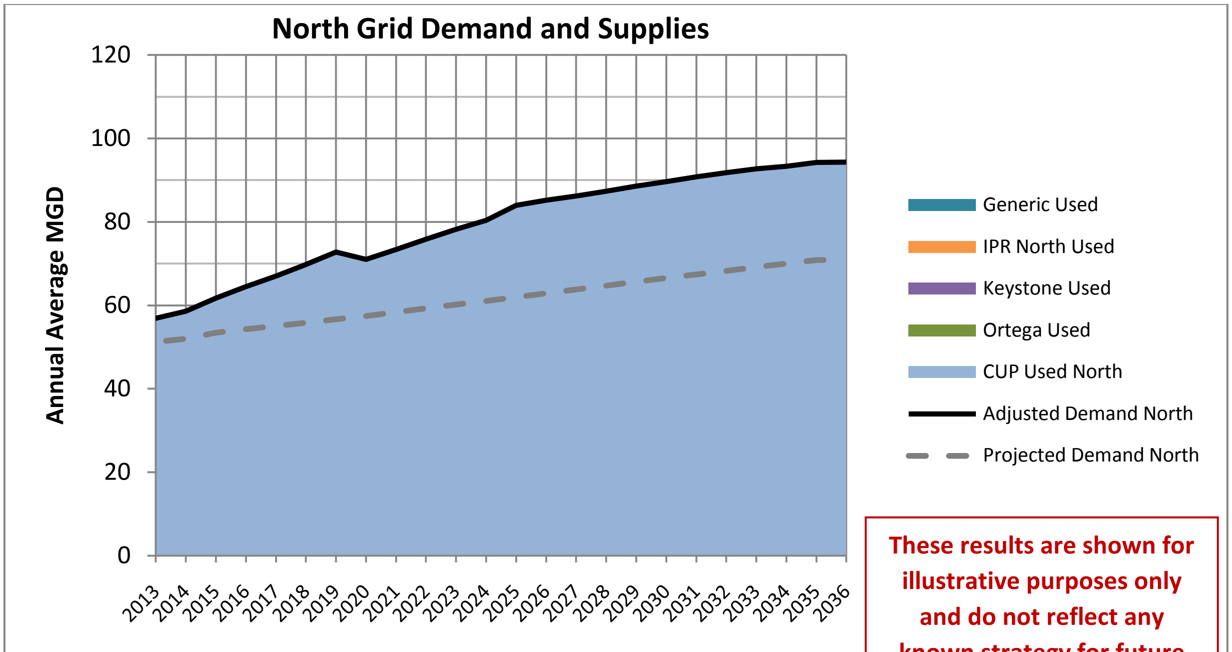
Table 4-1 lists the options that are included in each of the illustrative alternatives.

Table 4-1 Illustrative Alternatives

Alternative Name	Options Included
No Options	CUP Allocations
	Planned North to South Grid Transfer Capacity
	Baseline Conservation
Low Cost	CUP Allocations
	Planned North to South Grid Transfer Capacity
	Baseline Conservation
	Intermediate Aquifer Supply Wells
	Targeted Reuse (Stone Container Corp. and Water Hogs Program)
High Reliability with Groundwater Desalination	CUP Allocations
	Planned North to South Grid Transfer Capacity
	Baseline Conservation
	Intermediate Aquifer Supply Wells
	Targeted Reuse (Stone Container Corp. and Water Hogs Program)
	Brackish Groundwater Desalination
High Reliability with Surface Water Desalination	CUP Allocations
	Planned North to South Grid Transfer Capacity
	Baseline Conservation
	Intermediate Aquifer Supply Wells
	Targeted Reuse (Stone Container Corp. and Water Hogs Program)
	Brackish St. Johns River Desalination
High Reliability with Indirect Potable Reuse	CUP Allocations
	Planned North to South Grid Transfer Capacity
	Baseline Conservation
	Intermediate Aquifer Supply Wells
	Targeted Reuse (Stone Container Corp. and Water Hogs Program)
	Indirect Potable Reuse in South Grid

Any of the options described in Section 3 can be combined into an alternative and modeled. Within the model interface, the user can see traces of surpluses and deficits, volumes of supplies provided from each source, and statistics describing the reliability and cost of the alternative model run. The model results can also be exported to a spreadsheet that is set up to display the annual supply volume by source, the 12-month running average supply volume by source, and the scoring results described in the next section. The export spreadsheet displays a plot of the annual supply used from each source through the planning period. **Figure 4-1** shows an example of these plots for the High Reliability with Indirect Potable Reuse alternative, for the North and South Grids. The projected demand is shown with a dashed gray line. The adjusted demand, after conservation, potable offsets, or additional demands added, is shown as a solid black line. Each supply source is shown in a different color and the supply volumes are stacked to show how the total of all supplies meets or falls short of demand. The North to South Grid transfer volume is shown as a demand on the North Grid, causing the adjusted demand to be significantly greater than the projected demand. The transfer volume—which is effectively North Grid CUP supply moved to the South Grid—is shown in green on the South Grid plot.

These plots show that, for the illustrative alternative with indirect potable reuse in the South Grid, demands are met until 2024, when competing uses for reuse water result in a decrease of available indirect potable reuse.



These results are shown for illustrative purposes only and do not reflect any known strategy for future water supply.

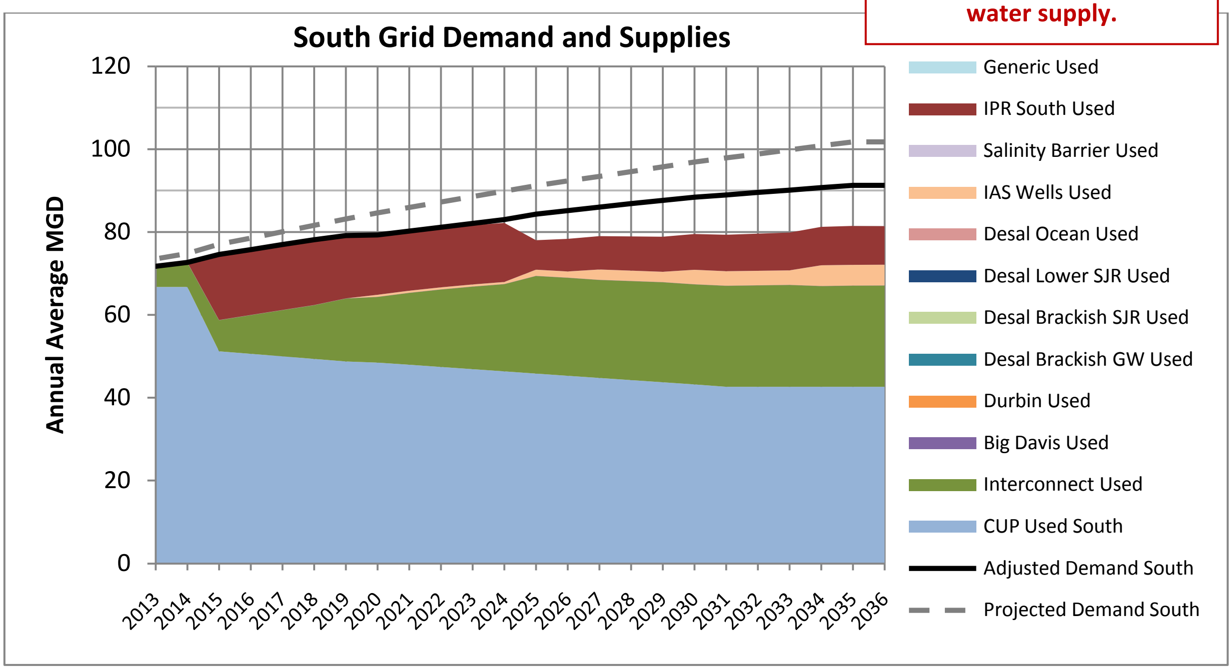


Figure 4-1
Example Model Export for Illustrative Alternative

4.2 Summary of Performance Measures

Performance measures were assigned to each IWRP Project objective to evaluate numerically how each illustrative alternative met the objective. The performance measures were either scored quantitatively using the integrated system model, or qualitatively by comparatively ranking project options. Each performance measure receives two weights: one reflecting the relative importance of its associated objective, and a second reflecting the relative importance of the performance measure compared with others associated with the same objective. The baseline scenario for scoring the illustrative alternatives used equal weights for all of the objectives (although subweights for the performance measures varied). Below is a description of each performance measure.

4.2.1 Quantitative Performance Measures

Table 4-2 lists the performance measures that were evaluated quantitatively using the integrated system model. The table lists the associated objective, the weight of the performance measure within its objective, the units by which to measure the objective, if a better score is higher or lower, and the range of expected scores.

Table 4-2 Quantitative Performance Measures

Objective	Weight	Performance Measure	Sub-Weight	Units	Better Scores Are	Range
Maximize Cost-Effectiveness	0.167	Total customer lifecycle costs	0.4	2012 dollars (billions)	lower	3.5 – 4.5
		JEA levelized costs	0.4	2012 dollars per million gallon	lower	3,000-4,000
		Ratio of JEA fixed costs to JEA total costs	0.2	Fixed costs/total costs	lower	0.0-1.0
Reliably Meet Water Demands	0.167	Magnitude of water shortage	0.6	Million gallons	lower	0-140,000
		Time of water shortage	0.4	% of months showing deficit > 5%	lower	0-100
Maximize Flexibility	0.167	Operational flexibility	0.5	% of months showing South Grid deficit >5%	lower	0-100
		Diversity of supply	0.5	% supply remaining after removing top source	higher	0-100
Promote Environmental Sustainability	0.167	Aquifer sustainability	0.5	% supplies not from Floridan Aquifer	higher	0-50
		Water use efficiency	0.4	% demand reduced by conservation/reuse	higher	0-50
		River impacts	0.1	% supply from surface water	lower	0-50

4.2.2 Qualitative Performance Measures

The qualitative performance measures could not be scored using the integrated system model. In order to dynamically score any alternative (beyond the five illustrative examples presented herein) each option was given a qualitative score, and a composite score was calculated based on the volume of supply for the option. The qualitative scores all range from one to five, with five being the best score. An example of the qualitative scoring procedure is shown on **Figure 4-2**.

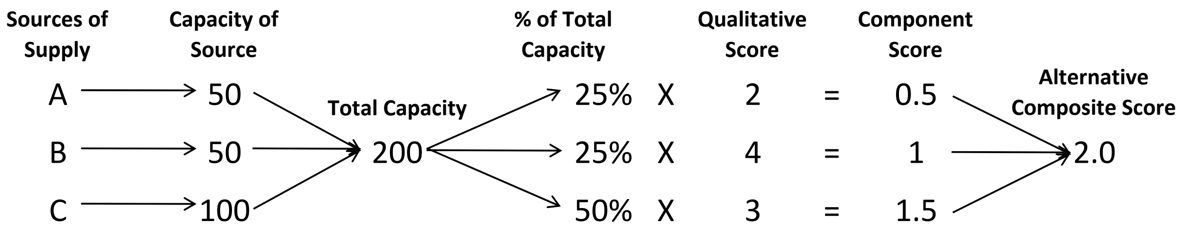


Figure 4-2
Example Qualitative Scoring Procedure for a Single Performance Measure

Table 4-3 lists the performance measures that were evaluated qualitatively. The table lists the associated objective, the weight of the performance measure within its objective, the units by which to measure the objective, if a better score is higher or lower, and the range of expected scores.

Table 4-3 Qualitative Performance Measures

Objective	Weight	Performance Measure	Sub-Weight	Units	Better Scores Are	Range
Maximize Implementation	0.167	Reliance on proven technology[1]	0.4	Qualitative score of 1 to 5, 1 - unproven technology, 5 - common technology	higher	1-5
		Ability to permit[1]	0.4	Qualitative score of 1 to 5, 1 - difficult to permit, 5 - no permitting hurdles	higher	1-5
		Public acceptance[1]	0.2	Qualitative score of 1 to 5, 1 - unlikely public acceptance, 5 - no new public acceptance needed	higher	1-5
Meet Customer Water Quality	0.167	Water quality blending/secondary water quality[2]	1.0	Qualitative score of 1 to 5, 1 - difficult to blend sources 5 - no blending challenges	higher	1-5

1 – Uses total available supply capacity for calculation of composite performance measure
2 – Uses only volume that is used for supply for calculation of composite performance measure

Table 4-4 lists all of the assigned qualitative scores for the water supply options.

Table 4-4 Qualitative Scores for Supply Options

Option	Reliance on Proven Technology	Ability to Permit	Public Acceptance	Water Quality Blending/Secondary Water Quality
North Grid Supplies				
CUP North Grid	5	5	5	5
Ortega River Reservoir	4	3	3	4
Keystone Lake Reuse	2	1	1	4
Indirect Potable Reuse North Grid	2	1	1	3
South Grid Supplies				
CUP South Grid	5	5	5	5
Big Davis Creek Reservoir	4	3	3	4
Durbin Creek Reservoir	4	3	3	4
Desalination Brackish Groundwater	2	1	5	2
Desalination Brackish St. Johns River	2	1	5	2
Desalination Lower St. Johns River	2	1	5	1
Desalination Ocean Supply	2	1	5	1
Intermediate Aquifer Supply Wells	3	3	3	5
Salinity Barrier	4	3	1	5
Indirect Potable Reuse South Grid	2	1	1	5
Lofton Oaks Supplies				
CUP Lofton Oaks Grid	5	5	5	5
Ponte Vedra Grid Supplies				
CUP Ponte Vedra Grid	5	5	5	5
Ponce de Leon Grid Supplies				
CUP Ponce de Leon Grid	5	5	5	5
Mayport Grid Supplies				
CUP Mayport Grid	5	5	5	5

Table 4-5 summarizes all of the performance metrics for each alternative.

Table 4-5 Performance Measure Scores for Illustrative Alternatives

Objective	Performance Measure	Units	Better Scores Are:	Range	No Options	Low Cost	High Reliability + Ground-water Desal	High Reliability + Surface Water Desal	High Reliability + Reuse
Maximize Cost-Effectiveness	Total customer lifecycle costs	2012 dollars (billions)	lower	3.5-4.5	$3.56	$3.61	$3.83	$4.00	$4.07
	JEA levelized costs	2012 dollars per million gallon	lower	3,000-4,000	$3,572	$3,568	$3,628	$3,784	$3,900
	Ratio of JEA fixed costs to JEA total costs	Fixed costs/total costs	lower	0.0-1.0	0.774	0.779	0.774	0.768	0.793
Reliably Meet Water Demands	Magnitude of water shortage	Million gallons	lower	0-140,000	111,283	91,578	10,186	10,186	39,048
	Time of water shortage	% of months showing deficit > 5%	lower	0-100	56.1	48.5	0.3	0.3	24.6
Maximize Flexibility	Operational flexibility	% of months showing South Grid deficit >5%	lower	0-100	86.4	81.7	19.6	19.6	34.9
	Diversity of supply	% supply remaining after removing top source	higher	0-100	0	1	15	15	8
Promote Environmental Sustainability	Aquifer sustainability	% supplies not from Floridan Aquifer	higher	0-50	0.0	3.0	14.2	14.2	8.7
	Water use efficiency	% demand reduced by conservation/reuse	higher	0-50	3.7	5.4	5.4	5.4	5.4
	River impacts	% supply from surface water	lower	0-50	0	0	0	14	0
Maximize Implementation	*Reliance on proven technology*	Qualitative score of 1 to 5	higher	1-5	5.0	4.9	3.8	3.8	4.3
	Ability to permit	Qualitative score of 1 to 5	higher	1-5	5.0	4.9	3.4	3.4	4.1
	Public acceptance	Qualitative score of 1 to 5	higher	1-5	5.0	4.9	4.9	4.9	4.1
Meet Customer Water Quality	*Water quality blending/secondary water quality*	Qualitative score of 1 to 5	higher	1-5	5.0	5.0	4.6	4.6	4.9

4.3 Ranking of Illustrative Alternatives

4.3.1 Ranking Procedure

The performance measures listed in **Tables 4-2** and **4-3** were scored for each illustrative alternative. The decision software program CDP was used to perform the scorecard analysis, which involves standardizing the raw performance measure scores, applying the objective weights and performance measure sub-weights, and ranking the alternatives based on the aggregate scores across all objectives. CDP is a visual tool with multiple ways of displaying results.

Goals, objectives, performance measures, and weights are input into CDP. To rank alternatives raw portfolio scores for each performance measure are also input to CDP. Each score is standardized on a linear scale from 0 to 1, with the best possible score translating to 1 and the worst possible score translating to 0. In this way, the various units in which the performance measures are quantified are eliminated, and it is possible to compare all scores. **Figure 4-3** shows an example of how the cost of an alternative is translated into a unit-less score.

A composite score for each objective was determined based on the sum of scores of its performance measures, and this score was multiplied by the weight of that objective. These values were then summed for comparison across all alternatives.

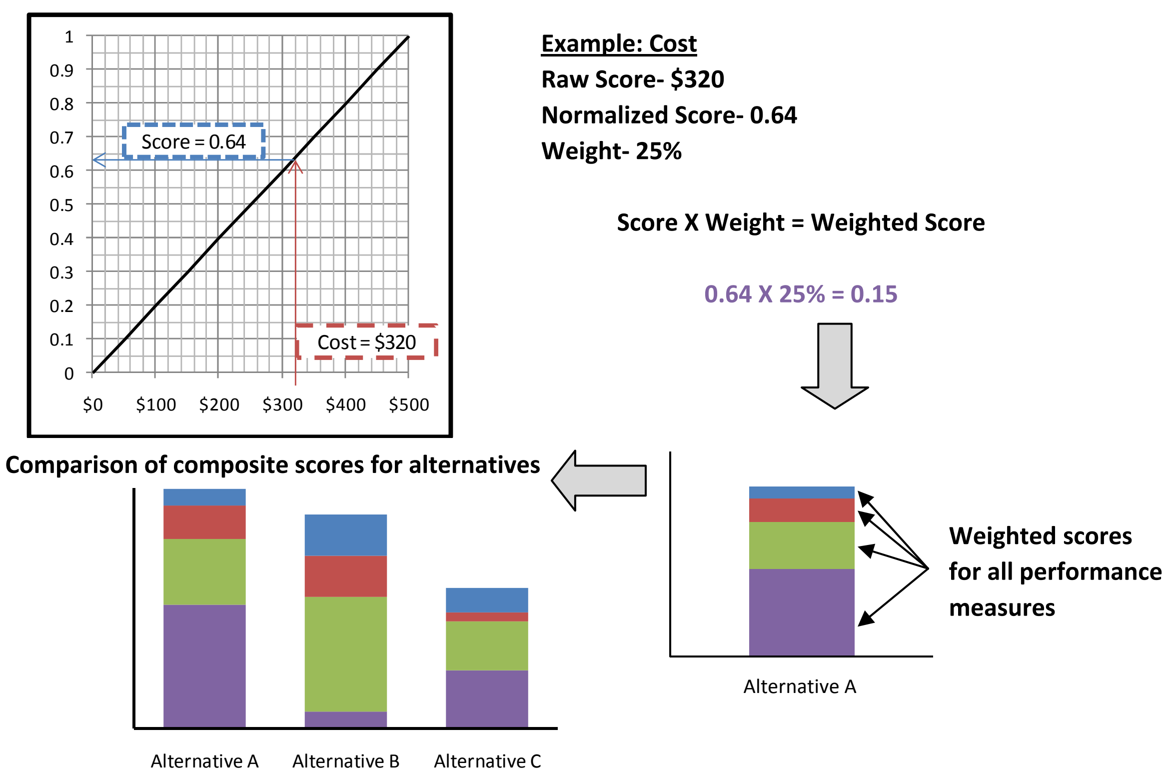


Figure 4-3
Alternative Scoring Procedure

4.3.2 Ranking Results

The five illustrative alternatives were scored using the performance measures and procedures described above. In addition to scoring the alternatives with equal weights for all objectives, various weighting scenarios were also scored to test the sensitivity of the results to objective weighting. **Figure 4-4** shows the composite scores of the illustrative alternatives. Each stacked bar represents the total score for the alternative, with the colored components representing how each alternative scores in each objective category. Theoretically, an alternative that scored perfectly in all objective categories would have a composite score of 1.0.

Based on the weights, performance measures, and model assumptions developed as part of the IWRP process, the "High Reliability with Groundwater Desalination" alternative scores the highest. The groundwater desalination scores better than surface water desalination in the cost and environmental sustainability objectives. The indirect potable reuse alternative does not score well because it is more expensive than desalination and does not achieve the same level of reliability. The "No Options" and "Low Cost" alternatives fall short in reliability and score poorly in the flexibility category. Those illustrative alternatives are less flexible because they assume JEA relies almost exclusively on the CUP allocation. Flexibility in sources is generally considered desirable in case of an unforeseen event that eliminates a major source of water.

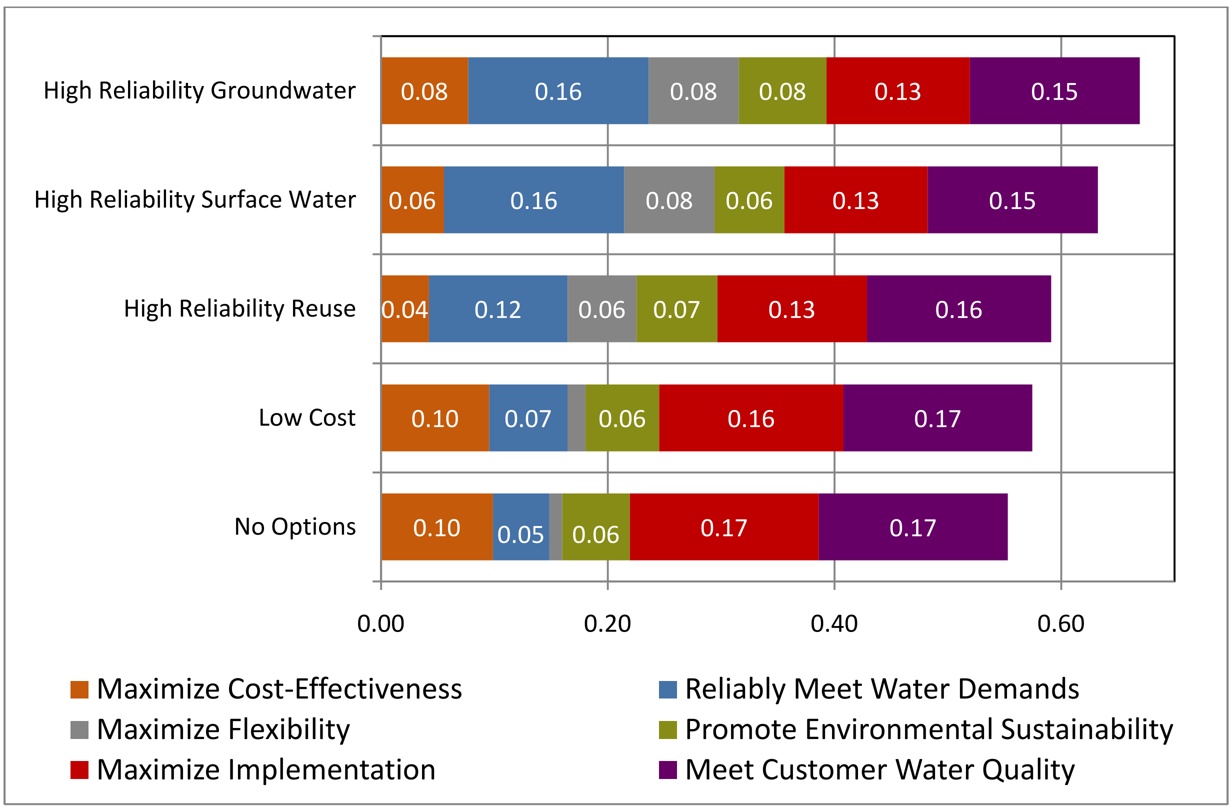


Figure 4-4
Illustrative Alternatives Scores

The objective weights were varied to study the sensitivity of the analysis to the importance placed on the top objectives: cost and reliability. **Table 4-6** shows the ranking of the illustrative alternatives using the original, equal weights, and various other weighting scenarios.

Table 4-6 Ranking of Alternatives with Different Objective Weightings (Rank of 1 is best, while Rank of 5 is worst)

Scenario	High Reliability Groundwater	High Reliability Surface Water	High Reliability Reuse	Low Cost	No Options
Baseline (equal weights, 17% each)	1	2	3	4	5
Cost = 75%, others equal	3	4	5	2	1
Reliability = 75%, others equal	1	2	3	4	5
75/25% between Cost/Reliability	1	4	5	2	3

The sensitivity analysis shows that the ranking is most sensitive to the weight of the cost effectiveness objective. The rankings change considerably when the weight of cost is increased to 75 percent of the total weight. The rank of the alternatives using this weighting scheme follows the cost of the alternative, with the No Options ranking first, following by Low Cost, then the High Reliability alternatives in order of least expensive to most. The same sensitivity test on the reliability objective, however, leaves the rankings unchanged from the baseline condition. If only cost and reliability are considered, with 75 percent of the weight going to cost and 25 percent going to reliability, the top ranking alternative remains High Reliability with Groundwater, but the Low Cost alternative jumps to second place and No Options to third (versus fourth and fifth in the baseline equal weights scenario).

The sensitivity analysis shows that the scoring algorithm—which consists of the weights, the performance measures, and the model assumptions—is most sensitive to cost. Therefore, additional efforts should be taken to establish robust cost estimates as JEA moves forward using this tool to determine a long-term water resources strategy.

Section 5

Summary and Next Steps

5.1 Summary

As the main purpose of the study was the creation of an IWRP planning process and set of tools to be used by JEA going forward, only limited conclusions could be made about the evaluation of the current system and potential future options. However, there are some important observations that can be made from this study, these being:

- While an overall future water supply deficit is predicted for the JEA system if no new options are selected, this deficit is largely present only in the South Grid and Lofton Oaks Grid. The CUP allocation is sufficient to meet the currently projected North Grid demands and those of many of the smaller grids through 2035. Thus the focus on alternative supplies should remain on those with a potential impact for the South Grid system.

- Significant water supply deficits (i.e., greater than 5 mgd) do not occur until after 2025 under a low population forecast scenario, and not until after 2015 under current or high population forecast scenarios.

- There is not always the need to move the full flow capacity through the interconnect between the North and South Grids. The optimal timing for the use of the interconnect depends on the time of year and options selected. Future optimization of the best way to utilize this infrastructure should be considered and could be performed using the system model with some modest refinement.

- The final rankings of the illustrative example were found to be fairly sensitive to cost. Thus, as JEA continues to use the model, specific attention should be paid to continuing to refine the cost of selected alternatives.

- The benefits and trade-offs between demand-side management and new supply sources greatly depend on population growth scenarios and the marginal cost of new supplies.

- The current systems model and the CDP ranking tool are an effective combination of tools to compare future water supply sources and system configurations.

5.2 Using the Model

This report demonstrated how the current systems model can be used to compare alternatives with respect to supply reliability, economic viability, and other criteria. However, the report and the planning process were not intended to yield a recommended plan for future water supply. Moving forward, JEA can use the model in two ways:

- **Planning Mode:** The model can be used exactly as demonstrated in this report to formulate alternative combinations of supply and demand management options, simulate their performance over the planning period, and compare cost, reliability, and other factors. It can also be used to form hybrid alternatives with options that seem to address or satisfy many of the specified planning objectives. In this way, a preferred plan can be formulated by studying tradeoffs, combining the options that satisfy the objectives broadly, and tuning them to appropriate yield levels.

- **Operations Mode:** The model can also be used (with its accompanying output spreadsheet) to formulate an annual operating plan at any point in time, given the infrastructure that would be currently available. For example, JEA could use the model to formulate an operating plan for 2013 by enabling the current supply options and experimenting with demand management alternatives to see how they might offset potable demand, and what the economic implications would be. In future years, when additional supply sources are brought online, JEA can experiment with alternative prioritization strategies for the suite of installed supplies to help optimize for cost.

5.3 Next Steps

As recently discussed with JEA at the project completion workshop, JEA may want to consider the following suggestions:

- **Create more refined alternatives.** The options included in the systems model were all summarized from previous reports and studies. As certain options and combinations of options become favored, the costs and yields should be revisited and refined. More attention to the scaling or phasing of infrastructure can also be considered and modeled.

- **Enhance the financial output.** The current systems model has a significant economic component set up to compute levelized cost and total lifecycle costs. However, an additional export spreadsheet could be created to calculate additional financial output that can feed into a more comprehensive JEA financial analysis for rate making and bonding analysis.

- **Continue model maintenance.** The systems model relies on multiple future projections out to the year 2035. These will need to be updated regularly to remain relevant with current conditions and changing planning activities.

- **Invest in staff training.** JEA may want to consider additional staff to fully utilize both the systems model and CDP decision software.

Appendix A

Water Demand Forecast & Gap Analysis

WATER DEMAND FORECAST & GAP ANALYSIS

Task 1 Water Demand Forecast and Gap Analysis for the JEA Integrated Water Resource Planning (IWRP) Project

This document summarizes the following CDM Smith Inc. (CDM Smith) activities:

- ***Review of JEA's water, wastewater and reclaimed water demand forecasts as well as the Consumptive Use Permit (CUP) Tracking and Prediction Tool.***
- ***Development of water demand forecast scenarios and determining the range of water supply need (gap between forecasted water demands and JEA's Consumptive Use Permit).***
- ***Assessment of JEA's unbilled water using a top-down approach.***

1.0 REVIEW OF JEA'S DEMAND FORECASTS

The purpose of the Integrated Water Resource Planning (IWRP) project is to holistically evaluate the long-term water management options available to JEA. Central to this effort is the development of a modeling tool to compare future alternative facilities, configurations, and management of JEA's water, wastewater and reclaimed water systems as an integrated resource. A critical input to this model is the future demand projections, particularly the water demand forecast, as comparing how combinations of supply options meet the projected demand will be a central focus of the model.

CDM Smith reviewed JEA's water demand, wastewater flow and reclaimed water forecasts for their appropriateness of use for the IWRP project as well as the CUP Tracking and Prediction Tool. The source documents used for this review included the ***Water/Sewer System Planning (WSSP) System Service Demand Forecasting Procedure*** (version 1.03, dated June 21, 2011), and the detailed spreadsheets for water, wastewater and reclaimed water provided to CDM Smith by JEA staff.

1.1 Water Demand Forecast

CDM Smith's understanding of JEA's water demand forecasting method is as follows:

1. Obtain median population projections at a county level from University of Florida's Bureau of Economic and Business Research (BEBR).

2. Using GIS and historical information, county population projections are disaggregated into JEA's water service areas.

3. Historical per capita water use is examined for each JEA service area and averaged to determine a projected water use factor

(gallons per capita per day or gpcd). For some water service areas, this factor is reduced very slightly over the planning period.

4. For each JEA water service area, the projected population is multiplied by the projected water use factor (gpcd) to obtain the forecast of water demands. For two water service areas, North Grid and South Grid, adjustments are made to account for transfers and bulk water sales to SJCUD.

5. Some adjustments are made for large commercial/industrial customers, as it is assumed that their water demands are not affected by future population growth.

Figure 1 summarizes JEA's water demand forecasts made over the last few years, based on different population projections and water use factors. It can be seen that all demand projections are greater than the current CUP allocation, which supports the need to further evaluate future water supply alternatives.

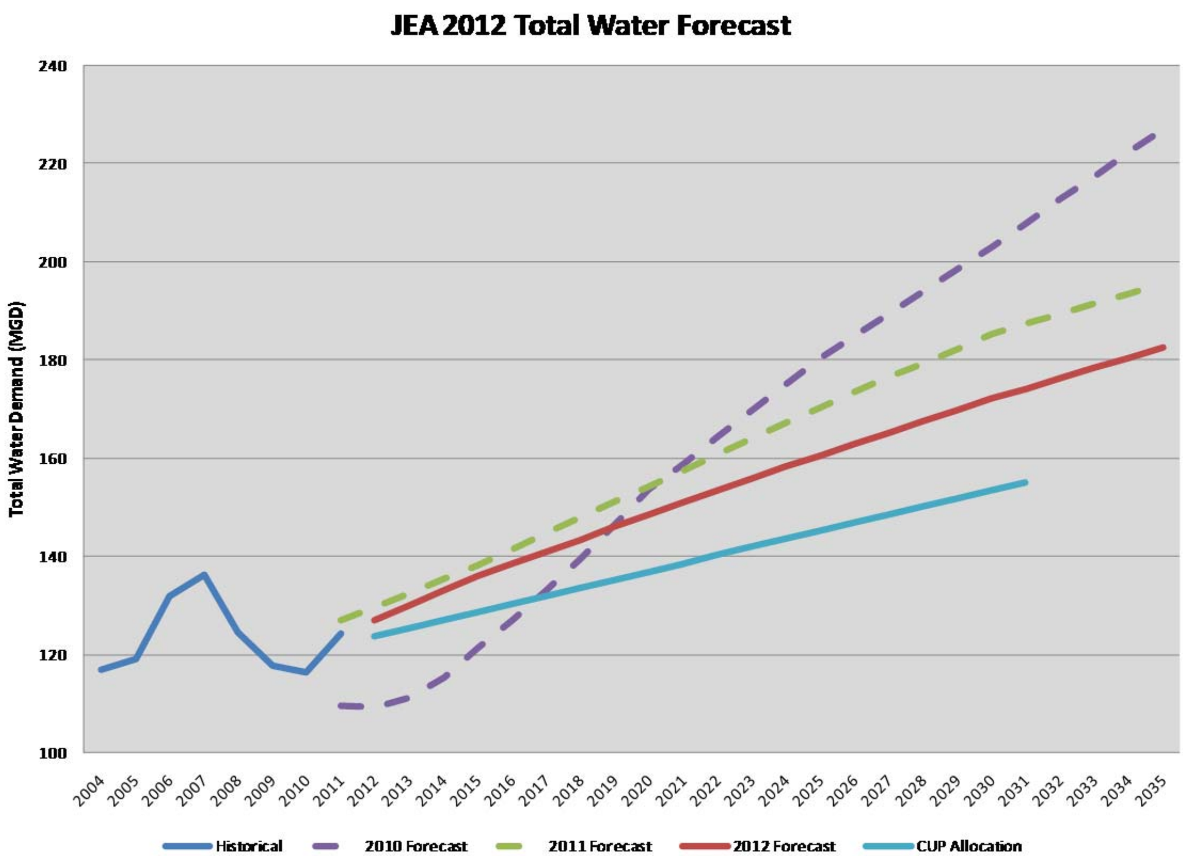


Figure 1. JEA's Water Demand Forecasts

The per capita water use method is one of the more common approaches for projecting urban water demands. While it has some drawbacks in being able to explain all of the factors that impact water use (socioeconomic, demographic, weather, and climate), it also has advantages and is often used when detailed historical data are not available.

One of the strengths of JEA's per capita water use method is the fact that the historical data and projection data are disaggregated into JEA's water service areas. This allows for much of the demographic and socioeconomic variability to be captured. For example, the North Grid service area has a historical average per capita water use of 161 gpcd, while the Ponce De Leon service area has a historical average per capita water use of 296 gpcd (approximately 84 percent greater). This is due to the fact that Ponce De Leon has larger, more affluent homes than North Grid. By examining historical per capita water use and by forecasting population at these service area levels results in a more refined per capita method.

Because of this disaggregated use of the per capita water use forecast method, and the fact that JEA maintains its different iterations of its water demand forecasts, CDM Smith concluded that this water demand forecast is appropriate for use in the JEA IRWP project.

Suggested Improvements

As time goes forward, JEA will have more historical water use and population data. Given this, JEA may wish to consider conducting a statistical analysis of historical monthly water production, population, weather, and unemployment rate. CDM Smith has successfully used this technique to improve per capita water use forecasts, as this approach allows utilities to understand the year to year variations in per capita water use, and therefore, provide more accurate projections of future values. For example, if per capita water use in the last few years was significantly lower than previous years and it could be statistically verified that the economy drove this condition, JEA may see per capita water use increase when the economy improves. Similarly, if weather in one year caused per capita water use to increase over the prior year, JEA could normalize the historical years taking out the impacts of weather. This statistical approach is not costly to perform, but does require at least 10 or more years of good monthly water use data. While these improvements could help refine the demand projections in the future, they are not critical for the current IWRP analysis.

1.2 Wastewater Flow Forecast

The wastewater flow forecasts are highly related to the water demand forecasts within each service area, as the majority of sewer flow originates as JEA provided water. Thus the two forecasts should follow similar trends. To project wastewater demands, JEA used a similar approach to the water demand forecast, whereby projected population (this time by wastewater service areas) is multiplied by a per capita wastewater flow generation factor. The contribution for infiltration and inflow (I&I) is implicit into the average wastewater demand factors as the demand factors are based on the flow received at each wastewater facility and this flow includes base sewer flow along with any I&I added during transport.

JEA's method to forecast wastewater demands is a standard approach used by most wastewater utilities, although many utilities incorporate an explicit factor for I&I. One difference between the water and wastewater demand forecasts is that the service areas do not overlap exactly and JEA has more total water customers than sewer customers. In the future, through phaseout of septic tank systems and expansion of sewer services, wastewater is projected to grow at a slightly faster rate than the water demand. **Figure 2** shows the wastewater demand forecasts as currently included in the model for the North and South grid. The North Grid values are a combination of the projected flows from the Buckman, District II, and Southwest facilities. The South Grid values are a combination of the projected flows from the Arlington East, Blacks Ford, and Mandarin facilities. Projections are also included within the model for the smaller grids of Ponce de Leon, Ponte Vedra, and Lofton Oaks/Nassau.

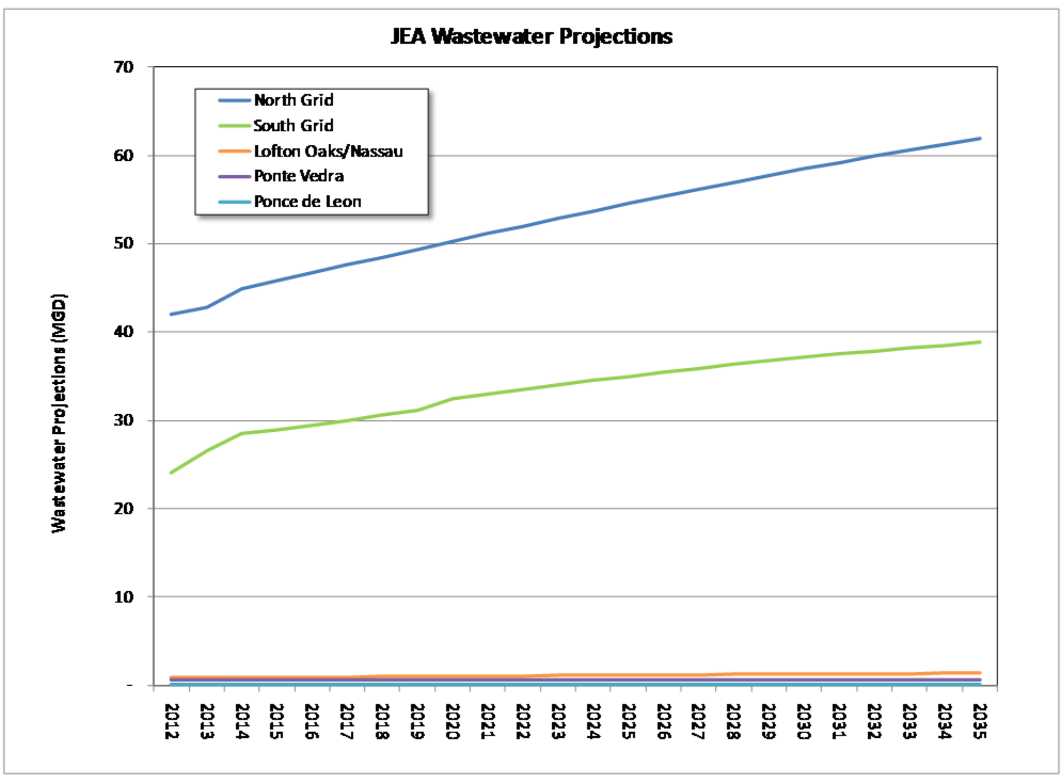


Figure 2. Wastewater Projections for IWRP Project

Many supply options within the model involve reclaimed water usage, which is dependent on wastewater flows. The model checks to ensure that the combination of options selected utilizing reclaimed water is constrained by the total wastewater projections per grid.

1.3 Reclaimed Water Demand Forecast

To project reclaimed water demands, JEA examines current and potential future users of reclaimed water that are adjacent to current and proposed reclaimed water facilities. JEA also analyzes monthly water patterns for these customers in order to analyze system needs such as diurnal storage.

This method is appropriate for IWRP use. The base projections are built upon within the model for reclaimed water options that expand the system for additional uses. For some options, additional reclaimed water is only utilized if there is available additional capacity at the reclaimed water plants. For other options, additional reclaimed water production capacity will be added to ensure available water within the constraints of wastewater projections. **Figure 3** shows the baseline reclaimed water demand projections per grid.

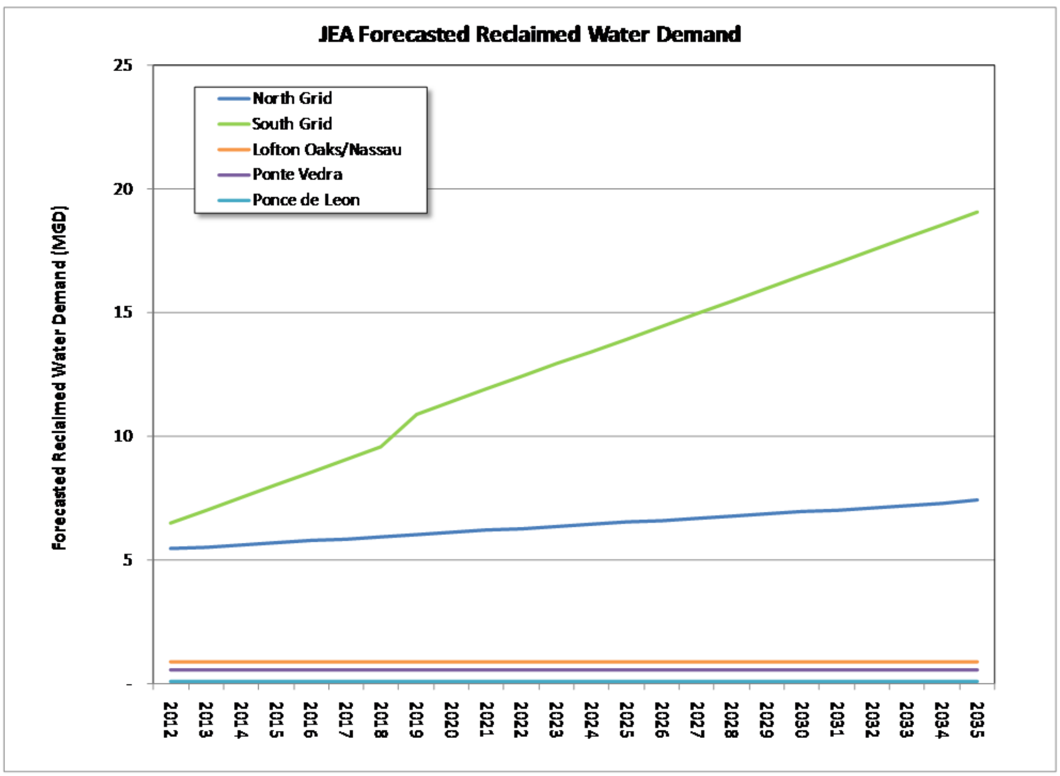


Figure 3. Forecasted Reclaimed Water Demand for IWRP Project

1.4 CUP Tracking and Prediction Tool

The CUP Tracking and Prediction Tool was developed to predict the probability of compliance with JEA's consumptive use permit in the short term. The tool evaluates factors such as forecasted population, conservation, potable offsets from reclaimed water, unbilled water, and weather conditions. A statistical approach is then used to determine a range and most likely distribution for future aquifer demands.

This approach is well suited for its specific use in short-term forecasting. However, because the IWRP model is being developed to evaluate and assist with long term planning, using inputs from the CUP Tracking and Prediction Tool for the model development will not be required.

2.0 DEVELOPMENT OF WATER DEMAND FORECAST SCENARIOS AND DETERMINING THE RANGE OF WATER SUPPLY NEED

Based on JEA's water demand forecast and historical data, CDM Smith developed three forecast scenarios for use in the IWRP project:

1. Baseline Scenario
2. High Scenario
3. Low Scenario

All three water demand forecast scenarios are presented without additional water conservation or reclaimed water potable offsets since these will be options that will be explored in the IWRP.

The baseline scenario will be the JEA 2012 water demand forecast. The baseline forecast (population, per capita water use, and water demand) was already disaggregated to each service area, so no additional calculations/modifications were necessary.

A high water demand forecast scenario was generated using the 2010 BEBR population projections for the total JEA service boundary. CDM Smith allocated the total 2010 population projections to each water service area based on the proportional split between each service area's population and total population from the baseline scenario. The higher population projections for each of the service areas were multiplied by the same per capita water use factors as in the baseline scenario, and the same transfer adjustments for North Grid and South Grid service areas were made.

To develop a low water demand scenario, CDM Smith calculated an annual population growth rate for each service area from 2007 to 2011, to account for slower growth due to the economic recession. This slower growth rate was applied to the 2012 population estimate made by JEA for the service areas through 2015. Then between 2015 and 2020, the growth rate was increased in order to parallel the actual baseline population projection. In other words, population growth would be minimal for the next 3 years then rebound after that to match the baseline's growth rate by 2020. The lower population projections for each of the service areas were multiplied by the same per capita water use factors as in the baseline scenario, and the same transfer adjustments for North Grid and South Grid service areas were made.

Figure 4 and Figure 5 present the aggregate population projections and water demand forecasts for the three demand scenarios. The average annual growth rate for demand over the scenarios from low to high is 1.4 percent, 1.6 percent and 2.7 percent.

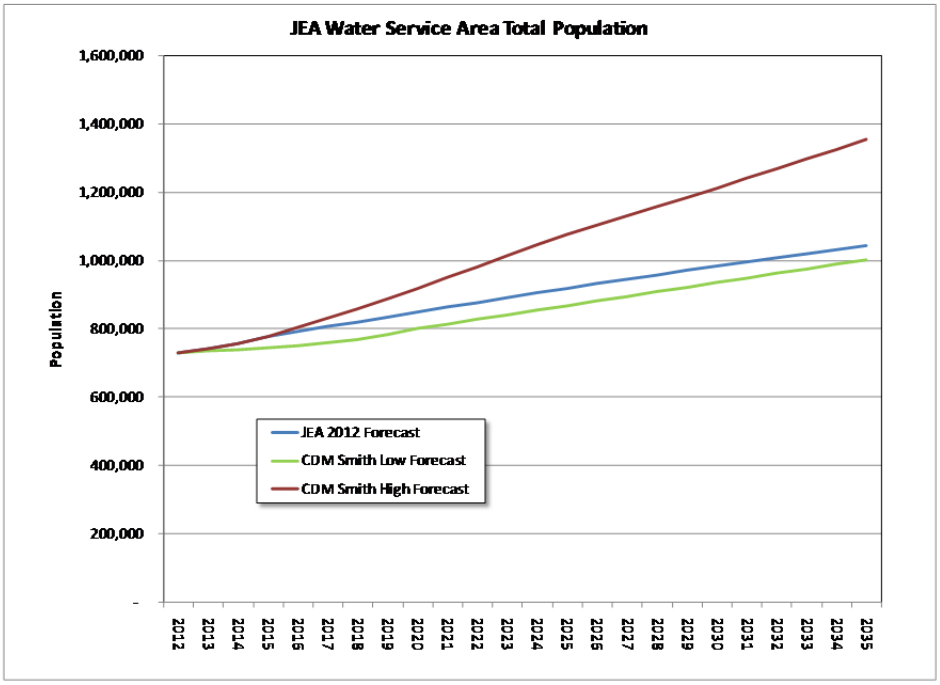


Figure 4. Population Scenarios for IWRP Project

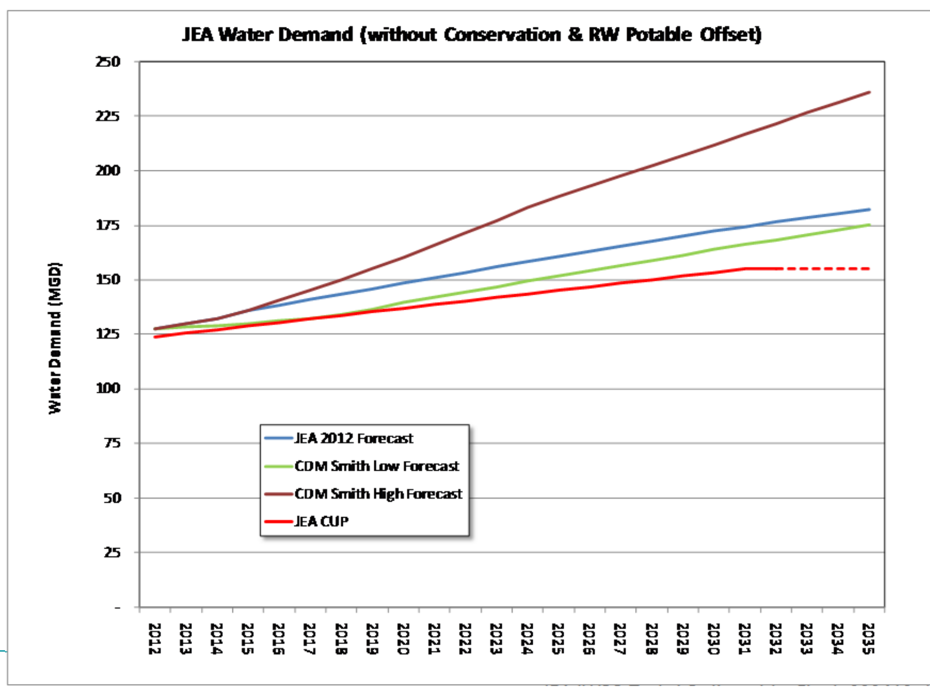


Figure 5. Water Demand Scenarios for IWRP Project

Subtracting JEA's CUP from the three scenarios of forecasted water demand results in a range of water supply need that the IWRP will need to address (**Figure 6**). The CUP allocation used for the calculation assumes the conditional increase in later years based on the reclaimed water conditions. It can be seen that under each growth scenario a need would exist to expand JEA's water supply beyond the CUP in order to meet the projected demand scenarios. This potential need is anywhere between 20 to 80 mgd by the end of the planning period depending on the demand projection scenario.

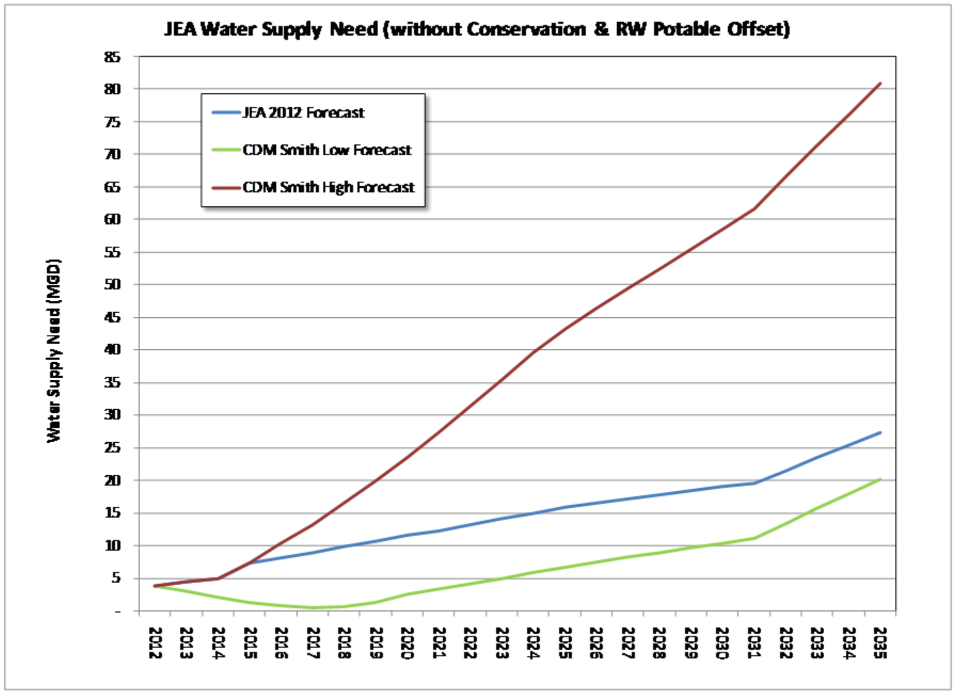


Figure 6. Range of Water Supply Need for IWRP Project

Upon review by JEA, the finalized water demand scenarios will be incorporated into the STELLA model so that various alternatives can be evaluated.

3.0 ASSESSMENT OF JEA'S UNBILLED WATER

CDM Smith assessed JEA's unbilled water from a top-down perspective to determine whether or not JEA should focus on this area as part of its overall water management strategy in the context of the IWRP Project.

CDM Smith reviewed JEA's historical accounting of unbilled water, as well as JEA's Water Audit (Final Report, 2011). To help assess JEA's unbilled water, information from the Water Audit and data provided by JEA were used by CDM Smith to calculate an industry standard (AWWA) benchmark.

3.1 Assessment of JEA Unbilled Data

CDM Smith reviewed JEA's historical unbilled data (MS Excel file provided by JEA) and has made the following observations:

a. The 2011 data show total production of 121.8 mgd, sales of 104.4 mgd, and the difference labeled as 'unbilled' of 17.4 mgd or 14.3 percent of production.

b. Note that 'Production' in this spreadsheet matches the value of finished water in the JEA report, rather than well production, and does not include purchased finished water as noted in the report.

c. The 'Sales' data by month is not adjusted for the lag in billing relative to the month of actual usage. However, on an annual basis these adjustments will average out and not affect the data.

d. This calculation of 'unbilled' water as a percent of production (14.3 percent) includes authorized unmetered uses, customer meter error and real system losses; and this conforms to the industry standard definition of non-revenue water (NRW).

e. The estimate of 'unbilled' or NRW in the spreadsheet is biased downward by the omission of purchased finished water. However, this bias is minimal as the total amount of potable water purchased by JEA for 2011 was only 0.105 mgd.

3.2 Assessment of JEA Water Audit

CDM Smith reviewed JEA's Water Audit (Final Report, 2011), and has made the following observations:

a. This report follows the estimation of water loss as prescribed by the SJRWMD water audit form. The calculations are performed for different grid networks.

b. The value calculated and reported as Unaccounted for Water (UFW) incorporates a number of parameters including: (1) differences between well meters and WTP master meters, (2) finished water purchased after the WTP master meter, (3) estimated adjustments for customer meter inaccuracies, (4) adjustments for meter reading lag, (5) estimated unmetered uses, and (6) estimated unavoidable annual real losses (UARL).

c. Because the difference between well meters and WTP master meters is negative, the resultant UFW percentage for the Major Grid appears to be biased downward.

d. Because the unavoidable real loss (UARL) is deducted from the calculated UFW, the resultant UFW value represents the portion of system losses that should be avoided, or could be controlled through a water loss control program. The calculated UFW is not comparable with standard metrics of system loss.

e. Before adjusting the UFW for the difference between well meters and WTP master meters, the interim UFW value is 14 percent of finished production. This value is a more commonly used definition of UFW.

3.3 Standard AWWA Benchmark

The JEA estimation of unavoidable annual real loss (UARL) uses a formula from the AWWA M36 manual of practice regarding water system loss. This manual provides a standardized format for classifying, calculating, and benchmarking water loss metrics.

CDM Smith used the 2011 data reported in the JEA 2011 Water Audit report to calculate the standardized water loss metrics in accordance with the AWWA format. These metrics are shown in **Table 1**, followed by notes on how data were used and converted.

The AWWA benchmarks use a ratio of the Real Loss to the UARL as a metric of a water system's Infrastructure Leakage Index (ILI). It is generally not economically or operationally feasible to reduce the ILI below a value of 2.0 or 3.0. This acknowledges that there are limits to the extent to which real losses can be eliminated within a system. The AWWA guidelines suggest that systems with an ILI in the range of 3.0 to 5.0 should evaluate the costs of water resources relative to the cost of a water loss control program that would reduce system losses. That is, if the unit value of water saved from leak detection and line replacement is less than the unit value of additional water supply, the utility could benefit from such a water loss control program. Generally speaking, for systems with an ILI between 5.0 and 8.0, the high level of real losses is only acceptable if water supply is inexpensive and relatively immune to supply shortages (i.e., the utility can afford to lose water). According to AWWA, an ILI greater than 8.0 is not an effective utilization of water resources.

Table 1. JEA Unbilled Water Benchmark Using AWWA/IWA Format

Water Supplied	Finished	44,456.39	MG
	Purchased	38.16	MG
		44,494.55	MG
Authorized Use	Metered	37,964.70	MG adjusted for billing lag
	unmetered	33.51	MG Fire flow
		14.81	MG Flushing
		11.65	MG Sewer cleaning
		38,024.67	MG
Losses (supply minus use)		6,469.88	MG
		14.54%	as Percent of Supplied
Apparent Loss	unauthorized use (theft)	0	MG
	billing error	0	MG
	customer meter inaccuracies	704.72	MG
		1.58%	as Percent of Supplied
Real Loss (RL)		5,765.16	MG
		12.96%	as Percent of Supplied
Non-Revenue Water		6,529.85	MG
(total loss + unmetered use)		14.68%	as Percent of Supplied
Unavoidable Real Loss (UARL)		1,414.3	MG
		3.18%	as Percent of Supplied
Infrastructure Leakage Index (RL/UARL)		4.07	

Notes on metric calculations:

a. Including purchased finished water in the water supplied into the distribution system increases the supply without changing the recorded use. Thus, the unbilled volume, or non-revenue water (NRW) volume increases to about 14.7% of supply.

b. The non-revenue water (NRW) volume is separated between unmetered authorized uses, apparent losses (i.e., customer meter slippage, theft and billing errors), and real losses (i.e., line breaks, major leaks, and unavoidable leakage). The unmetered authorized uses estimated by JEA amount to only 0.13% of total finished water supply. Customer meter inaccuracies estimated by JEA amount to 1.58% of supply. This leaves 13.0% of supply as real system loss.

c. Any pressurized system will lose water. The AWWA water audit format offers a methodology for estimating a water distribution system’s unavoidable real loss (UARL) based on average operating pressure, number of service connections, lines of pipe and other parameters. However, many of the assumptions in this calculation are very generalized. Thus a conservative (i.e., safe) estimate is twice the calculated value. The JEA adjusted estimate of UARL is 1,414 MG, or 3.18% of total finished water supply.

Based on the analysis of JEA data reported in the JEA 2011 Water Audit report, it appears that JEA has an ILI of 4.07 and should evaluate the potential benefits from a program to reduce real loss in their system. JEA has recently formed a team to investigate such a program. The team has been tasked to develop and implement a leakage reduction program that will establish methodologies for assessment, prioritization and cost benefit analysis of the leak detection/reduction alternatives. Within the IWRP Project reducing unaccounted for water will continue to be an evaluated demand reduction alternative.

4.0 SUMMARY

The main conclusion of this technical memorandum is that the JEA demand projections are applicable to be used within the IWRP Project. The JEA provided baseline water demand forecast will be a key component within the developed model. An option will also be included to choose either a lower or higher demand projection for analysis utilizing the additional scenarios developed by CDM Smith as described in Section 2. These demand projections will form the base of the current analysis, but can always be updated within the model in the future if demand projections change.

The reclaimed water demand forecast will also be incorporated into the model, while the wastewater demand forecast will act as a constraint for the maximum level of reclaimed water capacity that can be developed.

While the CUP Tracking and Prediction Tool was reviewed and thought to be valid for its given usage, its ability to be incorporated into the IWRP model is limited due to the short time scale of its input data.

Unaccounted for water, and non-revenue water, within the JEA system were also analyzed and a loss reduction plan will be incorporated into the IWRP model.

Appendix B

Integrated Model Development Plan

INTEGRATED MODEL DEVELOPMENT PLAN

Task 3-1 Modeling Plan for the
JEA Integrated Water Resource Planning (IWRP) Project

This document is designed to be a guide for the formulation and development of a modeling tool for JEA that will accomplish two purposes:

- ***It will compare the performance, operating costs, and other characteristics of future alternative facilities, configurations, and management of JEA's water, wastewater, and reclaimed water systems, integrated as a single water resource and economic system. This will serve as the basis of IWRP evaluations.***
- ***It will be used going forward by JEA staff to develop and tune operating plans on a routine basis by simulated expected demand and testing alternative operating rules to help reduce costs.***

1.0 INTRODUCTION

The integrated systems model that will be developed as part of this project will compile information from other models/reports/studies, simplify relationships (such as groundwater drawdown as a function of pumping and recharge, saltwater upconing potential as a function of withdrawal rates, or conservation effectiveness as a function of investment and policy enforcement), and link the different subsystems together (water, wastewater, and reclaimed water) for comprehensive supply-demand, economic, and operational analysis of planned infrastructure and integrated operations.

As a guide, this document is malleable, and is not intended to serve as the basis for documenting final decisions at this early stage of the program. Rather, it is intended to function as a centralized collection of necessary inputs, outputs, formulation ideas, and functional requirements for the model, so that it can effectively address the questions that are driving its development. Workshops with CDM and JEA will help finalize the specific needs of the model. A separate document on the Economic Modeling Approach has been developed as a companion to this document.

2.0 FUNDAMENTAL QUESTIONS

The first workshop with the Core Planning Team identified the guiding objectives for the IWRP. Associated with each objective are performance measures, which were reviewed and modified by the broader group of JEA staff and leadership at the JEA kickoff meeting on March 6, 2012. One of the expectations of the integrated model is that it will provide numerical output in the form of the performance measures that are deemed to be quantitative, as opposed to qualitative. These will then be used in a scorecard along with qualitative scores developed with JEA to provide balanced, broad-based comparisons of alternatives. The objectives and performance measures are listed in **Table 1** below, and the numeric performance measures (to be generated with the model, or supported by model outputs) are highlighted in red.

Table 1: Objectives and Performance Measures

Objective	Performance Measures
Maximize Cost-Effectiveness	-Total customer lifecycle costs -JEA levelized costs -Ratio of JEA fixed costs to JEA total costs
Reliably Meet Water Demands	-Risk for water shortage
Maximize Flexibility	-Operational flexibility -Diversity of supply
Protect Environmental Resources	-Aquifer sustainability -Water use efficiency - River Impacts (quality and quantity)
Maximize Implementation	-Reliance on proven technology -Ability to permit -Public acceptance
Meet Customer Water Quality	-Water quality blending/secondary water quality metric

As part of the process of evaluating tradeoffs between alternatives, the model will also be useful in answering broad questions about alternatives and their implementation. Some examples include:

- When will water demand outpace various levels of supply?

- What supply alternatives will offer the most cost-effective and reliable solutions?
- How can supply-side and demand-side management be used together cost-effectively?
- How can the system with future infrastructure improvements be operated in an integrated way for cost and energy efficiency?
- How should new infrastructure and facilities be phased?

Lastly, once alternatives are operational (or even for the existing system), the model may be employed regularly by JEA to assist in planning operations for an upcoming year. Given a current system configuration (at any point in the future), expected demand for the year, current energy prices, maintenance schedules for specific facilities, etc., JEA can use the model to identify preferred sources based on cost, impacts, reliability, diversity, or other metrics defined above. Examples of the types of near-term operational questions that can be answered for any future system configuration include: How can the system, in any existing state, be operated in an integrated way for cost and energy efficiency? What sources should be used when? What plants should take the highest load? How much reclaimed water should be distributed?

3.0 MODELING APPROACH: SIMULATION VS. OPTIMIZATION

Some of the fundamental questions of water planning are best addressed with dynamic system simulation models – high level tools that assimilate data and simplified relationships from other tools into a single platform in which multiple subsystems can be evaluated together. This is essentially an experimental platform, in which "What-If" questions can be asked and answered. Such analysis provides insight into the effectiveness of various water management options with the benefit of illuminating WHY they work or do not work as an effective part of a larger system. Because integrated system models incorporate so much information from other models, it doesn't need to be recreated or recomputed, and consequently, analysis is fast. This allows for rapid assessment of performance, trade-off studies, and tuning of a system toward peak performance for cost, reliability, or other metrics. It can been used effectively to "optimize" integrated systems by progressively building comprehensive plans that address a broad variety of goals.

Another approach to addressing integrated plans is explicit mathematical optimization – employing advance search algorithms to sort through all possible combinations of options and scales and conditions and identify those that best meet one or two specific objectives (cost, or reliability for example).   However, these approaches usually are effective only in defining an upper bound of opportunity, and do not necessarily explain HOW to achieve the resultant benefits, or WHY the benefits are the way they are. In other words, optimization models can prescribe what to do, but they can also leave planners and operators "flying somewhat blind."

The choice of a modeling approach naturally depends on the fundamental questions driving a study, and the way the questions are articulated. Purely prescriptive questions ("What's the best way to do this?") can be effectively addressed with explicit optimization, but may not be terribly informative to decision makers. Descriptive questions ("What options most effectively address multiple needs, and why") are better analyzed using simulation models.

Because the framework of objectives and performance measures is broad, a **simulation model will be most effective for JEA's IWRP**. It can be used to provide information on cost, reliability, environmental impacts, and water quality so that alternatives can be evaluated in the context of their tradeoffs, and informed decisions can be made. More information on the selected tool is included in Section 5 of this memorandum.

4.0 MODES AND SCENARIOS

As listed above, there are two types of fundamental questions formulating the need for integrated planning:

- What long-term capital improvements and management strategies are needed, and when?
- How can annual operating plans be tuned for cost-effectiveness?

Because of the different focuses and scales of these questions, two modes will be developed. *They will be based on the same network configuration, input data, and calculations, but the time scales and specificity of demand and energy price structures will vary between the two modes.*

Both modes will run on a monthly timestep, which is appropriate for capturing the dynamics of seasonal variations in water availability and demand for planning purposes, but does not become too data-intensive by simulating finer time-scales in which the supply/demand/cost variations have little impact on planning. It may be necessary to incorporate daily peaking factors for within-month dynamics so that infrastructure may be tested and sized appropriately.

Planning Mode: This mode will compare alternatives for the long-term integrated planning framework (Present – 2035) based on supply/demand analysis, operating cost, and other performance measures discussed above. CDM Smith will use this mode as part of the IWRP study to provide JEA with quantifiable tradeoffs between alternatives.

There are two options for how the planning mode could be arranged:

1. **One Year / Full Hydrology:** The model will look ahead to any single year between 2012 and 2035 based on demand projections developed in Task 1 of the study. It will superimpose historical periods of hydrologic record over a given demand year to obtain probabilistic results of water availability, operating costs, etc. for that year.

2. **25 Years / Representative Hydrology:** The model will run the full planning period of increasing demand with representative hydrology (wet, normal, or dry, for example) superimposed throughout.

Option 2 was selected for the JEA IWRP because the dependency of supply options on hydrology is not perceived to be as critical as understanding the long-term viability of supplies through periods of increasing demand. Options that depend on hydrology (river withdrawals, reuse demand as a function of rainfall, etc.) can still be tested by varying the hydrologic assumptions superimposed over the future 25-year planning period.

The information obtained from the model will be used to compare and prioritize options, group them into effective combinations ("alternatives"), and phase them appropriately. This planning mode will also allow experimentation with variations in demand projections, water availability, changes in regulations, etc.

The complete list of options defined by JEA in the initial workshops is listed in **Table 2** below. These are the options that can be selected and grouped into alternatives within the model.

Operations Mode: This mode will be used to formulate and/or tune annual operating plans by JEA. It will utilize the same modeling interface and network. However, unlike the Planning Mode, which looks up to 25 years into the future based on demand projections and hypothetical facilities and infrastructure, this mode will be used recurrently by JEA based on actual configurations (in the ground at the time of model use) and projected needs for any immediately upcoming 3 year period, corresponding with current in-house near-term demand forecasting procedures.

It is envisioned that the tool will be used to input the current 3-year demands, CUPs, energy prices, available operating options (today's existing sources plus the implemented in-the-ground options from Table 2), and other constraints on availability (permits, facility maintenance, etc.). This mode will also allow the selection of hydrologic conditions (dry, wet, average, or possibly key percentiles) that can be run for the three-year planning period.

The primary goal of this mode will be to formulate three-year cost-effective operating plans for the entire water/wastewater system. Output will be provided in the form of the same metrics outlined above for long-term planning (cost, reliability, impacts, etc.).

Table 2: Options for Inclusion in the Integrated Model

Water Supply	Reuse Water	Demand Management
Desalination: St. Johns River near NSGS "seawater quality"	Indirect Potable Reuse via Groundwater Recharge	Increased conservation
Desalination: St. Johns River upstream "brackish quality"	Keystone Lake Region Reuse (RIBs, Injection, or Lake Recharge)	Reduce unaccounted for water
Desalination: Intracoastal Waterway/Ocean	Multi-County Regional Reuse	Drought rate structures
Desalination: Brackish Groundwater	Targeted Reuse/Source Replacement (Project by Project Basis)	O&M System Operations/Performance (Pressures)
Regional Surface Water Reservoir for Potable		
WTP Intermediate Aquifer Wells		
Local Surface Water Reservoir for Potable		
Non Floridan Source Private Irrigation		
Other Floridan Sources		

5.0 CANDIDATE MODELING TOOLS AND RECOMMENDATION

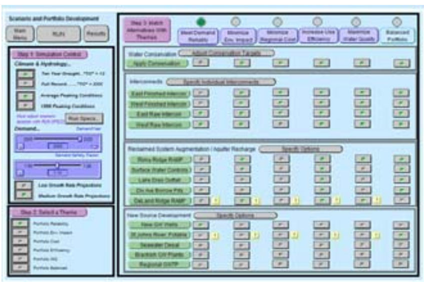
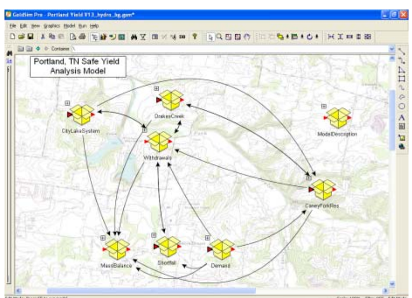
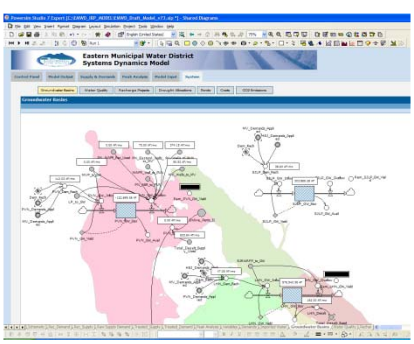
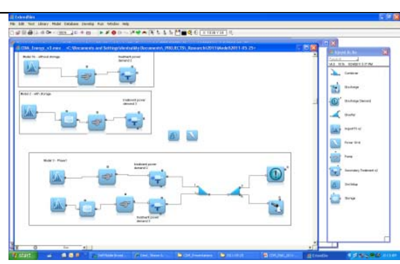
Integrated Model: Table 3 lists the candidate models that CDM Smith has identified for the JEA IWRP. All of the tools can represent complex flow networks, and are mathematically capable of producing the necessary results for both proposed modes (Long-Term Planning, and Annual Operations). Likewise, all of these tools have been used for integrated and operational modeling. Their relative strengths and weaknesses are outlined in the table for comparative purposes.

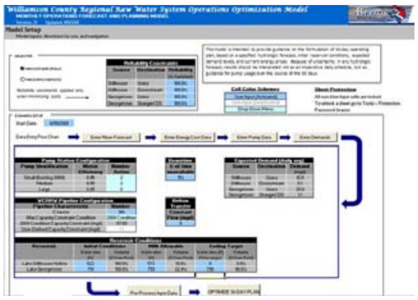
The most important aspect of selecting a model is to match it with the questions that are being asked, and with the intended usage of the model (in this case, both by CDM Smith for planning, and by JEA for annual operations). Based on the list of performance measures, the ease of programming and use, and its long and successful history at CDM Smith, **STELLA was selected as the most suitable option for JEA**.

Scorecard Tool: CDM Smith will utilize Criterion Decision Plus (CDP) to help rank alternatives in a comparative platform. CDP is a scorecard tool that compiles numeric scores (from the STELLA model) and qualitative assessments (poor – good – better – best) into composite scores for each alternative. The performance measures are assigned weights based on relative importance to overall planning objectives. Outputs help demonstrate the tradeoffs between alternatives, and illustrate which ones perform most effectively across the whole range of objectives. The tool is not used to make decisions, but rather to help support informed and defensible decisions.

Supplemental Templates: CDM Smith will develop supplemental templates in Microsoft Excel for the transferring of data to and from the model and scorecard tool, and possibly to help enhance graphical presentation of results.

TABLE 3: Candidate Models Evaluated for JEA IWRP

Software	Example	Description	Benefits for IRP	Shortcomings for IRP/Ops	Cost
STELLA		Graphical dynamic simulation model with interface that allows rapid adjustment of key variables. CDM and our clients have used STELLA extensively for IWRPs and Ops modeling.	-Intuitive interfaces for options and operating rules -Easy programming -Graphical depiction of the system -Long and successful history at CDM -Easy to modify	-Linking to external data is difficult -Output graphics are not great	$2,000
GOLDSIM		Statistically-based simulation model that facilitates uncertainty and Monte Carlo analysis	-Powerful algorithms for uncertainty analysis, Monte Carlo analysis, etc. -Subsystems contained in tiered modules for visual clarity	-Visual linkages are not clear or intuitive -Programming is more difficult than others -Can be difficult to modify	$4,000
POWERSIM		Graphical dynamic model with good interface and output graphics. Programming is higher level than most others in this comparison.	-Easy links to external databases -Intuitive interface and good output graphics -Graphical flexibility within the model -More powerful/ flexible math	-System links can be hard to follow -Data links can be difficult to change -Programming is less intuitive than others (more like a language)	$13,532
EXTENDSIM		Off-the-shelf software for which CDM Smith has develop customized modules	-More modular than others: allows rapid replication of similar facilities/elements -Easy to create tiered submodels	-Some of the modular functionality is proprietary to CDM Smith	$2,500

MICROSOFT EXCEL WITH PREMIUM SOLVER AND VISUAL BASIC (VBA)		Spreadsheet-based platform for explicit mathematical optimization (SOLVER) and dynamic/statistical programming (VBA)	-Completely customizable -Can do simulation and explicit optimization -Algorithms can be easily added with Visual Basic	-Changes are difficult with VBA and SOLVER -Programming can be lengthy -No functional system graphics -Limited planning insight with optimization	$2,000

6.0 MODEL INPUTS

Aside from a database of hydrologic data, economic information, demand projections, and other data sets that will be embedded within the model as needed, the user (CDM Smith and JEA) will enter key inputs to define scenarios. The inputs will be very similar for the PLANNING MODE and the OPERATIONS MODE. Table 4 lists the key inputs required for model scenarios:

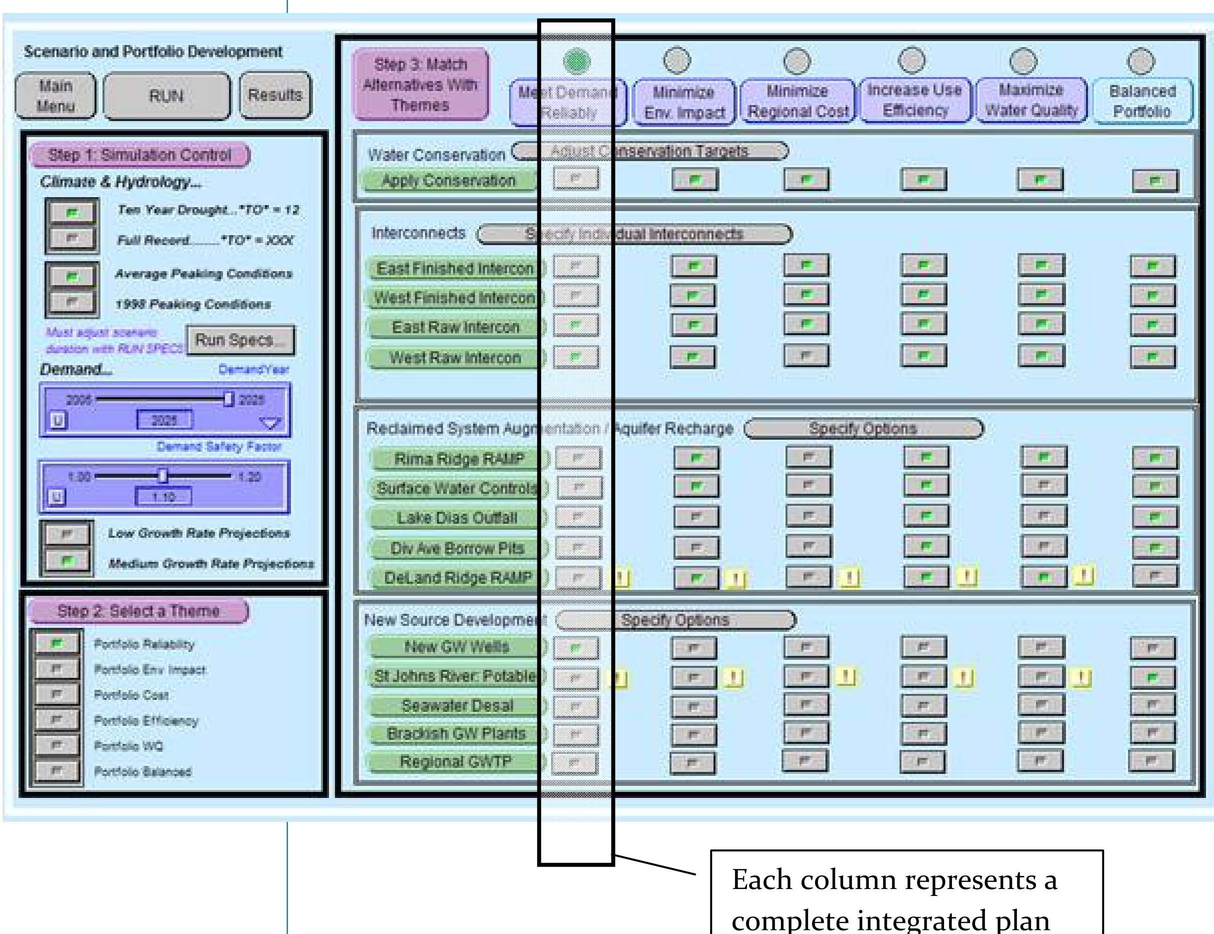
Table 4: Key Model Inputs

Input	Planning Mode	Operations Mode
Future options from Table 2 for supply, reuse, and demand management (ON/OFF and amounts available)	●	
Options from table 2 implemented and available at the time of model use		●
25-year demand projections for water and reuse (high/medium/low)	●	
1 or 3 year demand projection		●
Hydrologic conditions (dry, normal, wet)	●	●
Long-term energy price assumptions	●	

Input	Planning Mode	Operations Mode
Current energy prices		●
Operating Cost Assumptions / Energy Needs	●	●
Regulatory constraints for 25-year planning period (CUPs, MFLs)	●	
Current regulatory constraints (CUPs, MFLs)		●

Figure 1 illustrates an example input screen for a similar Integrated Water Resource Model using STELLA software. The user identifies key scenario parameters (hydrologic conditions, demand, etc.) and then selects from available supply and management options to formulate a comprehensive plan. Alternative plans can then be tested against each other and refined.

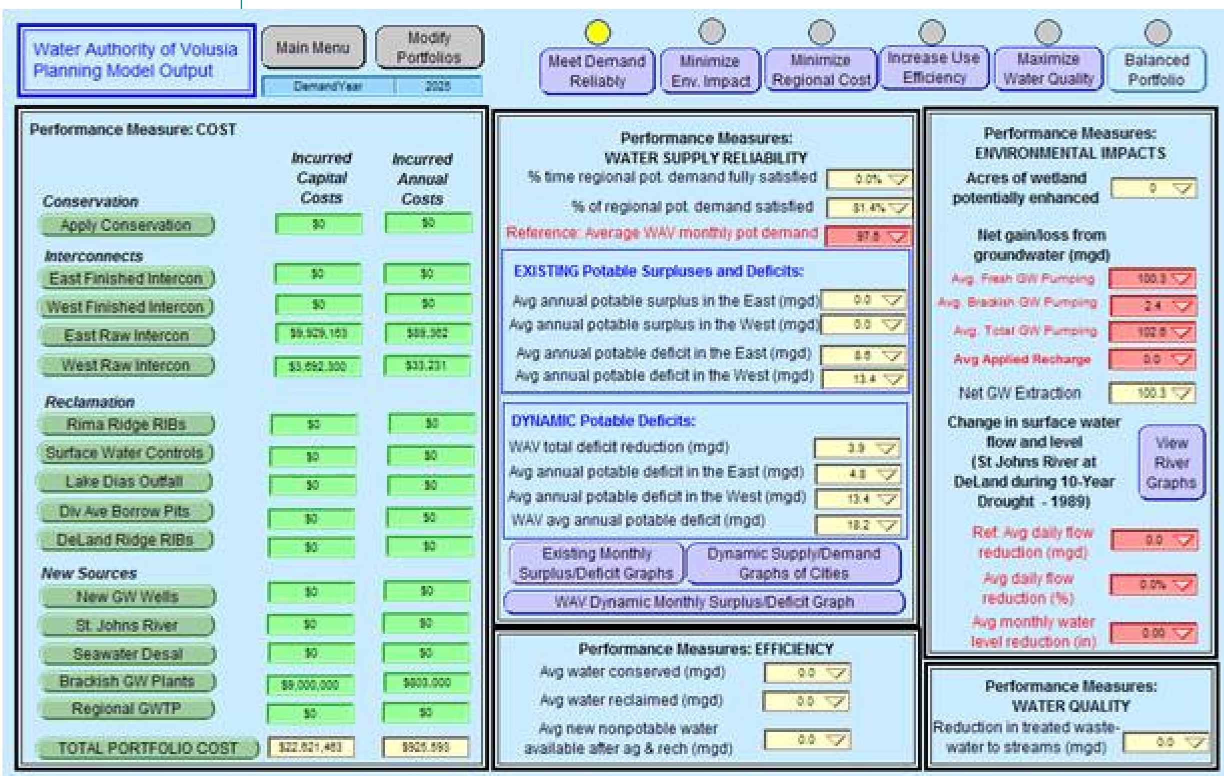
Figure 1: Example Input Screen for STELLA Model*



7.0 MODEL OUTPUTS

The outputs will be based around the performance measures outlined in Table 1, and will naturally evolve during the course of collaborative development with JEA. An example output screen in STELLA from another Integrated Water Resources Plan is included as **Figure 2.**

Figure 2: Example Output Screen in STELLA*



**Used for the Water Authority of Volusia Integrated Facilities Plan. Numbers are examples only, and do not reflect any actual decisions, costs, relationships, or specific scenarios.*

The example above is useful for defining specific performance measures in simple, numeric formats. Other key outputs, such as timeseries plots, will be presented in graphs, tables, and/or summary statistics to meet the needs of JEA.

8.0 MODELING WORK PLAN

The following task outline will be followed for the development of the model:

1. Develop Economic Modeling Plan: Define techniques and assumptions for cost calculations, energy price estimates, present

worth basis (inflation and discount rates, planning horizon, etc.), cost levelization.

2. Draw schematic diagram of model network and conceptual relationships

3. Develop simplified relationships based on previous modeling:

    a. Groundwater withdrawals vs. levels
    b. Groundwater withdrawals vs. salinity
    c. Energy needs and affiliated cost
    d. Conservation effectiveness
    e. Availability from other sources
    f. Etc.

4. Program model network with existing water, wastewater, and reclaimed facilities and infrastructure (represented either explicitly or conceptually, as needed), as well as future options identified for modeling in **Table 2.**

5. Develop input and output interface screens for selecting and grouping alternatives, specifying demand levels, viewing results, etc.

6. Test model against recent withdrawal, treatment, and distribution patterns to verify costs, supply usage, well response, etc.

7. Memorandum on model development and testing. At this point, the model will be ready for use in formulating and comparing alternatives for JEA's IWRP.

Appendix C

Economic Modeling Approach

ECONOMIC MODELING APPROACH

Task 3-2 Economic Modeling Approach for the
JEA Integrated Water Resource Planning (IWRP) Project

To help evaluate projects and alternatives for JEA's IWRP project, an economic modeling approach (EMA) is required. This EMA will be programmed into JEA's STELLA system model in order to track all costs and present information in standard economic terms. The EMA can be applied for comparing individual projects or combinations of projects (e.g., alternatives).

The EMA will incorporate and address the following:

- ***All projects will have similar cost contingencies (planning, engineering, construction) that are typical for high-level planning estimates.***
- ***Although JEA might use different levels of cash vs. debt to fund capital projects during actual project implementation, the EMA assumes all project capital costs will be 50 percent financed.***
- ***The EMA will assume the same escalation factor for both capital and annual O&M costs to account for escalation.***
- ***The EMA will produce standard economic metrics, such as:***
  - ***Total lifecycle present value cost (sum of nominal annual costs discounted by a discount rate for life of project/alternative)***
  - ***Simple average unit cost (sum of total nominal annual costs divided by sum of total water supply capacity for life of project/alternative)***
  - ***Levelized unit cost (present value cost divided by present value of beneficial water supply produced for life of project/alternative)***

1.0 PROJECT COST ESTIMATION

JEA has conducted many planning studies during the past several years, and included in these studies are cost estimates for many of the projects that will be explored in the IWRP project. CDM Smith Inc. (CDM Smith) will first bring all prior cost estimates to current year (2012) dollars using the appropriate ENR index. For those projects without cost estimates, CDM Smith will utilize unit cost estimates for similar project from other studies conducted throughout the United States in order to develop high-level planning cost estimates. All cost estimates will include similar (comparable) contingencies for planning, permitting, engineering and construction.

2.0 ECONOMIC FACTORS AND ASSUMPTIONS

The following economic factors or terms will be used as default values for the IWRP project, based on the last 10 years of historical trends. However, these values can be changed or varied as inputs to the STELLA model in order to test the sensitivity they may have on decisions.

Economic Factor	Value
Escalation Rate	3%
Finance (Borrowing) Rate	5%
Life of project for pipelines, pump stations, stormwater BMPs	20 years
Life of project for treatment plants, wells, storage, conveyance	30 years
Discount Rate	5%

Assumptions were made to determine a baseline cost for running the current JEA system.

- Based on the 2011 data from the annual report, it was determined that assets were split evenly with about 50% for water and 50% for sewer. Thus, similarly it was assumed that 50% of the current debt financing could be attributed to the water system. Taking the average of annual debt service for 2010 and 2011 this was $62,000,000 per year.
- It is assumed that 50% of JEA's reported operating costs are spent on water withdrawal, treatment and distribution. Based on an average of 2010 and 2011 data this equates to $124,000,000 in O&M per year. Within the model $1.50 per 1000 gallons (or $1500 per million gallons) is assumed to be variable O&M based on the total water produced. This leaves $58,000,000 per year as a fixed O&M cost.
- The cost of moving water from the north to south grid through the interconnect is handled separately in the model. Based on JEA provided data, the costs used are $132 per million gallons for average annual transfers less than or equal to 15 mgd and $148 per million gallons for average annual transfers above 15 mgd.

3.0 ECONOMIC COMPARISONS

Comparing projects and alternatives (combinations of projects) from an economic standpoint can be challenging for several reasons. First, not all projects have the same economic life. Second, because JEA's current groundwater source is the cheapest water supply (up to JEA's CUP), any project that displaces this lowest cost water is not providing an economic benefit. And third, because new water supply projects come in all sizes of capacity, it is important to present economic terms in unit cost (dollars per volume of water produced).

Standard economic theory states that the best cost comparisons take into account the time value of money, meaning that a dollar today is worth more than a dollar 10 years from now. This is because a dollar today can be invested. To account for the time value of money, all future year costs are brought back to present value terms using the following formula:

$$\text{PVc} = \frac{\text{CF}_t}{(1+r)^t}$$

Where:

PVc = present value cost
CF = future cash flows in t years from now
t = number of years
r = discount rate

Project/alternative comparisons using a present value approach are only valid if the supply produced is the same for all projects/alternatives. If projects or alternatives produce different quantities of water, then a unit cost comparison is needed. For example, if Project A cost $100 and produces 20 units and Project B cost $10 and produces 1 unit, which is more cost effective? Without converting to unit cost, Project A is the most expensive. But when comparing unit cost, Project B is the most expensive ($10/unit for Project B vs. $5/unit for Project A). This is important because projects can be scalable, meaning many smaller projects can be done in order to equal the supply yield of one big project.

However, the method commonly used to develop average unit cost (sometimes called a simple unit cost), does not take into account the time value of money and the beneficial water supply. Beneficial water supply is defined as the amount of water that is needed (as opposed to the capacity of supply that can be produced). To account for both of these issues, levelized cost is used. Levelized cost for a particular project is defined as that value of a unit cost constant over time that, if charged for the annual volume of water supplied, would yield the present value of the cost of the project. The formula for levelized cost is:

$$\text{LC} = \frac{\text{PVc}}{\text{PVw}}$$

Where:

LC = Levelized cost
PVc = present value cost
PVw = present value of water that is beneficially needed (as opposed to supply capacity)

The use of levelized costs is also helpful in identifying options/alternatives that return the lowest user costs. To illustrate this, **Table 1** compares two projects against a projected need for water. The need for water represents the difference between projected water demands and existing water supplies. Project A has an annual supply capacity of 5,475 million gallons (15 mgd), a capital cost of $3.1 million and O&M cost of $0.25 million, with a life cycle of 20 years, and comes online in 2013. Project B has an annual supply capacity of 1,000 million gallons (2.7 mgd), a capital cost of $0.5 million and O&M cost of $0.05 million, with a life cycle of 15 years, and comes online in 2015.

Assuming capital costs are completely financed at 5 percent and O&M costs are escalated at 3 percent per year, the total lifecycle costs in nominal dollars over the life of both projects (no discounting) is $12 million for Project A and $1.8 million for Project B. Dividing both of these lifecycle costs by capacity of water that can be produced by the two projects yields a simple average unit cost of $110/million gallons for Project A vs. $120/million gallons for Project B—indicating that Project A is more cost-effective. But because the full supply capacity of Project A is not needed until 2025, the full capacity should not be counted when calculating a true levelized cost. Only the portion of supply yield that is equal or less than the total water need should be counted. Because Project B's supply capacity is always less than the total water need, all of its supply is beneficial. When this factor is taken into account, plus discounting both cost and water, then Project B becomes more cost-effective with a levelized cost of $119/million gallons vs. $146/million gallons for Project A. It should be noted that in this example, both projects cannot be phased. This method would allow phasing of projects to be tested from an economic perspective.

4.0 ECONOMIC MODELING PROTOCOL

To calculate both simple and levelized unit cost, capital costs estimated in 2012 dollars will be escalated at 3 percent to the start year of water production, and then 50% financed using an interest rate of 5 percent. O&M costs estimated in 2012 dollars will be escalated by 3 percent per year. For levelized cost, all future costs will be discounted at 5 percent in order to develop a present value cost. Future values of beneficial water supply (equal to or less then water need) will be discounted at 5 percent in order to develop a present value of water. Levelized cost will be calculated as PV cost divided by PV water. This economic modeling protocol will be incorporated into the STELLA model for evaluation of projects and alternatives.

Table 1. Economic Comparison Example

Escalation (inflation) Rate	3%
Financing Rate	5%
Discount Rate	5%

	Value	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Need for New Water (mil gal)		1,362	1,575	1,788	2,634	2,937	3,248	3,558	3,867	4,185	4,462	4,788	5,112	5,437	5,760	6,034	6,266	6,498	6,730	6,960	7,107	7,827	8,546	9,265	9,957
Project A																									
Annual Supply Capacity (mil gal)			5,475	5,475	5,475	5,475	5,475	5,475	5,475	5,475	5,475	5,475	5,475	5,475	5,475	5,475	5,475	5,475	5,475	5,475	5,475	5,475			
Beneficial Supply (mil gal)[1]			1,575	1,788	2,634	2,937	3,248	3,558	3,867	4,185	4,462	4,788	5,112	5,437	5,475	5,475	5,475	5,475	5,475	5,475	5,475	5,475			
Project Life (years)	20																								
Total Capital Cost ($M)	$3.10																								
Annualized Capital + Debt ($M)			$0.26	$0.26	$0.26	$0.26	$0.26	$0.26	$0.26	$0.26	$0.26	$0.26	$0.26	$0.26	$0.26	$0.26	$0.26	$0.26	$0.26	$0.26	$0.26	$0.26			
Annual O&M Cost ($M)	$0.25		$0.26	$0.27	$0.27	$0.28	$0.29	$0.30	$0.31	$0.32	$0.33	$0.34	$0.35	$0.36	$0.37	$0.38	$0.39	$0.40	$0.41	$0.43	$0.44	$0.45			
Total Annualized Cost ($M)			$0.51	$0.52	$0.53	$0.54	$0.55	$0.55	$0.56	$0.57	$0.58	$0.59	$0.60	$0.61	$0.62	$0.63	$0.65	$0.66	$0.67	$0.68	$0.69	$0.71			
Simple Unit Cost ($/mil gal)[2]	$110																								
Levelized Unit Cost ($/mil gal)[3]	$146																								
Project B																									
Annual Supply Capacity (mil gal)					1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000						
Beneficial Supply (mil gal)[1]					1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000						
Project Life (years)	15																								
Total Capital Cost ($M)	$0.50																								
Annualized Capital + Debt ($M)					$0.05	$0.05	$0.05	$0.05	$0.05	$0.05	$0.05	$0.05	$0.05	$0.05	$0.05	$0.05	$0.05	$0.05	$0.05						
Annual O&M Cost ($M)	$0.05				$0.05	$0.06	$0.06	$0.06	$0.06	$0.06	$0.07	$0.07	$0.07	$0.07	$0.07	$0.08	$0.08	$0.08	$0.08						
Total Annualized Cost ($M)					$0.11	$0.11	$0.11	$0.11	$0.11	$0.12	$0.12	$0.12	$0.12	$0.12	$0.13	$0.13	$0.13	$0.13	$0.14						
Simple Unit Cost ($/mil gal)[2]	$120																								
Levelized Unit Cost ($/mil gal)[3]	$119																								

[1] Represents that water supply that offsets the need for new water, but nothing more since JEA's current groundwater source is already the cheapest water

[2] Represents the sum of total annualized cost divided by the sum of the annual supply capacity.

[3] Represents the present value of total annualized cost divided by the present value of beneficial supply.

Appendix D

Option Factsheets

JEA IWRP Option Factsheets

Model Set-Up

- Seasonal Peaking Factors
- CUP Allocations
- Reclaimed Water Capacity and Demand
- Generic Additional Supplies

Water Supply Options

- Desalination
- Intermediate Aquifer Wells
- Non-Floridan Private Irrigation
- Regional Surface Water Reservoirs

Reuse Water Options

- Indirect Potable Reuse
- Keystone Lake Region Reuse
- Regional Reuse
- Targeted Reuse

Demand Management

- Conservation
- Reduce Unaccounted for Water

Seasonal Peaking Factors

Category: Model Set-Up

Brief Description:

This factsheet describes how seasonal peaking factors were incorporated into the model

Water Demand:

The annual water demand values within the model are those described within the Task 1 Water Demand and Gap Analysis technical memo. To these annual demands, a monthly peaking factor is used to determine the demand for a given month. The seasonal peaking factors were developed based on JEA's historical sales data from 2004-2011. For each year, the ratio of the monthly sales to the yearly average was calculated providing a seasonal pattern for that year. All eight historical years were then averaged together to determine the overall peaking factor for the model. The developed pattern compared to the historical data can be seen in **Figure 1.**

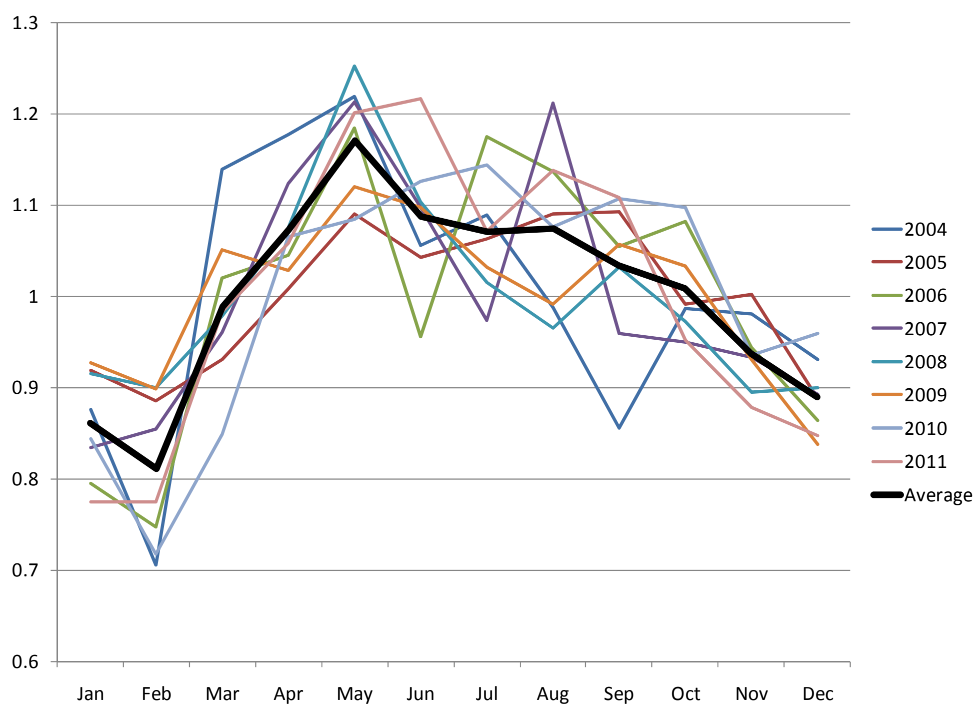


Figure 1: Seasonal Water Demand Pattern

Reclaimed Water Demand:

The same method was used to develop the reclaimed water demand pattern except only the years 2008-2011 were utilized. This was because earlier years showed different patterns as reclaimed water usage in the area was still being developed. The most recent years are assumed to be the most representative of the current usage patterns. **Figure 2** shows the historical data and the average seasonal pattern used within the model.

Seasonal Peaking Factors

Category: Model Set-Up

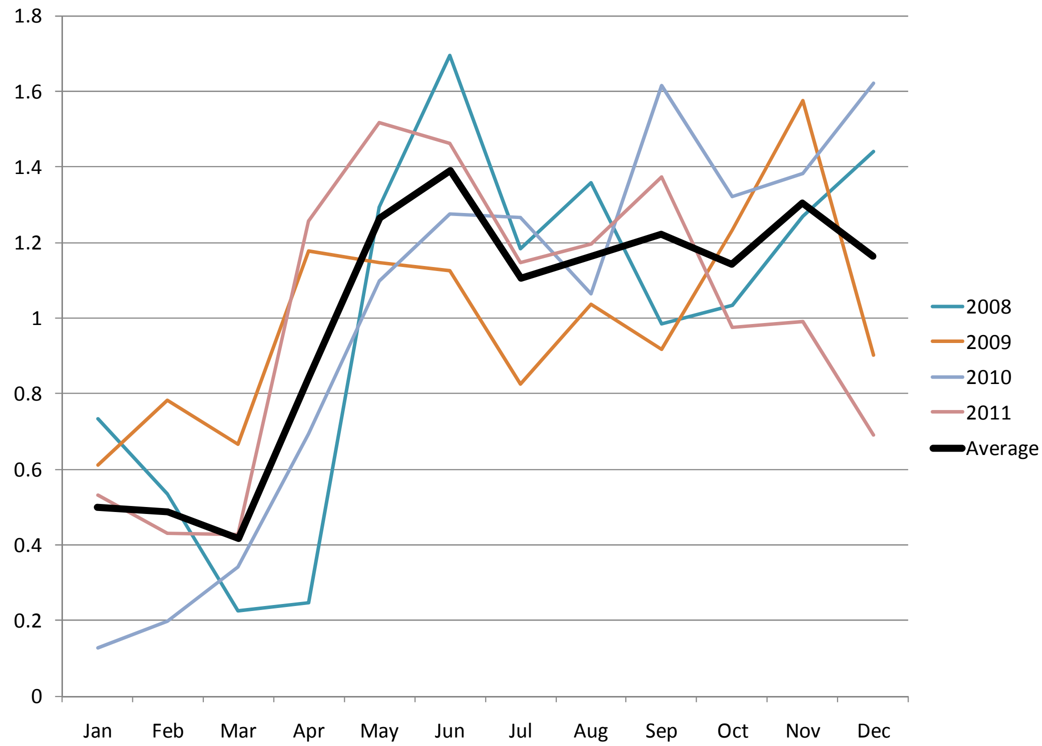


Figure 2: Seasonal Reclaimed Water Demand Pattern

Wastewater Demand:

The same method was used to develop the wastewater demand pattern which was based on the total wastewater treated for 2010 and 2011. The wastewater data seems to be strongly influenced by large storms which cause a large peak in wastewater flow. The years 2010 and 2011 were chosen since there appeared to be minimal influence from these storms. **Figure 3** shows the historical data and the developed seasonal pattern.

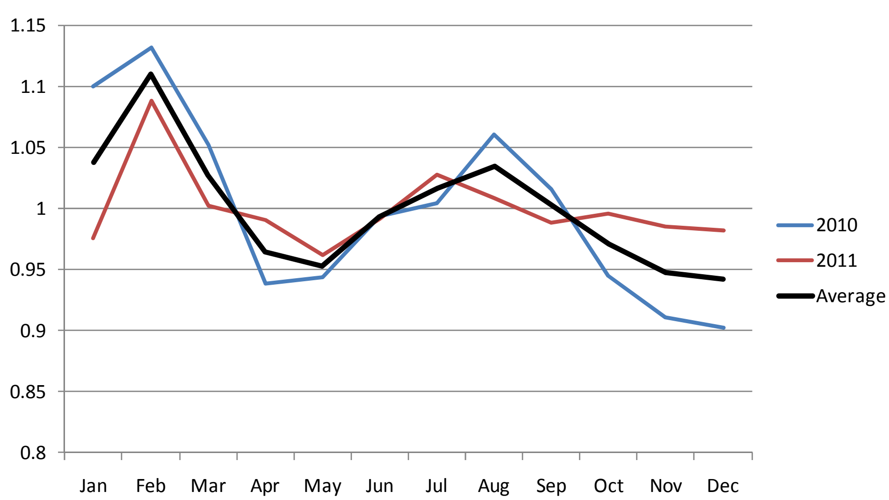


Figure 3: Seasonal Wastewater Peaking Factors

Seasonal Peaking Factors

Category: Model Set-Up

Citations:

CDM Smith (2012) "Water Demand Forecast & Gap Analysis" Task 1 of the JEA Integrated Water Resource Planning Project.

JEA (2012) "Sales Data.xlsx" Spreadsheet of historical sales data provided to CDM Smith on June 22, 2012.

JEA (2012) "Metrics.xlsm" Spreadsheet provided to CDM Smith on June 22, 2012

CUP Allocations

Category: Model Set-Up

Brief Description:

This factsheet describes how the main wellfields and CUP allocations are set-up within the Stella model.

Grid Set-Up:

Each individual wellfield is not modeled, but instead wellfields are combined based on grids. Six grids have been included within the model: the North Grid, South Grid, Ponte Vedra Grid, Ponce De Leon Grid, Lofton Oaks/Nassau Grid, and Mayport Grid.

Capacity Constraints:

The available flow to be supplied within each grid from the Floridan aquifer CUP allocations is limited by capacity constraints at either the wells or the water treatment plants. The limiting capacity for each grid came from JEA's 2012 Annual Water Resource Master Plan as listed in **Table 1.** The increases between current conditions and 2020 are based upon the planned improvements listed within the plan.

Table 1: Max Capacity per Grid

Grid	Limiting Capacity 2012 (MGD)	Limiting Capacity 2020 (MGD)
North	143.5	155.5
South	158.3	175.6
Mayport	0.19	0.19
Lofton Oaks	5.33	9.09
Ponce De Leon	1.29	1.29
Ponte Vedra	3.0	3.0

CUP Constraints:

JEA's consumptive use permit (CUP) outlines the total volume which can be withdrawn from the Floridan aquifer each year. However, within the permit are a series of conditions affecting the allocation. Figures 1a and 1b within the CUP provide the total volume allowable per year per wellfield. The values provided for 2011 through 2021 are used as the baseline allocation for each grid. After 2021 the allocation is held constant pursuant to condition 12 of the permit which does not allow for an increase in the allocation unless additional requirements are met. One of these requirements is the amount of reclaimed water provided for reuse. **Figure 1** shows the allocations for the North and South Grids. The allocation in the South Grid has a decreasing pattern to help combat salinity intrusion and there is thus not the opportunity for increased allocation. **Figure 2** shows the allocations for the smaller grids assuming an increase in allocation is available.

Another condition of the permit allows for individual wellfields to surpass their allocation by 20% as long as the total system allocation is not exceeded. Within the model, there is an option to allow this internal system trading between the North and South Grids or between the North and Lofton Oaks Grids between specified years to help meet grid specific deficits.

CUP Allocations

Category: Model Set-Up

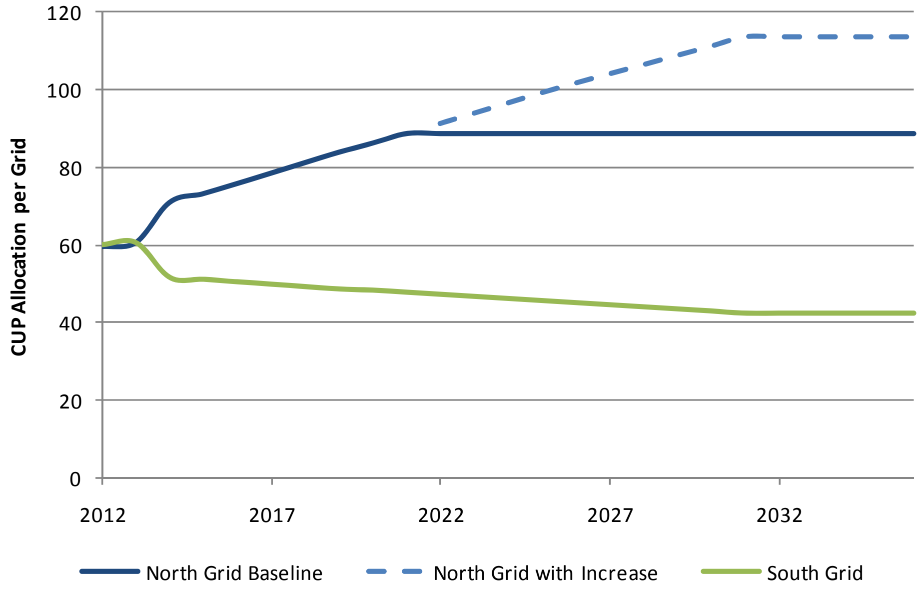


Figure 1: CUP Allocation per Grid for North and South Grids (mgd)

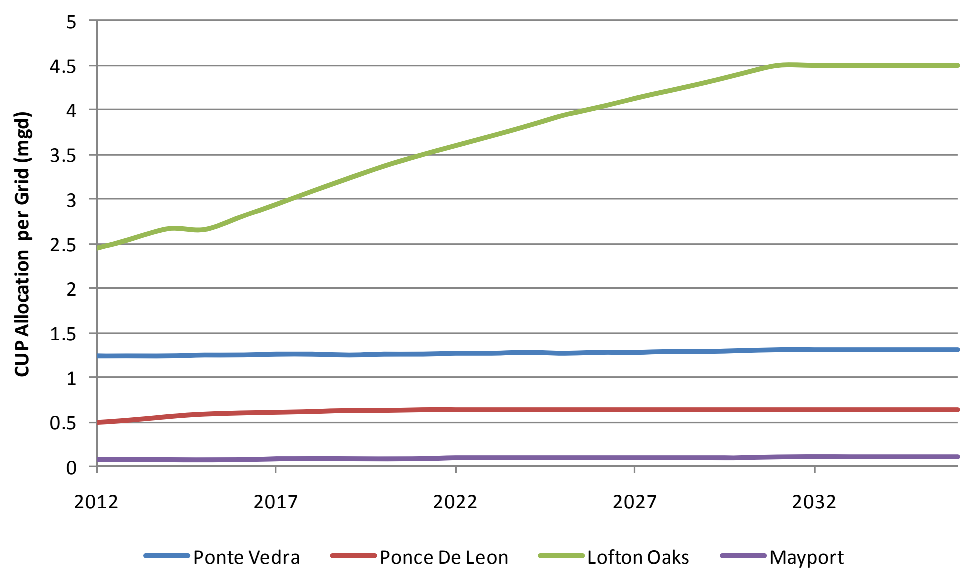


Figure 2: CUP Allocation per Grid for the Small Grids (mgd)

CUP Allocations

Category: Model Set-Up

Reclaimed Water and the CUP Allocations:

The targeted reclaimed water values required to increase the CUP allocation are provided in **Table 2**.

Table 2: Reclaimed Water Requirements for Increased CUP Allocation

Year	Required Reuse (mgd)
2020	31.55
2025	37.36
2030	43.76

An exemption to meeting these reclaimed water targets is provided in condition 38: "except to the extent the permittee demonstrates that some portion of the amount of reuse required below is not economically, environmentally, or technologically feasible". The model has a series of choices for how the CUP allocations are handled:

- **No increased allocation**: This option can be selected to maintain the allocation at the baseline conditions.
- **Guarantee additional allocation:** This option automatically provides the increase in allocation independent of reclaimed water availability and usage.
- **Additional allocation depends on reuse:** Within this option the amount of reclaimed water made available by JEA is compared to the targets and the CUP allocation is not increased until the targets are met.

Citations:

JEA (2011) "Consumptive Use Technical Staff Report; Application #: 2-031-88271-11" April 15, 2011

Reclaimed Water Capacity and Demand

Category: Model Set-Up

Brief Description:

This factsheet describes how the reclaimed water capacity and general demand was set-up within the model.

Reclaimed Capacity:

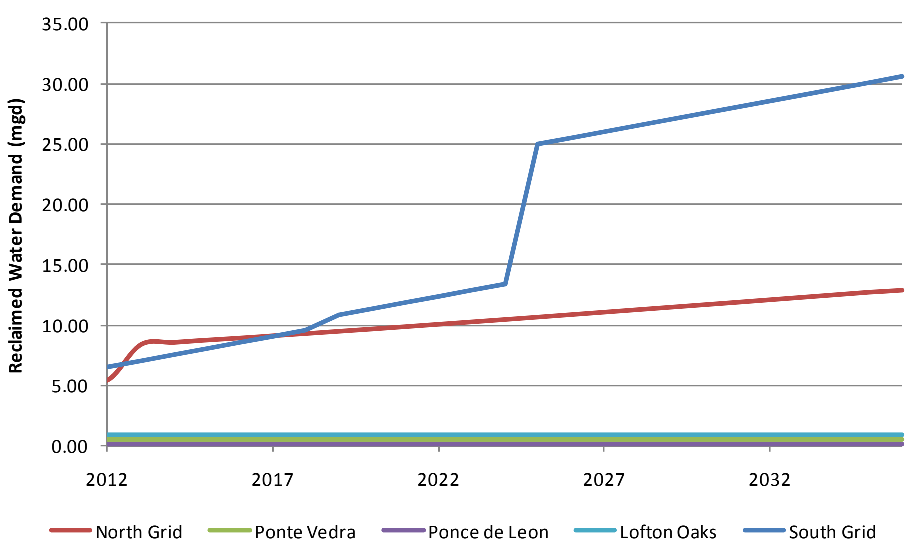
Initial capacities for the each of the reclaimed facilities were taken from the table on page 225 of the 2012 Annual Water Resource Master Plan and then confirmed and updated by JEA staff. Capacities of the plants are increased in future years as laid out in the Master Plan. **Table 1** provides the initial capacity and eventual planned capacity of each plant without any other options considered.

Table 1: Reclaimed Water Facilities Capacity

Facility	Grid	Initial Capacity 2012 (MGD)	Eventual Capacity (MGD)
Buckman	North	7.7	7.7
District II/Cedar Bay	North	5.0	9.0
Dinsmore	North	0	0
Southwest	North	0.8	0.8
Arlington East	South	6.0	18.0
Blacks Ford	South	3.0	6.0
Mandarin	South	5.7	5.7
GEC	South	0	9.0
Ponte Vedra	Ponte Vedra	0.8	0.8
Ponce de Leon	Ponce de Leon	0.24	0.24
Nassau	Lofton Oaks	1.55	1.55
Total		**30.8**	**58.8**

Reclaimed Demand:

The reclaimed water demand per grid also comes from the 2012 Water, Wastewater, and Reclaimed Water Forecast with refinements by JEA staff. The shape of these demand curves is shown in **Figure 1.** Any additional demand from the selected options is added to this baseline demand.



Citations:

JEA (2011) "2012 Annual Water Resource Master Plan: Water – Wastewater – Reclaimed" Corporate Planning Department, Water/Sewer System Planning. September 2011.

JEA (2011) "JEA 2012: Water, Wastewater, Reclaimed Water Forecast" Prepared by M. Dvoroznak and B. Russell, JEA Water/Sewer Systems Planning. December 2011.

Generic Additional Supplies

Category: Model Set-Up

Brief Description:

As a way to capture future supply alternatives, generic additional supplies were added into the model. All grids have a generic additional supply available with basic elements pre-programmed as described below.

Set-Up:

The generic supplies are treated as simple supply options. The standard option variables have been set-up within the model and interface. The user can adjust the variables of yield, capital cost, fixed O&M cost, variable O&M cost, start year, project life, and finance life similarly to any other option.

The generic supply options however stand alone and do not interact with other model features other than helping to meet the overall demand for the grid and influencing cost. For example, the supply will not be checked against reclaimed capacity nor will the supply go toward meeting the reclaimed requirements to increase the CUP allocation.

Desalination

Category: Water Supply Option

Brief Description:

This option consists of desalination to produce a new source of potable supply. Four different desalination options are considered: (1) extraction of brackish groundwater from the Lower Floridan aquifer, (2) withdrawing brackish river water from the upper St. Johns River, (3) withdrawing seawater-quality influent from the lower St. Johns River, or (4) withdrawing seawater from the ocean.

Facilities Required:

A desalination plant would be required for all options as well as connection to the distribution system and concentrate disposal. For brackish groundwater extraction, a well field would be needed, and for the surface water options an intake structure would be required.

Key Assumptions:

For brackish groundwater, a total dissolved solids (TDS) concentration of 1500 mg/l was assumed, this increased to 5000 mg/l for the brackish St. Johns River water, and 35,000 mg/l for ocean water.

Flexibility:

This option will add a previously unused source water to the JEA supply. It also makes use of either a source with an unlimited supply in the case of ocean water or a source with limited potential for other use in the case of the brackish supplies.

Environmental Impacts (Promote Environmental Sustainability):

For all options, concentrate disposal will be an environmental issue. Potentially more so for the sources with higher TDS values. For groundwater withdrawal there could be possible drawdown effects. For the river withdrawals there would be a decrease in river flows.

Ease of Implementation:

Concentrate disposal options will need more study and could complicate implementation. Within the qualitative scoring, desalination was given a score of 2 for reliance on proven technology signifying that there is a precedent for use in the Southeaster US but known challenges. Desalination was given a 1 for the ability to permit, signifying JEA has no precedent and it is assumed to be difficult to permit. A score of 5 was given to public acceptance signifying that no new public acceptance is needed.

Water Quality:

The required desalination and treatment facilities would produce water of potable quality. In is unknown how this new supply source would blend with current supplies. Within the qualitative scoring, the brackish desalination sources were given a score of 2 for water quality signifying that the blending is unknown or difficult. The lower St. Johns River and ocean desalination option were given a score of 1 since the more difficultly with blending over to the brackish sources is assumed for these locations.

Yield:

All options could be sized to accommodate various treatment capacities. Options of 5, 15, 30 and 50 mgd had costing provided and these four potential yields can be selected within the model set-up. Flow from all the desalination options is assumed to go towards meeting demand in the south grid.

Desalination

Category: Water Supply Option

Cost:

Table 1 provides estimated capital and O&M costs of each alternative for a range of treatment capacities. Capital costs include the treatment facilities, intake, link to the distribution system, and line for concentrate disposal.

Table 1: Desalination Option Costs

	Treatment Capacity (mgd)			
	5	15	30	50
Brackish Groundwater				
Capital	$43,100,000	$88,800,000	$136,000,000	$207,000,000
O&M Fixed Costs per Year	$520,000	$1,160,000	$1,940,000	$2,840,000
O&M Variable Costs per MG	$1139.73	$847.49	$708.68	$622.47
Brackish St. Johns River Water				
Capital	$85,500,000	$160,000,000	$238,000,000	$335,000,000
O&M Fixed Costs per Year	$640,000	$1,540,000	$2,700,000	$4,060,000
O&M Variable Costs per MG	$1402.74	$1125.11	$986.30	$889.86
Seawater Quality Water from St. Johns River				
Capital	$173,000,000	$352,000,000	$562,000,000	$795,000,000
O&M Fixed Costs per Year	$1,120,000	$2,800,000	$5,320,000	$8,680,000
O&M Variable Costs per MG	$2454.79	$2045.66	$1943.38	$1902.47
Ocean Water				
Capital	$185,000,000	$376,000,000	$590,000,000	$825,000,000
O&M Fixed Costs per Year	$1,120,000	$2,800,000	$5,320,000	$8,680,000
O&M Variable Costs per MG	$2454.79	$2045.66	$1943.38	$1902.47

Citations:

CDM (2011) “2011 Alternative Water Supply Evaluation and Implementation Plan” JEA. August 2011.

CH2MHill (2008) “JEA Total Water Management Plan”. September 2008.

WTP Intermediate Aquifer Wells

Category: Water Supply Option

Brief Description:

This option consists of construction of wells or a wellfield targeting the intermediate aquifer as the source of supply for potable or irrigation use.

Facilities Required:

New wells targeting the intermediate aquifer would be required. These could hopefully be co-located at existing wellfields to diminish additional piping needs.

Key Assumptions:

The middle of the South Grid area was determined to be the best target for exploration.

Flexibility:

This option will improve flexibility through the introduction of groundwater from a different aquifer system.

Environmental Impacts (Promote Environmental Sustainability):

The connectivity between aquifers is not well understood so withdrawing from the intermediate aquifer could have effects on the surficial aquifer above it or the Floridan aquifer below.

Ease of Implementation:

With many unknowns, developing this resource would be a long-term project. Additional test holes will be needed and aquifer testing required to determine the capacity of each well and potential impacts to surrounding users and environmental resources. Permitting will require this test data and new groundwater flow models will need to be developed that accurately include the intermediate aquifer. Within the qualitative scoring, intermediate aquifer wells was given a score of 3 for reliance on proven technology signifying that there is the precedent for use in Florida but the source is new to JEA and there are unknown hurdles. A score of 3 was given for the ability to permit signifying that it may be challenging but precedents do exist. A score of 3 was given to public acceptance signifying that it may be difficult to convince the public to participate or accept the water source.

Water Quality:

The water within the intermediate aquifer is generally of high-quality. Blending with water from the Floridan aquifer should be easier than with other surface water sources. Within the qualitative scoring, intermediate aquifer wells was given a score of 5 for water quality signifying that there should be no blending issues.

Yield:

Based on other regions currently utilizing the intermediate aquifer, it is reasonable to expect a yield of approximated 0.5 mgd per well. Dispersal of about 10 wells in strategic locations may be able to produce up to 5 mgd total yield for the South Grid. It is assumed that these wells will come on line in phases throughout the planning period. An initial phased approach is provided in **Figure 1** but can be updated within the model.

WTP Intermediate Aquifer Wells

Category: Water Supply Option

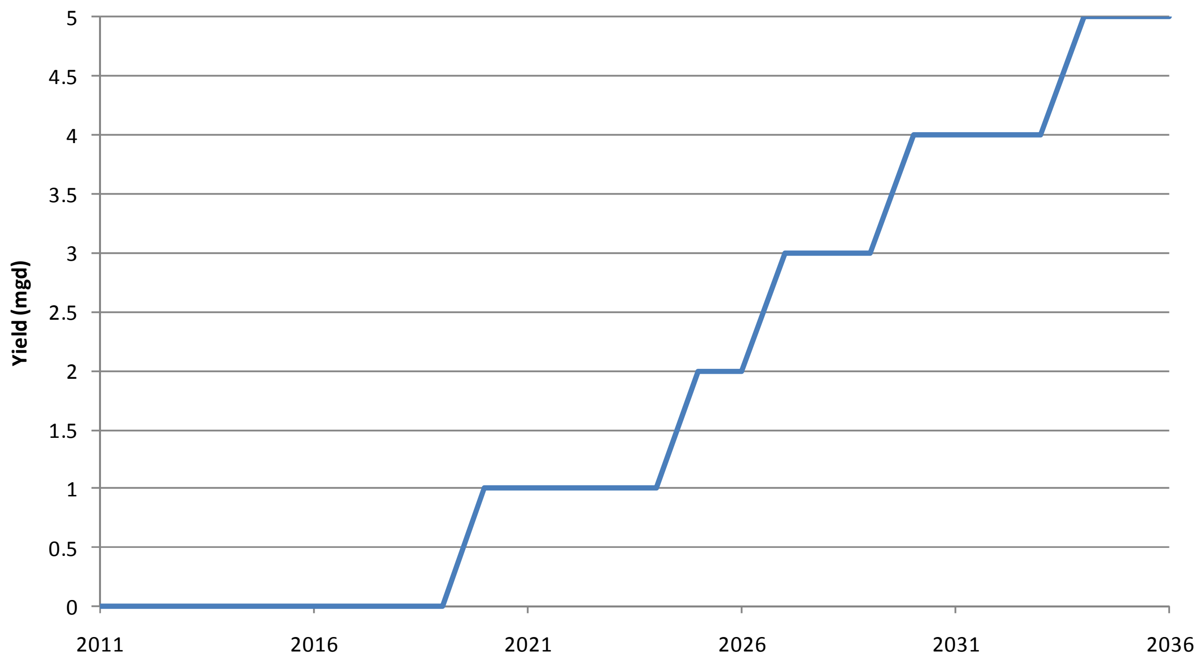


Figure 1: Phasing of the available yield provided by the intermediate aquifer to the South Grid

Cost:

Because the intermediate aquifer is shallower, the installation of new wells should be less expensive than those reaching the Floridan aquifer. Based on the JEA project definition for the intermediate aquifer pilot study/implementation, development of the new wells and integration into the wellfield would be approximately $1,950,000. O&M fixed costs were estimated as $28,000 per year while variable O&M was estimated as $61.37 per million gallons of water.

Citations:

CDM (2011) "2011 Alternative Water Supply Evaluation and Implementation Plan" JEA. August 2011.

JEA Water Sewer Systems Planning (2012) "Intermediate Aquifer Pilot Study/Implementation – Project Definition". Prepared for JEA Capital Budget Planning. February 2012.

SDII Global Corporation (2010) "Preliminary Feasibility Investigation: Viability of the Intermediate Aquifer as a Water Source". Prepared for JEA. November 2010.

Non-Floridan Private Irrigation

Category: Water Supply Option

Brief Description:

This option involves construction of groundwater wells either in the surficial aquifer or the intermediate aquifer in order to supply irrigation water to private residences. This use would replace the Upper Floridan aquifer (UFA) supply currently being used to meet those demands. Two options are proposed: (1) converting those already on self-supply from the UFA to a different aquifer, and (2) wider scale adoption by moving current JEA customers to private irrigation wells.

Facilities Required:

The only facilities required will be the private wells.

Key Assumptions:

In determining the potential yield, 50% of residential demand was attributed to landscape irrigation for the customers currently on self-supply. For wider adoption, an estimate of 12,500 gallons/month/household was used.

Flexibility:

This option will improve the operational flexibility of JEA as the demand needs on the Floridan aquifer will be reduced, freeing the allocation to be used in other areas.

Environmental Impacts (Promote Environmental Sustainability):

The connectivity between aquifers is not well understood so withdrawing from the surficial aquifer could still have effects on the Floridan aquifer. Additionally, environmental impacts to wetlands in the vicinity of new surficial aquifer wells are possible.

Ease of Implementation:

There is minimal technical difficulty with this option; however, gaining participation from the public could be a challenge. Permitting could also potentially be a concern near wetlands or other wellfields.

Water Quality:

The water quality of the surficial aquifer should be adequate for irrigation needs. Testing will be recommended at individual well locations.

Yield:

Self Supply
Currently there are 665 domestic supply wells in Duval County with an estimated withdrawal of 3.3 mgd. By 2030 it is estimated that there will be an increase of 755 additional private domestic supply wells bringing the total withdrawal to 8.9 mgd. It is assumed that through incentives up to half of these private owners would switch to a non-Floridan supply. This switch is assumed to happen slowly over time as estimated in **Figure 1**. As currently modeled, the self-supply customers are assumed to be split with 50% in the North Grid and 50% in the South Grid.

Wider Adoption
For wider adoption of this supply, households not currently using a self-supply for irrigation needs would need to switch to self-supply from the surficial aquifer. It is estimated that up to 37,000 households could be converted accounting for 15 mgd of supply. This adoption was spread linearly over the 25-year period as shown in **Figure 1**. As currently modeled, the yield from wider adoption is assumed to be split with 50% in the North Grid and 50% in the South Grid.

Non-Floridan Private Irrigation

Category: Water Supply Option

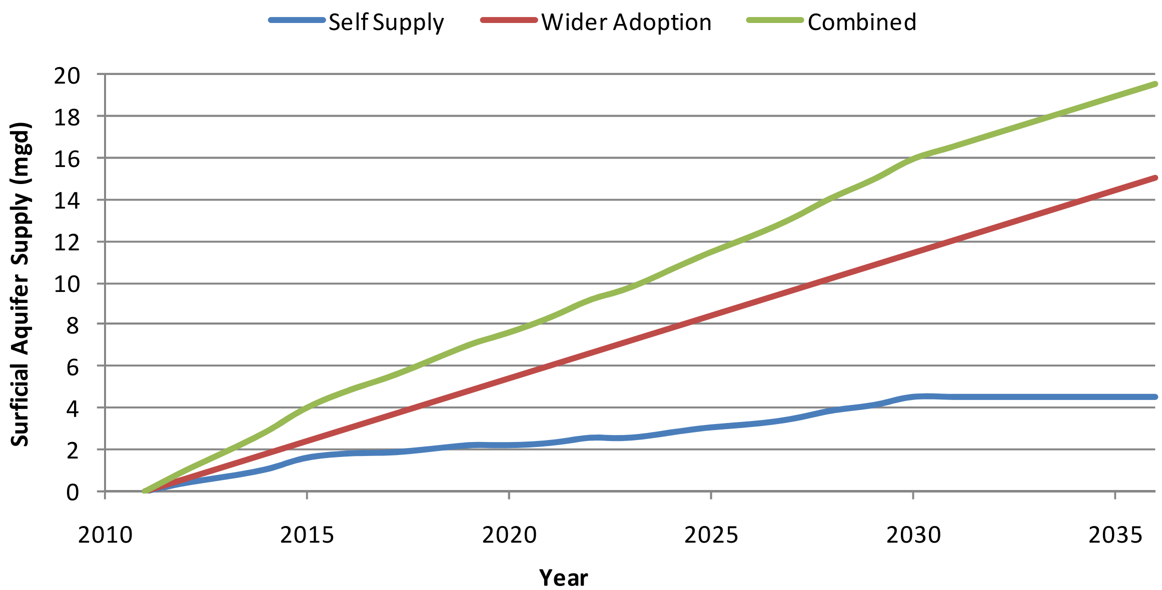


Figure 1: Projected yield per year

Cost:

Self Supply

Irrigation well replacement is estimated as $1,500 - $4,500 per well which includes the well, pump and electrical service. Assuming $3000 per well fully subsidized by JEA and 710 wells replaced (half of the total), capital costs would be $2.13 million. There would be no O&M costs as this would fall to the private homeowners.

Wider Adoption

For wider adoption the full cost of the wells would not need to be subsidized as the homeowners will have an additional financial incentive due to decreased water bills after switching to a self-supply. A subsidy of $500 would be provided. For 37,000 households this equates to a capital cost of $18.5 million. There would be no O&M costs as this would fall to the private homeowners.

Citations:

CDM (2011) “2011 Alternative Water Supply Evaluation and Implementation Plan” JEA. August 2011.

JEA “Reclaimed Water Feasibility Study: Retrofit of Multiple High Water Use Neighborhoods along Existing Reclaimed Water Lines” Powerpoint Presentation.

Regional Surface Water Reservoir for Potable

Category: Water Supply Option

Brief Description:

This option consists of construction of an off-line storage reservoir on a tributary to the St. Johns River to store wet weather flow to be treated and used as potable supply. Three locations have been carried forward for consideration: Ortega River, Big Davis Creek, and Durbin Creek.

Facilities Required:

Facilities required include a river diversion, dam, reservoir, treatment plant, and connection to the distribution system.

Key Assumptions:

In determining the estimated reliable yield the maximum diversion rate was assumed to be 25% of the mean daily flow and a ratio of 1.5 was used from the diversion rate to the reliable yield.

Flexibility:

This option will add surface water as a previously unused source into the system.

Environmental Impacts (Promote Environmental Sustainability):

This option will remove water from the tributaries. There is no affect assumed on the aquifers.

Ease of Implementation:

It is unknown if contiguous parcels of adequate size are available near the withdrawal points to site the dams and reservoirs. Ortega would need approximately 20 acres of land, Big Davis would need 7 acres, and Durbin Creek would need 13 acres. Additionally, there could be push back from neighbors not wanting a reservoir near them or because the project would affect tributaries in their areas. Permitting of dams and reservoirs will likely be more difficult then permitting of other options.

Within the qualitative scoring, the surface water reservoirs were given a score of 4 for reliance on proven technology signifying that further investigation is needed to implement. A score of 3 was given for the ability to permit, signifying that it may be challenging to permit but precedents exist. A score of 3 was given to public acceptance signifying that it may be difficult to convince the public to accept the new water source

Water Quality:

All locations in the lower St. Johns River basin are listed as impaired water according to the 2008 LSJRB SWIM study. Thus there will be a definite need for treatment before use. Blending issues with the groundwater sources are unknown and pilot studies would need to be conducted. Customers receiving the surface water or blended water could notice a change in taste and perceived quality. Within the qualitative scoring, the surface water reservoirs were given a score of 4 for water quality signifying minimal blending issues.

Regional Surface Water Reservoir for Potable

Category: Water Supply Option

Yield:

The yield was estimated as a maximum reliable yield. Potentially more flow could be available during wet years but the maximum reliable yield is assumed as a constant in the model. The estimations were made based on USGS gages stations. The yield from each reservoir is assumed to come online in the specific start year all at once without any phasing. **Table 1** shows the yield from each reservoir as well as the grid to which it is assumed to contribute flow.

Table 1: Regional Reservoir Yields

Tributary	Max Reliable Yield (mgd)	Grid
Ortega River	6.7	North
Big Davis Creek	1.3	South
Durbin Creek	3.4	South

Cost:

Table 2 provides the estimated capital and O&M costs for each tributary as well as a separate cost for the land. Land costs were estimated at $320,000 per acre plus an additional 18% for land acquisition. The cost of land was added to the capital costs for input into the model.

Table 2: Estimate Costs in 2012 Dollars

Tributary	Capital Costs	Land	O&M Fixed Costs per Year	O&M Variable Costs per MG
Ortega River	$48,500,000	$7,500,000	$2,100,000	$572.48
Big Davis Creek	$20,400,000	$2,600,000	$660,000	$927.29
Durbin Creek	$33,800,000	$4,900,000	$1,260,000	$676.87

Citations:

CH2MHILL (2010) “2010 Alternative Water Supply Study” JEA. July 2010.

Indirect Potable Reuse

Category: Reuse Water Option

Brief Description:

This option consists of treating wastewater effluent from one or more of JEA's large wastewater treatment facilities to meet the requirements for indirect potable reuse or groundwater recharge. The reclaimed water produced from this type of facility would be used to directly recharge the drinking water source of the Floridan aquifer.

Facilities Required:

Direct injection wells for the reclaimed water would be required as would process upgrades to the wastewater treatment plants.

Key Assumptions:

A one-to-one ratio of injection to allowable withdrawal is assumed but can be changed in the model.

Flexibility:

This option provides more flexibility in the amount of water to be withdrawn from the Floridan aquifer.

Environmental Impacts (Promote Environmental Sustainability):

This option has the potential to improve aquifer sustainability. River quality may also be improved as less wastewater effluent will reach the river.

Ease of Implementation:

Public acceptance could be an issue for injecting reclaimed wastewater into a potable water source. Permitting a one-to-one offset may also be difficult. Within the qualitative scoring, indirect potable reuse was given a score of 2 for reliance on proven technology signifying that there is a precedent for use in the Southeaster US but known challenges. A score of 1 was given for the ability to permit, signifying JEA has no precedent and it is assumed to be difficult to permit. A score of 1 was given to public acceptance signifying that public acceptance is unlikely.

Water Quality:

Upgraded treatment at the WWTP will be needed to bring wastewater to indirect potable reuse standards. Within the qualitative scoring, indirect potable reuse was given a score of 3 for water quality signifying that some blending issues are to be expected.

Yield:

Various treatment capacities can be implemented within both the north and south grids ranging between 5 and 50 mgd. The amount of potential yield JEA can then utilize would be dependent on the permitted injection to withdrawal ratio which can be changed within the model.

Indirect Potable Reuse

Category: Reuse Water Option

Cost:

Table 1 provides estimated capital and O&M costs for a range of treatment capacities within both the north and south grids

Table 1: Indirect Potable Reuse Option Costs

	Treatment Capacity (mgd)			
	5	15	30	50
North Grid				
Capital	$98,000,000	$175,700,000	$295,800,000	$587,800,000
O&M Fixed Costs per Year	$1,280,000	$3,080,000	$5,400,000	$8,120,000
O&M Variable Costs per MG	$1052.05	$843.84	$739.73	$667.4
South Grid				
Capital	$101,600,000	$182,700,000	$309,800,000	$498,300,000
O&M Fixed Costs per Year	$1,280,000	$3,080,000	$5,400,000	$8,120,000
O&M Variable Costs per MG	$1052.05	$843.84	$739.73	$667.4

Citations:

CDM (2011) “2011 Alternative Water Supply Evaluation and Implementation Plan” JEA. August 2011.

CH2MHill (2008) “JEA Total Water Management Plan”. September 2008.

Keystone Lake Region Reuse

Category: Reuse Water Option

Brief Description:

This option consists of using reclaimed water from the Southwest WWTP to directly recharge the Floridan aquifer through direct injection. It is likely that there may not be sufficient reclaimed water available for recharge exclusively from the Southwest WWTP since average wastewater flows at this facility (as of December 2010) were approximately 8.8 mgd. Therefore, it may be possible to augment the reclaimed water supply with surface water from the Ortega River, which is located in close proximity to this facility.

Facilities Required:

Either rapid infiltration basins or direct injection wells will be required along with process upgrades to the Southwest WWTP as well as treatment of the surface water at Ortega. New pipelines will also be required to distribute the flow between the injection wells.

Key Assumptions:

A one-to-one injection to withdrawal ratio is assumed but can be changed in the model.

Flexibility:

This option provides more flexibility in the amount of water to be withdrawn from the Floridan aquifer.

Environmental Impacts (Promote Environmental Sustainability):

This option has the potential to improve aquifer sustainability. There will be impacts to the Ortega River if used to augment the wastewater effluent.

Ease of Implementation:

Public acceptance is a likely issue for injecting reclaimed wastewater into a potable water source. Additionally, there will be similar public issues as for the regional surface water reservoirs with use of the Ortega River. Permitting a one-to-one offset may also be difficult. Within the qualitative scoring, Keystone Lake regional reuse was given a score of 2 for reliance on proven technology signifying that there is a precedent for use in the Southeaster US but known challenges. A score of 1 was given for the ability to permit, signifying JEA has no precedent and it is assumed to be difficult to permit. A score of 1 was given to public acceptance signifying that public acceptance is unlikely.

Water Quality:

Upgraded treatment at the WWTP will be needed to bring wastewater to indirect potable reuse standards. The effects of blending reclaimed water, surface water, and groundwater sources together is unknown. Within the qualitative scoring, Keystone Lake regional reuse was given a score of 4 for water quality signifying minimal blending issues expected.

Yield:

A total yield of 15 mgd can be achieved if 8.8 mgd from the Southwest WWTP is utilized along with 6.7 mgd from the Ortega River. This option is thus not able to be combined with a regional surface water reservoir on the Ortega River since that would double count use of the Ortega River water.

Keystone Lake Region Reuse

Category: Reuse Water Option

Cost:

Capital costs for this option were estimated at $177,500,000 along with fixed O&M costs of $2,000,000 per year and variable O&M costs of $365.3 per million gallons of water.

Citations:

CDM (2011) "2011 Alternative Water Supply Evaluation and Implementation Plan" JEA. August 2011.

Regional Reuse

Category: Reuse Water Option

Brief Description:

This option increases the supply of available reclaimed water throughout the whole St. Johns River Water Management District. Three different scales of options were considered: (1) increasing reclaimed water availability with a max capital expenditure of $300 million; (2) achieving 60 percent reuse from wastewater effluent; and (3) achieving 75 percent reuse from wastewater effluent. A fourth scenario of 100 percent reuse was also considered in the base report, but this has not been included in the model since the yields as described were not available based on the most recent wastewater projections.

Facilities Required:

Treatment plant expansions would be required to bring the wastewater effluent to reclaimed quality. Additionally pump stations, pipeline, storage facilities, and rapid infiltration basins would be required to make use of the new resources feasible.

Key Assumptions:

The yields and costs for this option are set up based on the 2008 "Lower St. Johns River Reuse and Treatment Project" report. The exact percentage targets of 60 and 75 may no longer be accurate percentages based on the latest wastewater projections but the terminology has been maintained.

Flexibility:

Increased availability of reclaimed water will allow JEA to meet the reuse requirements for increases in the CUP allocations.

Environmental Impacts (Promote Environmental Sustainability):

There would be a beneficial impact to the quality of the St. Johns River with less wastewater effluent disposal. The estimated percentage reduction in total nitrogen to the river from the different scenarios is 24%, 43%, and 68% respectively.

Ease of Implementation:

Projects of this size and requiring coordination with both Clay County Utility Authority (CCUA) and the St. Johns County Utility District (SJCUD) will make implementation more difficult.

Water Quality:

Upgraded treatment at the WWTP will be needed to bring wastewater to indirect potable reuse standards.

Yield:

Within the Lower St. Johns River Reuse and Treatment Project, a series of scenarios were studied based on the percentage of wastewater effluent moved to reclaimed quality. **Table 1** provides the increased reclaimed water flows available under the four scenarios for the north and south grids. As well as the potable offset calculated for each scenario. In is assumed that this potable offset is for the whole region including the CCUA and SJCUD service areas. Within the model the percentage of the total offset available to JEA is set at 50% but can be adjusted. The percentage split of JEA's portion of the offset is split between the North and South Grids based on the ratio of increased reclaimed water availability per grid for the given scenario.

Regional Reuse

Category: Reuse Water Option

Table 1: Reclaimed Water Increased Availability (mgd)

Scenario	North Grid	South Grid	Total Potable Offset for Region (MGD)
$300 Million Max	19	4	42
60% Reuse	27	14	61
75% Reuse	43	13	64

Cost:

Within the Lower St. Johns River Reuse and Treatment final report, costs for each scenario were provided for treatment facilities, pipeline, pump stations, storage reservoirs, and rapid infiltration basins. Within **Table 2** the estimated total costs of each scenario is provided along with JEA's estimated portion. Assumptions used in determining JEA's portion include the following:

- Costs of treatment facilities upgrades were broken down by facilities and those facilities within JEA's service area were included as part of the costs. Facilities within SJCUD or CCUA were not included.
- Only a total cost for pipeline improvements was provided. However, a listing of the linear-feet of pipe within each service area was given. The percentage of the pipeline cost attributed to JEA was proportional to the percentage of the linear-feet of new pipe within its service area.
- New storage reservoirs were listed based on the service area within which they were planned for construction. Only costs for the reservoirs within the JEA service area were included.
- The cost of the rapid infiltration basins was provided as a single cost with the facilities to be utilized by all three utilities. JEA's percentage of the costs was based on the percentage of the total projected wastewater flow for the region in 2030. JEA is projected to produce 75% of the flow so 75% of the cost for the infiltration basins was assigned to them. CCUA is projected to produce 18% and SJCUD 7% of the flow.

Table 2: Scenario Costs

	Capital	O&M Fixed per Year	O&M per MG	O&M Total
$300 Million Total Expenditure				
Total for Region	**$304,000,000**			**$8,000,000**
JEA Total	**$157,400,000**	**$2,200,000**	**$262.06**	**$4,400,000**
60% Reuse Target				
Total for Region	**$515,000,000**			**$14,000,000**
JEA Total	**$302,200,000**	**$3,700,000**	**$247.24**	**$7,400,000**
75% Reuse Target				
Total for Region	**$780,000,000**			**$18,000,000**
JEA Total	**$479,000,000**	**$4,950,000**	**$242.17**	**$9,900,000**

Citations:

CDM (2011) "2011 Alternative Water Supply Evaluation and Implementation Plan" JEA. August 2011.

CH2MHill (2008) "Lower St. Johns River Reuse and Treatment Project; Phase II: Combined East and West River Reuse Initiative Solutions". Prepared for St. Johns River Water Management District, JEA, St. Johns County Utility Department, and Clay County Utility Authority. September 2008.

Targeted Reuse

Category: Reuse Water Option

Brief Description:

This option consists of using available reclaimed water for the specific targeted uses of: (1) replacing the Stone Container Corporation's use of potable water with reclaimed water in their commercial processes; (2) use of reclaimed water from the Arlington East facility for groundwater salinity management; (3) providing reclaimed water to 'water hogs' (large residential users) in the south grid.

Facilities Required:

New reclaimed water lines would be required as well as injection wells for the salinity management option.

Key Assumptions:

The cost of increased treatment capacity to produce the reclaimed water is not included under this option. The sub-options are instead potential methods to use reclaimed water already available.

Flexibility:

Use of reclaimed water allows for a potable water offset and will potentially trigger increases in the CUP allocations if total reclaimed water use targets are achieved.

Environmental Impacts (Promote Environmental Sustainability):

This option will improve river quality through increasing the use of wastewater effluent. Aquifer sustainability will also be positively affected due to less reliance on groundwater.

Ease of Implementation:

Public acceptance could be an issue for injecting reclaimed wastewater into a potable water source. Also there is no guarantee that residential clients will use the reclaimed water once it is made available.

Water Quality:

There are no blending issues within the distribution system since the reclaimed water will be kept separate from potable sources under all options.

Yield:

The yields for the various sub-options are described below.

1. The Stone Container Corporation currently uses 8.8 mgd from the local aquifer. The nearest reclaimed water line is served from the Cedar Bay facility. Currently this facility produces 5 mgd of flow; however, accounting for other users only 3.3 mgd would currently be available for use by the Stone Container Corporation. This could be increased if other options are enacted increasing the available reclaimed supply.
2. The salinity barrier option was planned to provide 5 mgd of potable offset. A conservative injection to withdrawal ratio of 1.5 was used, meaning 7.5 mgd of treated and injected water would be required.
3. As part of a Reclaimed Water Feasibility Study, bringing reclaimed water to the four high use areas of Queen's Harbor, Deerwood, Hidden Hills, and Glen Kernan was studied. Based on the population of each community, the percentage of customers currently with irrigation meters and the average water use per irrigation meter a total value of 1.05 mgd was calculated for potential reclaimed use.

Targeted Reuse

Category: Reuse Water Option

Cost:

The costs assumptions for each option are described below and capital and O&M costs summarized in **Table 1**.

1. The costs for source replacement at the Stone Container Corporation includes filters and high level UV disinfection for the 3.3 mgd of flow as well as additional pumping and piping to transport the water.
2. The costs for the salinity barrier included low pressure RO, high level UV disinfection, pumping, piping, and 18 injection wells.
3. An estimate of $20 million is currently being used as the capital cost to expand the reuse system into high use residential areas. This is loosely based on the piping costs developed for the salinity barrier option and was verified by the Reclaimed Water Feasibility presentation.

Table 2: Estimate Costs in 2012 Dollars

Sub-Option	Capital Costs	O&M Fixed Costs per Year	O&M Variable Costs per MG
Stone Container Corp	$27,600,000	$250,000	$232.46
Salinity Barrier	$94,000,000	$276,000	$226.85
Water Hogs	$20,000,000	$300,000	$78.28

Citations:

CDM (2011) “2011 Alternative Water Supply Evaluation and Implementation Plan” JEA. August 2011.

CH2MHill (2008) “JEA Total Water Management Plan”. September 2008.

JEA “Reclaimed Water Feasibility Study: Retrofit of Multiple High Water Use Neighborhoods along Existing Reclaimed Water Lines” Powerpoint Presentation.

Conservation

Category: Demand Management

Brief Description:

This option involves reducing demand through conservation efforts.

Facilities Required:

No significant new facilities would be required.

Key Assumptions:

It is assumed that conservation will follow the same seasonal pattern as demand with more potential for conservation in the summer than the winter months.

Flexibility:

Operational flexibility can be improved if conservation can reduce peak demand needs as well as delay the need for additional sources.

Environmental Impacts (Promote Environmental Sustainability):

This option will improve the efficiency of water use within the JEA system. There are no assumed impacts on the river and positive benefits to the aquifer through reducing demand.

Ease of Implementation:

This option depends on public participation.

Water Quality:

There are no water quality considerations.

Yield:

The proposed conservation targets in the CUP were taken as the medium conservation scenario. The pattern proposed included a sharp increase in conservation between 2012 and 2016 followed by a milder rate of increase in the following years. This same pattern was adjusted to form the low and high conservation scenarios. For the low conservation scenario, the original sharper increase was kept to half the original value followed by the same milder rate of increase as the medium scenario. For the high conservation scenario, the same initial jump in conservation as the medium scenario was used followed by a rate of conservation double that of the medium scenario in the following years. All these patterns can be seen in **Figure 1** and are able to be adjusted within the model. There is also the option for no conservation programs to be implemented.

The total conservation targets are split between grids proportionately based on the 2036 demand. The default percentage of the total conservation assigned to each grid is provided in **Table 1.** This can be adjusted within the model interface.

Table 1: Percentage of Conservation per Grid

Grid	Percentage
North	39%
South	57%
Ponte Vedra	1%
Ponce de Leon	0.3%
Lofton Oaks	3%
Mayport	0.1%

Conservation

Category: Demand Management

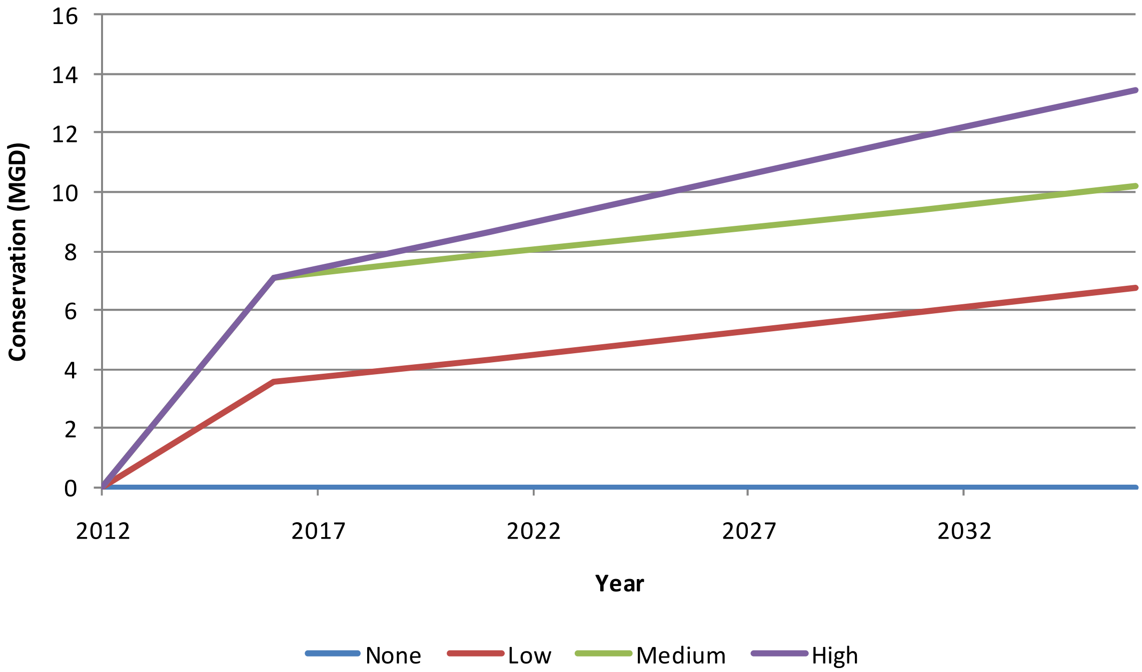


Figure 1: Levels of Conservation

Cost:

Since no infrastructure is required, the cost of the program is through education and outreach on the importance of conservation and methods to reduce water use within the home. For the low level, costs are assumed to be $500,000 a year, for the medium level $750,000, and for the high level $1,000,000 per year.

Citations:

CDM (2012) "Water Demand Forecast & Gap Analysis for the JEA Integrated Water Resource Planning Project" Prepared for JEA. April 2012.

Reduce Non-Revenue for Water

Category: Demand Management

Brief Description:

This option reduces non-revenue for water within the current system through leak reduction and other measures.

Facilities Required:

No significant new facilities would be required.

Key Assumptions:

JEA has an Infrastructure Leakage Index of 4.1 which puts it in the category which should evaluate the costs of water resources relative to the cost of a loss control program. However, the South and Ponce De Leon Grids have higher rates of unaccounted for water and a leak detection program is a requirement of the CUP allocation.

Flexibility:

This option will improve operational flexibility through reduction of wasted water.

Environmental Impacts (Promote Environmental Sustainability):

This option will improve the efficiency of water use within the JEA system. There are no assumed river or aquifer impacts.

Ease of Implementation:

A leak detection program should be easy to implement.

Water Quality:

There are no water quality concerns.

Yield:

Data from 2011 shows 17.89 mgd of non-revenue water. Assuming that at the maximum 50% of the losses can be addressed through leak reduction programs, there would be 8.9 mgd in water savings. However, 5 mgd was considered a more reasonable goal and is the initial default value within the model. Currently this value is split with 80% of the savings in the North Grid and 20% of the savings in the South Grid.

Reduce Non-Revenue for Water

Category: Demand Management

Cost:

Placeholder values of $5 million in initial capital costs and $1 million in fixed yearly O&M are included in the model for reducing non-revenue water. There is assumed to be no variable O&M. These values should be refined as more information becomes available.

Citations:

CDM (2012) "Water Demand Forecast & Gap Analysis for the JEA Integrated Water Resource Planning Project" Prepared for JEA. April 2012.

cdmsmith.com

EXHIBIT ______
JEA RFP NO. 156-18 CONTRACT
ENGINEERING SERVICES
FOR
Integrated Water Resource Plan (IWRP)

This Exhibit, when executed, shall be incorporated in and become part of the CONTRACT (RFP NO. 156-18) between JEA (OWNER), and CDM Smith Inc. (CONSULTANT), dated _______________, 2019 for Integrated Water Resource Planning.

PROJECT BACKGROUND

The intent of the OWNER is to develop a holistic, comprehensive, integrated and sustainable plan and schedule for managing the supply, production, treatment, transmission, and delivery of OWNER's water supply for the next 50 years (to Year 2070).

OWNER is seeking options for the next beneficial incremental water supply and to increase the system flexibility and resiliency. The CONSULTANT will develop an Integrated Water Resource Plan (IWRP) and a Demand Side Management (DSM) study ("Project") which will consider in detail the alternatives for OWNER's future water supply and conservation program. It is essential that the IWRP and DSM Plan be sustainable, cost-effective, permittable, defensible and protect the local water resources.

As part of this Project the OWNER desires the CONSULTANT to develop recommendations, strategic goals, and include near-term & long-term actions to develop, manage and sustain OWNER's water resources.

The development of the scope of work of this CONTRACT is based on the introductory meeting held between OWNER management and staff, and CONSULTANT. At this introductory meeting, overall project goals for the JEA Integrated Water Resources Plan (IWRP) were established, as well as critical success factors.

The JEA IWRP project goals are as follows:

- Provide surety/certainty for OWNER's long-term water supply needs over the next 50-years
- Maximize the use of reclaimed water and minimize wastewater discharges to the river
- Demonstrate that IWRP recommendations are aligned with OWNER's four corporate measures: Financial, Environmental, Customer, and Community Impact; and will provide for continued supply reliability for next 50 years
- Develop a targeted and cost-effective Demand-Side Management (DSM) strategy, which includes specific recommendations for program implementation including required administration and management
- Develop specific recommendations for water supply projects, with implementation schedules for the next 5, 10, and 20 years

SCOPE OF WORK

Task 1 – Develop IWRP Evaluation Framework and Objectives

To help ensure that the IWRP and its recommendations are defensible and well-supported, it is important to develop an Evaluation Framework at the onset of the project that is mutually agreed to by OWNER and CONSULTANT. The Evaluation Framework will provide: (1) the overall methodology on how alternatives will be analyzed, compared and ranked; (2) details key planning assumptions regarding hydrologic period of record, financial parameters, range of population projections, and future climate scenarios; and (3) definition of IWRP objectives and performance measures used for evaluating alternatives. The Evaluation Framework will be used to support Tasks 8, 9 and 10 of this scope of work.

Objectives and performance measures are defined as:

- Objectives: Represent the major goals for the IWRP in broad, understandable and distinctive terms. Objectives will be defined to easily communicate the goals of the IWRP to all internal/external stakeholders. Examples of objectives might include ensure supply and system reliability, achieve cost-effective solutions, reduce risk and uncertainty, improve water quality, and protect environment. ONWER and CONSULANT to work together to develop approximately 6–10 objectives and weigh them in terms of relative importance.

- Performance Measures: For each objective, one or several performance measures will be established, with the goal of establishing as many quantitative measures as feasibly possible. Where quantitative measures cannot be established, qualitative measures using best engineering judgment will be supplemented. Examples of performance measures might include life-cycle cost, probability of water shortages, likelihood of permitting hurdles, or environmental impacts.

CONSULTANT will participate in the following meetings with the OWNER to develop the IWRP Evaluation Framework and finalize the objectives and performance measures:

Meetings:

- One project kick-off meeting with OWNER members and key consultant staff to develop evaluation framework and draft objectives.

- One follow-up conference call with OWNER to review final draft recommendations for objectives and evaluation framework

- One conference call with OWNER to finalize objectives and evaluation framework

Deliverables:

- Technical memorandum (TM) on IWRP evaluation framework and objectives

Task 2 – Review OWNER Reports and Collect Data

CONSULTANT will review relevant past studies, reports and plans prepared for OWNER. Consultant will request specific data, models and information from OWNER, and will collect other supporting data required for the IWRP.

Meetings:

- One conference call with OWNER to go over requested data from OWNER

Deliverables:

- Data log sheet

Task 3 – Conceptualize Supply Options

CONSULTANT will fully leverage OWNER past studies, reports and plans to develop a preliminary list of feasible water supply options. CONSULTANT will augment any information gaps or identify up to two other supply options that were not previously evaluated by OWNER. At the outset of this task a complete list of potential water supply options will be reviewed with the OWNER for consideration and selection for evaluation. Upon the conclusion of this review, the list of potential water supply options will be finalized by the OWNER and used as the basis for consultant conceptualization. For scoping purposes, a total of eleven (11) supply options will be conceptualized from existing OWNER reports and studies and two (2) other supply options that were not previously evaluated by the OWNER will be developed by the CONSULTANT, with guidance given by the OWNER. The likely eleven (11) supply options preliminarily selected for conceptualization are listed below:

Preliminary Screening of 2019 JEA IWRP Supply Options for Evaluation
Additional Traditional Floridan Groundwater (Assumes CUP SCs Are Met)
Indirect Potable Reuse via Groundwater Recharge
Desalination: Brackish Groundwater
Desalination: Lower St. Johns River near NSGS (seawater quality)
Desalination: Upper St. Johns River (brackish quality)
Regional Surface Water Reservoir for Potable Water Supply
Regional Surface Water Reservoir for Irrigation Water Supply
Non-Floridan Source Private Irrigation
Direct Potable Reuse (Targeted Large Industrial Users for Potable Offset)
Distributed Stormwater Collection for Supplemental Reclaimed or Direct Irrigation
Distributed Stormwater Collection for Potable Use

Each supply option for consideration in the IWRP will be conceptualized in terms of:

1) Project description, potential siting/locations within OWNER service area, and identification of key facility components (e.g., treatment, distribution, pump stations, storage)

2) Project yield and potential hydrologic variation in yield

3) Project capital cost estimate

4) Project O&M cost estimate

5) Water quality attributes, permitting/regulatory ease, customer acceptance, distribution system integration challenges, and other attributes (e.g., environmental benefits, social benefits, etc.)

Meetings:

- One conference call with OWNER to go over preliminary list of supply options
- One conference call with OWNER to finalize list of supply options

Deliverables:

- Preliminary list of supply options
- TM that summarizes conceptualized options, with key attributes

Task 4 – Spatial Forecast of Water Demand

CONSULTANT will utilize OWNER's existing water demand forecast and population projections for its service area as the basis for spatially disaggregation into specific planning neighborhoods, which will be required for hydraulic analysis of water supply options (Task 5) and evaluation of DSM measures (Task 7). The disaggregated demand forecast will be calibrated to water production and customer sales (billing) data by the grid networks. Population projections will be used to project water demand by sector and neighborhood to the year 2070. This task includes close coordination and iterative collaboration between the OWNER and the CONSULTANT's Demographer sub-consultant, CONSULTANT's DSM Expert and Hydraulic Engineer, as outlined below:

1) The DSM Expert, Demographer and OWNER will work together to define neighborhood boundaries and evaluate them based upon property appraiser data, census data and geocoded customer billing data. Neighborhood averages of characteristics such as percent residential/commercial/industrial, development density/ lot size, age of housing and development, values of land and buildings, unit occupancy, persons per household, household income, planned development/redevelopment and water use by customer type will be used to delineate neighborhoods into relatively homogenous groupings. Neighborhood delineations will be reviewed with OWNER staff. If possible, neighborhoods may be classified into a limited number of higher-level classifications for DSM planning, such as "large lot, affluent residential", "older, high density residential", "light commercial", etc. The definition of the higher-level classifications will likely evolve from analysis of the data and be defined in collaboration with OWNER staff.

2) The Demographer will use available geocoded customer data to develop representative water use factors by sector per neighborhood. Sectors may include residential, commercial and industrial users or may be further defined as single-family, multifamily, commercial, industrial, recreation, and irrigation water use depending upon the clarity of customer data. The DSM Expert will review the water use factors for anomalies and a reasonable range of factors, including recommendations for updating and refining, as needed. Final definition of sectors will be developed in collaboration with OWNER staff. A water use factor per unit will be estimated for each sector for each neighborhood. The 'units' may be population, acreage or square footage depending upon the sector definition. It is noted that not all OWNER water

customer accounts have been geocoded and therefore it will be necessary for the CONSULTANT to approximate a geocode for those accounts that are not currently geocoded.

3) The DSM Expert will use the sector water use factors and current population, acreage or square footage by neighborhood to estimate current water use by sector by neighborhood. The estimated current water use by neighborhood will be compared with current consumption (sales) data and the existing demand forecast at either the neighborhood or grid level for calibration of the water use model. The current water use by sector and neighborhood will be formatted by the DSM Expert as an input for the Task 6 analysis of current water use by sector and neighborhood by end use. Differences in current water use across neighborhoods within the same customer sector will provide the basis for developing DSM targets by sector and neighborhood. The high-level classification information by neighborhood will be used by the DSM Expert to develop DSM target characteristics.

4) Current (January 2018) population projections for the OWNER service area from 2020 to 2045 will be expanded to 2070 and updated with the latest county population forecasts from BEBR by the Demographer. This includes developing forecasts of both population and non-residential development for Duval, St. Johns, Nassau and Clay Counties using its GIS-based, parcel-level models. Because population models were developed for OWNER as recently as 2017, some elements of those models will be leveraged for efficiency. Updated property appraiser and planned development data will be used to capture new development, and the models will be extended in five-year increments to 2070. The population forecasts will be controlled to the county-level forecasts from the Bureau of Economic and Business Research (BEBR), which are the official state numbers. Those county-level forecasts will also be extended from 2045 to 2070 in consultation with BEBR's lead demographer. Non-residential development will be forecasted for the first time, and it will be done based on a combination of historical trends and future land use data. This forecast will also be extended to 2070 in five-year increments. Recent trends in nonresidential development by neighborhood will be used to extrapolate from the current nonresidential development to a forecast of 2070 development using Future Land Use data. Thus, a projected set of sector units will be developed for each neighborhood to 2070 in five-year increments.

5) The DSM Expert will input the sector water use factors and projected sector units into a Microsoft Excel spreadsheet model to estimate the future water consumption by sector for each neighborhood from 2020 to 2070. Estimates of system losses (i.e., non-revenue water or unaccounted-for water) by grid network will be determined and system loss will be added to the water demand of each neighborhood. Summaries and averages by customer grouping will also be developed to help guide DSM planning.

6) The Hydraulic Engineer will review the spatial characteristics of the water demand forecast as it pertains to high-level hydraulic modeling of supply options in Task 5.

Meetings:

- One conference call with OWNER to discuss key assumptions for water demand forecast
- One meeting with OWNER to present water demand forecast

Deliverables:

- TM that summarizes water demand forecast
- Spreadsheet/database with detailed, spatially allocated forecast of water demands

Task 5 – High-Level Hydraulic Analysis of JEA Water/Reclaimed Water Distribution System

Using OWNER's existing hydraulic models, CONSULTANT will analyze current groundwater and recycled water sources under several scenarios of future peak water demands (based on 5, 10 and 20-year forecasts) to determine major system deficiencies and/or constraints in delivery of water to customers. Specifically, this analysis will include simulations of the existing systems with superimposed future demands to determine the extent of areas in each system where the desired customer level-of-service (e.g. supply volume, system pressures) cannot be met.

The analysis of OWNER's water and recycled water distribution system will be used to refine the supply options conceptualized in Task 3, by correlating potential supply points to areas of need. The hydraulic analysis will then be used to screen supply alternatives by determining what storage and transmission facilities (approximate length and size of pipelines, need for pump stations, and diurnal storage for the supply options) will be needed based on defining the needs by either mid-term needs (10-years or less) or long-term needs (greater than 10-years out). These screening analyses will consider both delivery and the net supply throughput by considering impacts on other supplies (e.g., does a new supply cause other existing supplies to deliver less flow due to changes in system hydraulics). Additionally, the results of this task are used by the CONSULTANT in support of developing future conceptual capital and O&M costs related to supply options and developing the portfolio of alternatives that will be evaluated in subsequent tasks.

It should be noted this task represents a high-level hydraulic analysis for refined conceptualization of water supply alternatives and not intended for detailed distribution system analysis that is typically used for master planning.

Meetings:

- One conference call with OWNER to discuss OWNER hydraulic models and system assumptions
- One conference call with OWNER to present findings from hydraulic analysis

Deliverables:

- TM that summarizes hydraulic analysis

Tasks 6 – Assessment of Current Water Use Efficiency, Future Passive Conservation and End Use Model of Water Demand

Using a combination of OWNER billing data by sector (e.g., single-family, commercial, industrial, etc.), parcel level data that was used in Task 4, census data, and literature and research studies on end uses of water, consultant will breakdown OWNER's sector water use data into major end uses such as toilet flushing, clothes washing, landscape irrigation, food processing, industrial processing, and others. This information will also be used to estimate the current levels of water use efficiency.

This task includes the CONSULTANT providing support to the OWNER who will conduct a customer survey to obtain information on water use practices and attitudes towards water conservation. This survey will help improve the assessment of current levels of water use efficiency and willingness to participate in future OWNER DSM programs that may be recommended as part of this project. The survey and analysis of survey results will need to be completed before this task begins. The cost proposal outlined in the budget section below includes support from the CONSULTANT to develop the survey, working with OWNER, and with OWNER administering the online survey. The target survey objective is to survey up to 1,500 JEA Customers. The survey task includes the CONSULTANT drafting the survey, reviewing the draft survey with the OWNER, and the CONSULTANT finalizing the survey questions and summarizing and reviewing the results of the survey with OWNER. OWNER would be responsible for administering the survey and providing the survey results to the CONSULTANT, so the CONSULTANT can summarize the results.

CONSULTANT will estimate future passive water conservation for OWNER's service area. Passive conservation is defined as that which is expected to occur from adherence to federal and state plumbing codes. As new development occurs, it is expected that per home/per business water use will be lower than existing development due to toilets, showerheads and urinals being more water efficient per plumbing codes. It is important to reflect future passive conservation in the demand forecast because it will provide a better indication of where targeted DSM measures should be implemented.

A spreadsheet DSM model of end uses will be developed in this task. The DSM model will be used to determine the remaining potential for DSM measures, spatially within OWNER's service area. This will help ensure that the overall DSM Program is targeted to where the biggest potential conservation savings are for areas that also have water supply (including reclaimed supply) constraints.

Meetings:

- One conference call with OWNER to discuss assumptions for the DSM model
- One meeting with OWNER to present DSM model and passive conservation savings estimate
- Two meetings to review the draft online survey and review the results of the survey

Deliverables:

- Spreadsheet DSM model
- Draft write-up of the OWNER customer survey, execute an online OWNER customer survey and summarize the results and present results to OWNER

Task 7 – Evaluation of Future DSM Measures and Development of DSM Strategy

The DSM model of end uses developed in Task 6 will be used to evaluate the water conservation savings, cost-effectiveness and benefits to OWNER of future DSM measures. To this end, CONSULTANT will utilize its past experience in evaluating DSM measures, with focus on those measures that are technologically superior and proven to work (e.g., smart irrigation systems tied to weather stations). This experience will be augmented by literature of emerging trends and OWNER-specific information on customers. CONSULTANT will also estimate the economic benefit of implementing future DSM measures to OWNER in terms of reduced water treatment and delivery costs, deferment of large capital infrastructure, and potential rate impacts to customers (if any). Several metrics will be used for cost-effectives such as net present value, levelized unit cost, and internal rate of return.

To estimate "representative" administrative/implementation costs for OWNER's DSM Program, consultant will conduct an informal survey of water conservation managers around the country. Further, consultant will assess likely implementation challenges and/or customer acceptance issues regarding future DSM measures. Each future DSM measure will be ranked in terms of overall cost-effectiveness, economic benefit to OWNER, and implementation challenges.

CONSULTANT will deliver to OWNER a DSM Strategy Report that has the following components:

1. Recommended list of DSM measures with targeted location and timing for implementation, anticipated water savings, recommended inventive levels, and overall cost-effectiveness ranking.

2. Representative administrative cost and required management for overall DSM program, including different options for turn-key vendors to administer the program.

Meetings:

- One conference call with OWNER to discuss potential DSM measures
- One conference call with OWNER to present draft findings of ranking DSM measures
- One meeting with OWNER to present final ranking of DSM measures and summarize recommendation for overall DSM Strategy

Deliverables:

- TM that summarizes the evaluation of DSM measures and provides recommendations for overall DSM strategy

Task 8 – Update OWNER's IWRP Model

CONSULTANT will update OWNER's IWRP model, developed using the STELLA systems software in 2012, using the information from previous tasks of this project. The IWRP model represents OWNER's water, wastewater and recycled water by service zone. The model runs quickly and allows for alternatives to be evaluated in a more holistic, interconnected manner.

Alternatives, representing combinations of supply and demand-side management options, can be developed on the fly with the IWRP model and tested under different planning scenarios of demand growth, climate and other factors.

The IWRP model presents the following output:

- Reliability of water and recycled water system in meeting future water demands
- Identification of major conveyance and treatment capacity needs in the future
- Levelized unit costs

Meetings:

- One conference call with OWNER to discuss potential gaps in need using the IWRP model without new investments

Deliverables:

- Updated IWRP model with a Technical Memorandum that summarizes the updates that were made to the existing model.

Task 9 – Develop and Analyze Alternatives

CONSULTANT will work closely with OWNER to identify up to five initial integrated alternatives, representing combinations of various supply and demand-side management options. These integrated alternatives will be developed around themes, such as: high resiliency, lower-cost, higher adaptability, higher sustainability, etc.

CONSULTANT will use the IWRP model to analyze the performance of the initial integrated alternatives and then use a multi-criteria decision software called Criterium Decision Plus, to rank the alternatives by the objectives developed in Task 1.

Based on the results of evaluating the initial integrated alternatives, consultant will work with OWNER to develop up to three (3) hybrid alternatives that take the best elements from the initial alternatives. The intent is to create super performing alternatives that can be tested. The IWRP model and use of the decision software will be used to rank the hybrid alternatives.

Meetings:

- One conference call with OWNER to develop the initial integrated alternatives
- One conference call with OWNER to present results of evaluation the initial alternatives
- One conference call with OWNER to develop hybrid alternatives
- One meeting with OWNER to present results of ranking hybrid alternatives

Deliverables:

- TM summarizing the ranking of alternatives

Task 10 – Test Alternatives Under Uncertainty and Develop Recommendations

The top two performing alternatives from Task 9 will be tested under a range of uncertainty using scenario planning. Anticipated scenarios might include: (1) baseline growth with historical climate; (2) higher growth with historical climate; and (3) higher growth with warmer/drier future climate.

CONSULTANT will analyze the results and develop draft recommendations for implementation of specific water supply projects and DSM programs for short-term, mid-term, and long-term planning horizons. For the short-term horizon, CONSULTANT will recommend timing and location of specific water supply projects and DSM programs for 5, 10, and 15 years. This will also include "conceptualized" construction cost estimates. Because the future becomes more difficult to anticipate after 15 years, CONSULTANT will identify triggers for OWNER to monitor for longer-term implementation of projects and programs. Triggers might include: (1) levels of population growth; (2) performance of OWNER under existing CUP; (3) potential changes to the CUP; and (4) changes in long-term climate. These triggers can be used by OWNER for adaptive management and implementation of projects and programs for the long-term planning horizon after 15 years.

Meetings:

- One conference call with OWNER to develop planning scenarios and assumptions
- One conference call with OWNER to present draft recommendations for 5, 10, and 15-year implementation of projects and programs
- One meeting with OWNER to present final recommendations with adaptive management

Deliverables:

- TM summarizing the IWRP recommendations

Task 11 – Prepare IWRP and DSM Reports

CONSULTANT will prepare the IWRP and DSM reports, using the TMs and other information from the previous tasks. CONSULTANT will work with OWNER to determine the format of these reports.

A first draft of the IWRP and DSM reports, representing and 80% completion, will be delivered to the OWNER for review. CONSULTANT will incorporate comments from the OWNER and prepare a final draft of the IWRP and DSM reports for OWNER review. CONSULTANT will incorporate comments from the OWNER and prepare the final reports.

Meetings:

- One conference call with OWNER to review comments on first draft reports of IWRP and DSM
- One conference call with OWNER to review comments on final draft reports of IWRP and DSM

Deliverables:

- First draft reports for IWRP and DSM
- Final draft reports for IWRP and DSM
- Final reports for IWRP and DSM

Task 12 – Project and Quality Management

Activities performed under this task consist of those general functions required to maintain the project on schedule, within budget, and that the quality of the work products defined within this CONTRACT is consistent with CONSULTANT's standards and OWNER's requirements. This includes following the issuance of the Notice to Proceed (NTP) from OWNER, CONSULTANT will perform an internal project quality management meeting and a project planning and scope review meeting. Additionally, CONSULTANT maintains a Quality Management System (QMS) on all projects. CONSULTANT will hold Technical Review meetings, in accordance with QMS, prior to transmitting documents to OWNER. Technical Review comments will be addressed prior to moving forward with finalizing deliverables for the OWNER's review. CONSULTANT will maintain and submit to OWNER on a periodic basis a Comment and Response Spreadsheet that will track OWNER comments and CONSULTANT's response and intended actions to address the comments.

OWNER's RESPONSIBILITY

OWNER will be responsible for the following listed items and other items as specifically included in this CONTRACT:

- Provide Notice to Proceed.
- Provide the available and requested data, reports and references to CONSULTANT.
- Provide existing OWNER IWRP model from the 2012 IWRP project (programmed in STELLA).
- Provide review of CONSULTANT submittals of documents and return comments to CONSULTANT within 15 business days.

ASSUMPTIOMS

The following assumptions have been prepared in support of the CONSULTANT's basis of estimate:

- The basis for developing most of the conceptualized supply options as part of Task 3 will come from existing work products and OWNER will provide the necessary existing references and previous reports/studies including Alternative Water Supply Studies, Total Water Management Plan and Updates, Consumptive Use Permit (CUP 88271-16), Alternative Water Supply Facilities Master Plan (2015), Wellfield Water Quality Management Plan (CUP condition 49), Integrated Water Supply Testing, Evaluation, and Rehabilitation (iWater) and OWNER's 2018 Annual Water Resource Master Plan.
- The existing OWNER IWRP model from the 2012 IWRP project (programmed in STELLA) will be used for the base systems model development in Task 8.
- The existing hydraulic models used in support of Task 5 will not require model calibration.

PROJECT SCHEDULE

It is anticipated that the Project will take 18 months to complete, starting within two weeks of receipt of a formal notice to proceed (NTP). The estimated schedule by task is shown in Figure 1. CONSULTANT will prepare an updated detailed schedule within the first thirty (30) calendar days after Notice to Proceed.

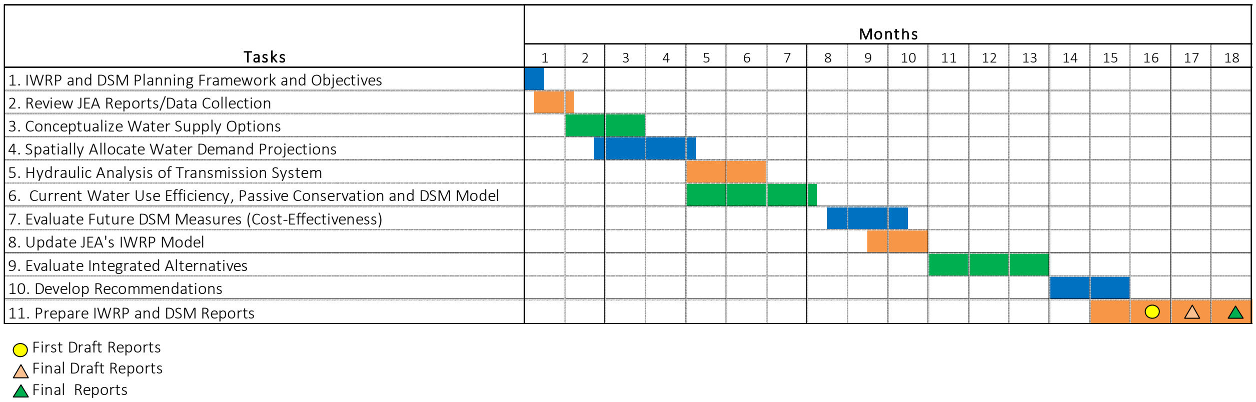


Figure 1. Project Schedule based on NTP

COMPENSATION AND PAYMENT

For performing the services in Task 1 to 12 of this Contract (Exhibit _____), OWNER agrees to pay CONSULTANT a lump sum amount of $1,095,792 for its labor, subconsultants, and direct costs. For invoice purposes only, the value breakdown is shown in **Table 1** below. The CONSULTANT will submit monthly invoices based on the percentage of the work completed by task during the period of the invoice.

Table 1

JEA 2019 Integrated Water Resource Plan and Demand Side Management Plan
Budget Estimate
Wednesday, January 29, 2019
CDM Smith

Task Description	Total Dollars By Task
Task 1 – Develop IWRP Evaluation Framework and Objectives	$30,772
Task 2 – Review OWNER Reports and Collect Data	$54,375
Task 3 – Conceptualize Supply Options	$60,021
Task 4 – Spatial Forecast of Water Demand	$107,730
Task 5 – Hydraulic Analysis of OWNER Water/Recycled Water Distribution System	$84,161
Task 6 – Assess Water Use Efficiency, Passive Conservation, End Use Model Water Demand	$151,340
Task 7 – Evaluation of Future DSM Measures and Development of DSM Program	$56,550
Task 8 – Update OWNER's IWRP Model	$68,450
Task 9 – Develop and Analyze Alternatives	$123,050
Task 10 – Test Alternatives Under Uncertainty and Develop Recommendations	$148,985
Task 11 – Prepare IWRP and DSM Reports	$140,627
Task 12 – Project and Quality Management	$69,731
Total Lump Sum Budget	**$1,095,792**

PRELIMINARY OFFICIAL STATEMENT DATED SEPTEMBER 11, 2019

NEW ISSUE – FULL BOOK ENTRY

In the opinion of Orrick, Herrington & Sutcliffe LLP, Bond Counsel to MEAG Power, based upon an analysis of existing laws, regulations, rulings and court decisions, and assuming, among other matters, the accuracy of certain representations and compliance with certain covenants, interest on the Series 2019A Bonds (as defined below) is excluded from gross income for federal income tax purposes under Section 103 of the Internal Revenue Code of 1986, as amended (the "Code"). In the further opinion of Bond Counsel, interest on the Series 2019A Bonds is not a specific preference item for purposes of the federal alternative minimum tax. Bond Counsel is also of the opinion that, by virtue of the Act (as defined herein), the Series 2019A Bonds, the transfer thereof and the interest thereon are exempt from taxation by the State of Georgia and any of its political subdivisions. Bond Counsel expresses no opinion regarding any other tax consequences related to the ownership or disposition of, or the amount, accrual or receipt of interest on, the Series 2019A Bonds. See, however, "TAX MATTERS" herein.

$475,000,000*
Municipal Electric Authority of Georgia
Plant Vogtle Units 3&4 Project M Bonds, Series 2019A

MEAGPOWER

Dated: Date of Delivery **Due: January 1, as shown on the inside cover page**

The Plant Vogtle Units 3&4 Project M Bonds, Series 2019A (the "Series 2019A Bonds") are to be issued to finance a portion of MEAG Power's costs associated with Project M (as described below). The Series 2019A Bonds will be payable from and secured by a pledge of the revenues of MEAG Power derived from Project M and other moneys and securities pledged under the Project M Bond Resolution (as defined herein). Such revenues include, generally, payments received by MEAG Power from the sale of output and services of Project M to 29 municipalities located in the State of Georgia (the "Project M Participants") pursuant to take-or-pay power sales contracts, as described more particularly herein. See "SUMMARY OF VOGTLE UNITS 3&4 POWER SALES CONTRACTS – Vogtle Units 3&4 Participants' Obligations to Pay" in Appendix K to the Annual Information Statement referred to herein.

Vogtle Units 3&4 are two 1,102 megawatt ("MW") nominally rated nuclear generating units currently under construction at Generation Station Vogtle in Burke County, Georgia. As more particularly described herein, MEAG Power's interest in Vogtle Units 3&4 (which is held by three wholly-owned special purpose companies formed by MEAG Power for such purpose) is 22.7 percent, representing approximately 500.308 MW of nominally rated generating capacity. MEAG Power has structured its interest in Vogtle Units 3&4 as three separate projects, as more particularly described herein. Project M comprises approximately 33.871 percent of MEAG Power's interest in Vogtle Units 3&4, representing approximately 169.458 MW of capacity.

None of the Series 2019A Bonds will be an obligation of the State of Georgia, and the State of Georgia will not be obligated to make any payments, levy any taxes or impose any charges in connection with MEAG Power or the Series 2019A Bonds. However, the payment obligations of each Project M Participant under its Project M Power Sales Contract (as defined herein) are general obligations to the payment of which its full faith and credit are pledged.

The Series 2019A Bonds will be subject to redemption prior to maturity, as described herein.

The Series 2019A Bonds are issuable as fully registered bonds and when initially issued will be registered in the name of Cede & Co., as nominee of The Depository Trust Company, New York, New York ("DTC"), which initially will act as securities depository as described herein. Purchases of Series 2019A Bonds will be made in book-entry form only, in the principal amount of $5,000 or any integral multiple thereof, both through brokers or dealers who are, or who act through, DTC participants. Beneficial owners of the Series 2019A Bonds will not be entitled to receive physical delivery of bond certificates so long as DTC or a successor securities depository acts as the securities depository with respect to the Series 2019A Bonds. Semiannual interest on the Series 2019A Bonds is payable each January 1 and July 1, commencing January 1, 2020, as more fully described herein. So long as DTC or its nominee is the registered owner of the Series 2019A Bonds, payments of the principal of and interest on such bonds will be made directly to DTC. Disbursement of such payments to DTC participants is the responsibility of DTC and disbursement of such payments to the beneficial owners is the responsibility of DTC participants. See "BOOK-ENTRY ONLY SYSTEM" in APPENDIX A hereto.

MATURITY SCHEDULE – See Inside Cover Page

The Series 2019A Bonds are offered when, as and if issued and accepted by the Underwriters, subject to the approval of legality by Orrick, Herrington & Sutcliffe LLP, New York, New York, Bond Counsel to MEAG Power. Certain legal matters will be passed upon for MEAG Power by Peter M. Degnan, Esq., Senior Vice President, General Counsel of MEAG Power. Certain legal matters will be passed upon for the Underwriters by their counsel, King & Spalding LLP. It is expected that the Series 2019A Bonds will be available for delivery in book-entry form only through the facilities of DTC in New York, New York on or about September __, 2019.

Goldman Sachs & Co. LLC **Wells Fargo Securities**
Barclays **BofA Merrill Lynch**
PNC Capital Markets LLC **TD Securities**

The date of this Official Statement is September __, 2019.

* Preliminary, subject to change.

- it transferred approximately 33.871 percent of its ownership interest, representing 169.458 MW of nominally rated generating capacity (which is the portion of its ownership interest attributable to Project M (hereinafter defined)), to MEAG Power SPVM, LLC, a limited liability company organized and existing under the laws of the State of Georgia (the "Project M Entity"), of which MEAG Power is the sole member;

- it transferred approximately 41.175 percent of its ownership interest, representing 206.000 MW of nominally rated generating capacity (which is the portion of its ownership interest attributable to Project J (hereinafter defined)), to MEAG Power SPVJ, LLC, a limited liability company organized and existing under the laws of the State of Georgia (the "Project J Entity"), of which MEAG Power is the sole member; and

- it transferred approximately 24.955 percent of its ownership interest, representing 124.850 MW of nominally rated generating capacity (which is the portion of its ownership interest attributable to Project P (hereinafter defined)), to MEAG Power SPVP, LLC, a limited liability company organized and existing under the laws of the State of Georgia (the "Project P Entity" and, together with the Project M Entity and the Project J Entity, the "Vogtle Units 3&4 Project Entities"), of which MEAG Power is the sole member.

In contemplation of the transfers described above, MEAG Power and each Vogtle Units 3&4 Project Entity entered into a take-or-pay, "hell or high water" Wholesale Power Sales Agreement, dated as of December 31, 2014 (respectively, the "Project M Power Purchase Agreement," the "Project J Power Purchase Agreement" and the "Project P Power Purchase Agreement" and, collectively, the "Vogtle Units 3&4 Power Purchase Agreements"), pursuant to which (a) MEAG Power is entitled to all of the capacity and output of the respective Vogtle Units 3&4 Project Entity's Ownership Interest in Vogtle Units 3&4 and (b) MEAG Power is obligated to pay to such Vogtle Units 3&4 Project Entity all of its costs and expenses (including, without limitation, debt service on such Vogtle Units 3&4 Project Entity's DOE Guaranteed Loan (hereinafter defined), except as otherwise provided in connection with the occurrence and continuance of a Standstill Period (as hereinafter defined) under the Project J or Project P, as applicable, DOE Loan Guarantee Agreement (as hereinafter defined)) in connection with the ownership and operation of such Vogtle Units 3&4 Project Entity's Ownership Interest in Vogtle Units 3&4. See "SUMMARY OF VOGTLE UNITS 3&4 POWER PURCHASE AGREEMENTS" in Appendix N to the Annual Information Statement for a summary of certain provisions of the Vogtle Units 3&4 Power Purchase Agreements. As a result, each of the Vogtle Units 3&4 Projects now includes all of MEAG Power's right, title and interest in and to the capacity and output of the related Vogtle Units 3&4 Project Entity's Ownership Interest in Vogtle Units 3&4, but does not include such Ownership Interest.

Key Recent Developments with Respect to Vogtle Units 3&4

Key recent developments pertaining to Vogtle Units 3&4 are outlined below. For additional information and definitions of certain terms, see "VOGTLE UNITS 3&4 – Status of Vogtle Units 3&4" herein. See, also, "RISK FACTORS" herein.

- The U.S. Internal Revenue Service allocated production tax credits ("PTCs") to each of Vogtle Units 3&4, which originally required the applicable unit to be placed in service before 2021. The Bipartisan Budget Act of 2018, signed into law on February 9, 2018, removed the deadline for these PTCs by allowing for new nuclear reactors placed in service after December 31, 2020 to qualify for the nuclear PTCs. It also provided a modification to prior law to allow public power utilities, such as MEAG Power, to utilize the credits. The passage of this bill allows MEAG Power to monetize the hundreds of millions of dollars of tax credits to reduce the cost of the output of the Vogtle Units 3&4 Project Entities' ownership shares of the project.

Calculation of Value to the City of Jacksonville

In Response to Question 22

- Based on the Process Goals outlined on slide 19 of the ITN, JEA's financial minimum requirement outlines >$3 billion of value to the City of Jacksonville
- In the event that ITN process results in a sale of any asset including but not limited to an acquisition of the integrated utility, the purchase price shall be on a debt free cash free basis and will be subject to a standard target net working capital calculation and adjustment mechanism which shall be determined at the appropriate time during the negotiation phase of the process

Calculation of Value to the City of Jacksonville	$MM	Responsible Party: JEA [1]	Responsible Party: Respondents
Gross Proceeds			✓
Less: Defeasance cost, other liabilities not assignable and transaction costs	$3,500 - $4,000	✓	
Less: Employee retention payments	$165	✓	
Less: Employee pension protection	$132	✓	
Net Proceeds	**Value to City of Jacksonville**	**Greater than $3 billion**	

While Respondents must indicate clearly and specifically how their Reply would allow JEA to achieve its goals, given the information provided in the ITN and otherwise available publicly, such Replies may be more qualitative in nature until additional non-public information is provided to Respondents in the Negotiation Phase

Note:
1. JEA to pay for these costs from gross proceeds

Procurement Department Bid Section
Customer Center 1st Floor, Room 002
21 W. Church Street
Jacksonville, Florida 32202

October 9, 2019

ADDENDUM NUMBER: Five (5)

TITLE: **ITN – 127-19 Strategic Alternatives**

BID DUE DATE: October 7, 2019

TIME OF RECEIPT: 12:00 PM EST

THIS ADDENDUM IS FOR THE PURPOSE OF MAKING THE FOLLOWING CHANGES OR CLARIFICATIONS:

1. **Change: Section 2.2 Timeline of Events – Updated Dates for Evaluation Team meeting and posting of Notice of Intent to Negotiate, and Negotiation Phase:**

   - Deadline to submit Replies and all required documents to the JEA Procurement Bid Office: **12:00 p.m. on October 7, 2019**

   - JEA anticipated formal acknowledgement of Replies received (bid opening) at the JEA Procurement Bid Office: **2:00 p.m. on October 7, 2019**

   - Date for Evaluation Team meeting, location and posting of Notice of Intent to Negotiate: ~~October 18, 2019~~ **4:00 p.m. on October 14, 2019**

     Location:
     JEA Tower, 19th Floor
     21 West Church Street
     Jacksonville, Florida 32202

   - Dates for Negotiation Phase: ~~October 19, 2019~~ **October 15, 2019 – To Be Determined**