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JEA

Management Presentation

Project Scampi

December 2019

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Deponent Smith
Date 4/9/20 Rptr TC
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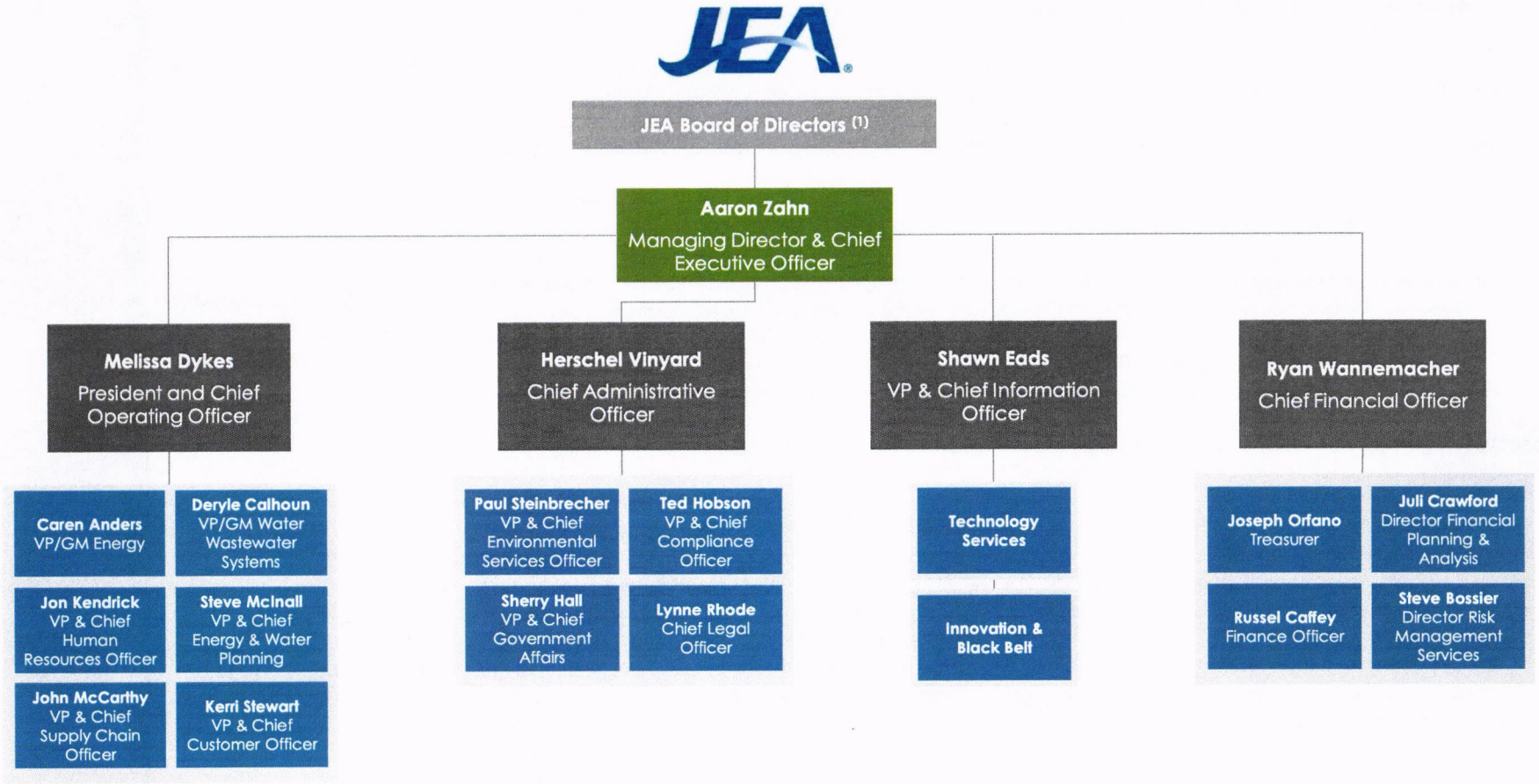
The Advisors are acting as exclusive financial advisers to the Company in relation to the proposed transaction, will not regard any other person (whether a recipient of this MP or not) as a client in relation to the proposed transaction and will not be responsible to anyone other than the Company for providing the protections afforded to clients of the Advisors nor for providing advice to any such other person. Any person considering entering into the proposed transaction: (i) may not rely on this MP in determining any course of action in relation to the proposed transaction or otherwise; and (ii) must seek its own independent financial advice.

Inquiries should be directed only to the Designated Procurement Representatives. Under no circumstances should the Company or any of its employees, customers, lenders, or vendors be contacted directly. If you have any questions or need additional information, please contact the Designated Procurement Representatives.

Organizational Chart | Senior Leadership Team



Best-in-Class management team with extensive utility experience

Note:
1. Additional organizational detail may be found in Appendix 2 - Organizational Detail

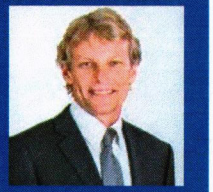
Today's Presenters

Presenter / Title	Experience
Aaron Zahn Managing Director and Chief Executive Officer	• Mr. Zahn oversees all operations for one of the largest public utilities in the nation, providing electric, water and wastewater services to customers across a 900-mile service territory in Northeast Florida. Under his leadership, JEA has, among other achievements, reached best ever JD Power customer satisfaction and service reliability scores, expanded demand side customer programs, initiated an integrated water resource and 'One Water' plan, expanded its solar portfolio by 250MW, paid off ~$700MM in debt and initiated restructuring of executive leadership, operations and financial strategy to address market changes in core electric and water businesses • Previously, Mr. Zahn was the Chairman & CEO of BCR Environmental Corporation, a private equity backed water & wastewater public-private-partnership company, that he led from startup to $200MM in contracted backlog • Prior to BCR, Mr. Zahn worked as a portfolio manager for two multi-strategy hedge funds overseeing $2Bn of private credit, structured product, and equity investments • Throughout his career, Mr. Zahn has acted as principle to $25Bn+ of mergers, acquisitions and financings, $6Bn+ in structured product private placements, and $200MM+ in commercial real estate development • Mr. Zahn is on the Board of Directors for the Jacksonville Chamber & YPO and has previously served on boards in the telecommunications and higher education sectors • Mr. Zahn is a graduate of Yale University
Melissa Dykes President and Chief Operating Officer	• Ms. Dykes leads the operation of the utility, responsible for providing reliable, affordable and safe utility services to more than one million people across four counties • Ms. Dykes served as JEA's Chief Financial Officer for nearly six years prior to her current role • Previously, Ms. Dykes served as CFO of a portfolio company of a large energy private equity firm and as a principal in a renewable energy development company • Ms. Dykes also served as Vice President in Investment Banking at JPMorgan, where she was responsible for providing capital solutions for clients, including more than $26Bn in financings for municipal electric and water systems • Ms. Dykes is a graduate of the University of Florida and holds a certificate in Advanced Management from the Tuck School of Business at Dartmouth
Ryan F. Wannemacher Chief Financial Officer	• Mr. Wannemacher 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 • Mr. Wannemacher is responsible for all aspects of JEA's finances, including treasury, financial reporting, financial planning, budgeting and analysis, insurance risk management, as well as corporate strategy • Prior to being CFO, Mr. Wannemacher served as JEA's Director in Financial Planning and Analysis • Mr. Wannemacher previously served as Vice President in Investment Banking at JPMorgan, responsible for providing capital solutions for clients, including over $20Bn in financings for many municipal electric, water and natural gas systems • Mr. Wannemacher holds a B.B.A. in Financial Consulting from Southern Methodist University

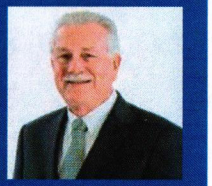
Today's Presenters (cont'd)

Presenter / Title	Experience
Herschel Vinyard Chief Administrative Officer	• Mr. Vinyard oversees corporate compliance, legal, environmental and government affairs, in addition to serving as a strategic advisor to JEA's senior leadership team • Prior to joining JEA, Mr. Vinyard served as Of Counsel for Foley & Lardner LLP in both its Government Solutions and Environmental Regulation Practices • Mr. Vinyard previously served as Secretary of the Florida Department of Environmental Protection under Governor Rick Scott from 2011-2014, where he was involved in all aspects of state-level environmental policy and regulation • Mr. Vinyard received his law degree and bachelor's degree from Louisiana State University
Lynne Rhode Vice President & Chief Legal Officer	• Ms. Rhode practiced transactional, regulatory and corporate law with Jacksonville-based law firm Driver, McAfee, Hawthorne & Diebenow and environmental law with law firms Troutman Sanders LLP and Williams Mullen • Ms. Rhode served as Senior Assistant Attorney General and Section Chief of Environmental and Natural Resources Division of the Virginia Attorney General's Office • Ms. Rhode holds a Bachelor of Arts in Economics from the University of North Carolina at Chapel Hill; 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
Kerri Stewart Vice President & 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 • 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 and served as a policy advisor to Mayor John Peyton • Ms. Stewart graduated from the University of North Florida's Coggin School of Business with a bachelor's degree in Business Administration, double-majoring in Marketing and Management. She also holds a certificate in Business Analytics from Harvard University

Today's Presenters (cont'd)

Presenter / Title	Experience
Caren Anders Vice President / General Manager, Energy	• Ms. Anders has lead responsibility for producing and delivering energy to JEA's electric customers • Ms. Anders is responsible for leading the planning, constructing, operating and maintaining of JEA's electric system, including generation plants and transmission, substation and distribution systems • At both Duke and Exelon Corp., Ms. Anders led high-performing teams across the energy spectrum, including Generation, Transmission, Distribution, Emerging Technologies and Shared Services • Ms. Anders 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 / General Manager, Water / Wastewater Systems	• Mr. Calhoun is responsible for leading the planning, constructing, operating and maintaining of JEA's water & wastewater system; delivering exceptional service to JEA customers across a four-county area • Mr. Calhoun began his career in water and 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 holds a BS in Environmental Engineering from the University of Florida and is a registered Professional Engineer in the State of Florida
John McCarthy Vice President & Chief Supply Chain Officer	• Mr. McCarthy is responsible for leading JEA's logistics operations and support services groups. His responsibilities include JEA's facilities, fleet, procurement, inventory management, investment recovery, emergency management planning and recovery and utility locates groups • Mr. McCarthy joined JEA in 2002 after a successful 20-year career as a U.S. Navy Supply Officer • During his 18 years at JEA, Mr. McCarthy served in various leadership roles within the logistics groups, including an initial assignment as a Procurement Project Coordinator where he developed an aggregated sourcing model adopted by seven different utility companies • Mr. McCarthy received his B.S. degree from the U.S. Naval Academy and an M.B.A. degree from The Ohio State University

Today's Presenters (cont'd)

Presenter / Title	Experience
Shawn Eads Chief Information Officer	• Mr. Eads oversees JEA's enterprise-wide information systems and infrastructure, ensuring they meet current and upcoming organizational goals while also positioning JEA as a digital innovator • Prior to joining JEA, Mr. Eads worked at GE Appliances, where he served as Senior Director of IT Programs and Business Development • While at GE Appliances, Mr. Eads built a team responsible for cloud and user interfaces in home energy management and Wi-Fi-connected appliances • Mr. Eads earned a bachelor's degree in chemical engineering from Rose-Hulman Institute of Technology in Indiana and an MBA from Xavier University
 **Ted Hobson** Vice President & Chief Compliance Officer	• Mr. Hobson is responsible for development, implementation and maintenance of JEA's Compliance Programs including NERC Electrical Standards, NERC Critical Infrastructure Protection standards, FACTA regulations and other related federal and state regulations. Mr. Hobson is also responsible for JEA's Physical Security department, as well as Audit Services and Enterprise Risk Management • Mr. Hobson's previous position was Director of Energy Delivery, where he was responsible for all electric field activities. Those activities included overhead and underground line work, system protection and controls, substation maintenance and the 24-hour operation of the JEA power system • Mr. Hobson holds a BSEE from the University of Florida and is a registered Professional Engineer in the State of Florida
Jon Kendrick Vice President & Chief Human Resources Officer	• Mr. Kendrick is responsible for leading JEA's Human Resources groups, which include Recruiting, Compensation, Benefits, Payroll, Labor Relations, Leadership & Development, Safety and Health, Organizational Excellence and HR Business Partners • Mr. Kendrick has more than 25 years of human resources experience that spans the healthcare, financial services, transportation and technology industries; including a previous tenure at JEA • Mr. Kendrick most recently served as Human Resources Director for Yusen Logistics (Americas) Inc. in Jacksonville • Mr. Kendrick holds a Bachelor of Arts in Economics from the University of Florida and a Master of Divinity from the New Orleans Baptist Theological Seminary

Today's Presenters (cont'd)

Presenter / Title	Experience
Paul Steinbrecher Vice President & Chief Environmental Services Officer	• Mr. Steinbrecher is responsible for leading JEA's Environmental Services group ensuring the highest levels of environmental compliance and sustainability • Prior to joining JEA, Mr. Steinbrecher was a process engineer, project and client manager with CH2M Hill focused on advancing cost-effective environmental and engineering solutions for utilities, business and industry and governments • Mr. Steinbrecher serves as President of the Florida Water Environment Association Utility Council and as a national board member of the WateReuse Association • Mr. Steinbrecher holds BS and MS degrees in Civil Engineering from Valparaiso University and the University of Arkansas, respectively
Steve McInall Vice President & Chief 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 $1Bn capital program • Previously, Mr. McInall served as the Director of the Electric Production Resource Planning Department • 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 • Mr. McInall holds Bachelor's and Master's degrees in Nuclear Engineering from the Massachusetts Institute of Technology and a Master of Public Policy degree from Jacksonville University

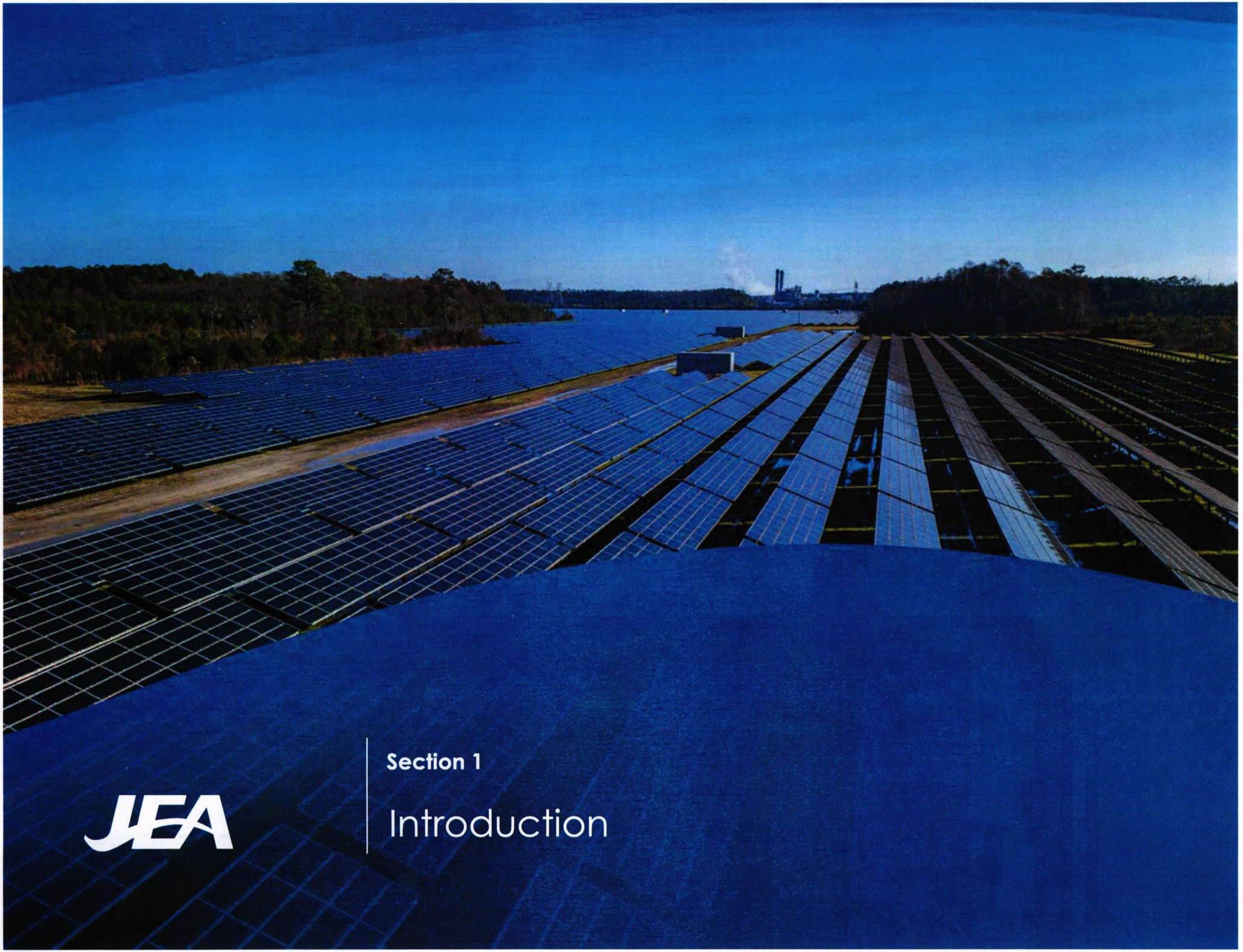
Rules of the Road

- Through the remainder of the negotiation phase, JEA anticipates that it will follow the process described in Sections 3.3.4-3.3.10 of the ITN. In doing so, JEA anticipates that the Negotiation Team will continue to conduct oral negotiation sessions and written negotiations, as needed, with Respondents with whom it wishes to continue negotiating, culminating in a request for Best and Final Offer(s) from the Respondent(s) the Negotiation Team feels are likely to offer the best value to JEA based on the Selection Criteria set forth in the ITN. These Best and Final Offer(s) will be reviewed and analyzed by the Negotiation Team, following which the Negotiation Team will make a recommendation identifying the award it assesses as offering the best value to JEA based upon the Selection Criteria

- During this time, unless expressly instructed otherwise by the Designated Procurement Representatives, any communications between Respondents and JEA or its representatives outside of recorded negotiation sessions must be directed to the Designated Procurement Representatives as explained in Section 2.11 of the ITN (as revised by Addendum #2). Questions from Respondents may appropriately be posed to the Negotiation Team at future negotiation sessions. In responding to such questions, as provided in Section 3.3.2 of the ITN, the Negotiation Team will have access to Subject Matter Experts who are available to assist the Negotiation Team as needed

Today's Agenda

1 **Introduction**	*Aaron Zahn, Managing Director and Chief Executive Officer*
2 **Key Investment Highlights**	*Melissa Dykes, President and Chief Operating Officer*
3 **Electric System Overview**	*Caren Anders, Vice President / General Manager, Energy* *Steve McInall, Vice President & Chief of Energy and Water Planning*
4 **Water and Wastewater System Overview**	*Deryle Calhoun, Vice President / General Manager, Water / Wastewater* *Paul Steinbrecher, Vice President & Chief Environmental Services Officer*
5 **Financial Overview**	*Ryan F. Wannemacher, Chief Financial Officer*
6 **Customer Engagement**	*Kerri Stewart, Vice President & Chief Customer Officer*
7 **IT and Compliance**	*Shawn Eads, Chief Information Officer* *Ted Hobson, Vice President & Chief Compliance Officer*
8 **Supply Chain Management**	*John McCarthy, Vice President & Chief Supply Chain Officer*
9 **People / Culture**	*Jon Kendrick, Vice President & Chief Human Resources Officer*
10 **Additional Growth Opportunities**	*Aaron Zahn, Managing Director and Chief Executive Officer* *Ryan F. Wannemacher, Chief Financial Officer* *Melissa Dykes, President and Chief Operating Officer*



Section 1

Introduction

Unique, Best-in-Class Utility, with Significant Growth Opportunities

JEA is a unique opportunity of scale as one of the largest multi-use, government-owned utilities in the U.S. and the largest in the state of Florida

Electric System

- Consists of net capital assets of ~$2.7Bn
- 900 square miles of service area
- 7,061 miles of distribution wires
- 744 circuit miles of transmission wires
- Five generation facilities [1]
- 13 solar offtake agreements representing 289 MW (39 MW operating)
- One landfill gas offtake agreement (15 MW)

Water and Wastewater System

- Consists of net capital assets of ~$2.7Bn
- Four county service territory
- 100% groundwater supply
- 11,031 miles of pipe
- 38 active water treatment plants
- 11 wastewater treatment facilities
- 10 reclaimed water production facilities

Other Businesses

<u>District Energy (The "District Energy System")</u>

- 4 chilled water plants
- Total capacity of 20,700 tons

<u>Communications</u>

- 675-mile fiber optic network / 40 macro sites / 200,000+ poles

<u>St. Johns River Power Park ("SJRPP")</u>

- 1,600 acre site in NE Jacksonville
- Direct rail and port access

JEA is exploring strategic alternatives to maximize customer, community, environmental and financial value

Note:
1. 4 generation facilities owned & operated by JEA; partial ownership in Plant Scherer Unit 4

Constraints That Inhibit Evolution of JEA's Business

What other companies do when faced with a cash gap:

Opportunity	Can JEA do this?
Sell more kWh or kGals to existing customers	✗
Cut costs and workforce	✓
Increase prices on kWh or kGals for customers	✓
Invest in R&D and IP for an ROI	✗
Sell alternative new product lines or offerings	✗
Sell equity and retire debt	✗
Acquire new businesses & customers	✗
Reduce investment in capex	✓
Reduce dividend / city contribution	✗
Sell assets	✗
Create partnerships/JV's	✗

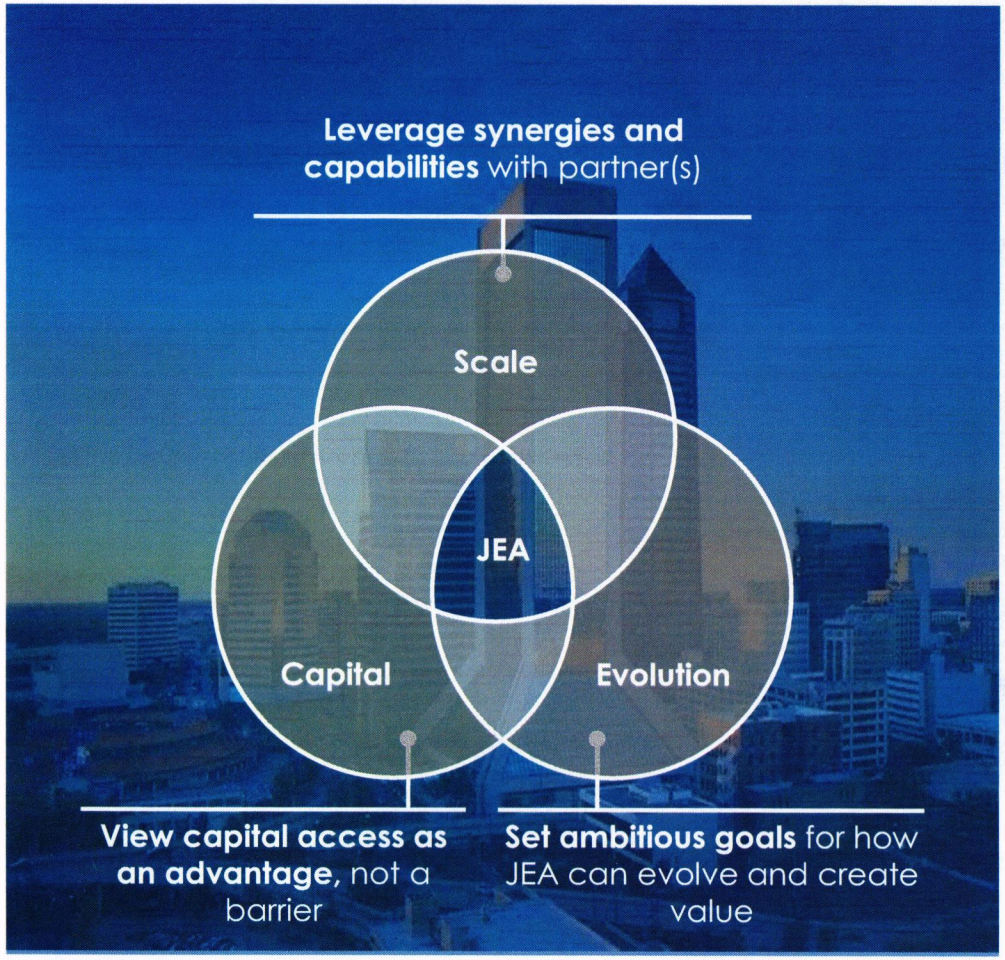
JEA is subject to several constraints due to:

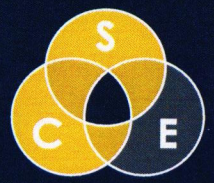
- Constitution of the State of Florida
- Florida Public Service Commission
- City of Jacksonville Charter
- Florida Statutes
- Bond Resolutions
- Policy Considerations
- Business Structure as defined by Charter

Collectively, these constraints limit JEA from diversifying and implementing creative profit generation initiatives and cripples JEA's ability to evolve and remain relevant to address customer and community needs, as well as market and industry trends

Critical Factors to Future Success Across Energy and Water

Three core enabling factors unlock value … **in three types of previously constrained opportunities in energy and water**





Capital-enabled regulated opportunities

Unregulated opportunities

Market expansion

The Strategic Planning Process Developed Four Types of Initiatives

...in four types of initiatives

1. Operational improvements
2. Strategic capital investments
3. Core growth opportunities
4. Additional growth opportunities

The 2030 Strategy Sets New Aspirations Across Each Measure of Value that Go Well Beyond JEA's Current Capabilities

Measure of Value	2030 Aspirations
Environment	▪ Become a **regional leader in renewable generation** ▪ **Maintain operational excellence in water and wastewater**, modernizing the system to maintain top quartile performance across the US
Community	▪ **Invest in the next generation of public infrastructure services** – mobility, resiliency, communications and energy ▪ **Make JEA a best in class place to work**, fostering innovation, collaboration and **career development opportunities for JEA employees**
Customer	▪ **Maintain customer affordability, keeping bill increases below inflation** ▪ **Transform the customer experience** by applying data, analytics and digital technology to customer-facing channels
Financial	▪ **Grow earnings 5-7% year-over-year** ▪ **Diversify** JEA's revenue sources **beyond traditional water and electric sales** ▪ **Continue to deliver financial value to the City of Jacksonville**

The "Balanced" JEA of 2030 – A Scorecard

	JEA in 2030 (Under Current Government Ownership)	JEA in 2030 (2030 Strategy)
Electric Earnings in 2030	~($11MM)	~$232MM [1]
Water Earnings in 2030	~$136MM	~$173MM [1]
Total Earnings in 2030	~$125MM	~$405MM [1]
Electric capital invested	$2.5Bn	$4.4Bn [2]
Water capital invested	$2.2Bn	$3.0Bn [2]
Total capital invested	$4.7Bn	$7.4Bn [2]
Earnings split *ELECTRIC/WATER*	-9% / 109%	57% / 43%
MW of new utility-scale renewable generation [3]	0 MW	~815 MW
Alternative Water Opportunities	None	15 MGD

Notes:
1. Assumes perfect rate-making with a 52.5% equity layer and a 10.6% ROE on the electric system and a 10.0% ROE on the Water System does not conform to the rate stability case in the Respondent Financial Model
2. Total capital invested based on Financial Model from 2020–2030
3. Excludes PPAs currently in place

Process Goals Represent Recognition that Substantial Shift Requires Dramatic Results

	Minimum Requirements
Financial	1. **>$3Bn** of value to the City of Jacksonville
Customers	1. **>$400MM of value distributed to customers** (rebate of $300 for each water customer accountholder, $500 for each electric customer accountholder, $180 for each wastewater customer accountholder and $100 for each reusable water customer accountholder) 2. At least three years of contractually guaranteed base rate stability for customers
Environmental	1. Commitment to develop and provide the City of Jacksonville and the Duval County Public School system with **100% renewable** electricity by the year 2030[2] 2. Commitment to develop and provide **40 million gallons per day** ("MGD") of alternative water capacity for Northeast Florida by the year 2035[2]
Community Impact	1. Protection of certain employee retirement benefits[3] [4] 2. Maintenance of substantially comparable employee compensation and benefits for **three years** 3. Retention payments to all full-time employees of **100% current base compensation**[3] 4. Commitment to new headquarters and employees in downtown Jacksonville, contributing to the economic development of the community[5]

The overall purpose of this undertaking is to give JEA the strategic flexibility to adapt to a once-in-a-generation, industry-wide transformation and help it achieve its vision to improve lives in the Northeast Florida community

Notes:
1. NPV of JEA's expected contribution to the City of Jacksonville over the next 20 years
2. 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
3. Certain employee-related minimum requirements are subject to collective bargaining, as applicable
4. The Jacksonville City Council approved legislation on September 24th satisfying this requirement
5. JEA's new headquarters is currently under initial stages of development in downtown Jacksonville. The process goal is commitment to the current downtown headquarters project

Section 2

Key Investment Highlights

Business Highlights

1 Unique Opportunity of Scale	• Largest government-owned utility in Florida • Eighth-largest government-owned utility in the U.S. • Top 10 water and wastewater utility in the U.S.
2 High-Quality Operations	• Top-quartile utility in customer satisfaction, as rated by JD Power • Industry leading operational metrics
3 Significant Asset Base with Attractive Investment Dynamics	• ~$1.2Bn of capital invested in the utility over the past three years; $614MM in the electric system ("Electric System") and $598MM in the water system ("Water and Wastewater Systems") • Net capital plant of ~$5.5Bn: ~$2.7Bn at the Electric System and ~$2.7Bn at the Water and Wastewater Systems • ~$2.9Bn capital expenditure program planned over the next five years
4 Stable, Low-Risk Regulatory Environment	• Mature core utility business with low operating risk • Utility business historically characterized by the need for significant investment and limited exposure to economic cycles • Constructive utility regulatory environment
5 Large, Growing Jacksonville MSA	• Seventh-largest population gain in 2018 amongst U.S. cities • Labor market thriving with unemployment rate of 3.0%, below both Florida and national unemployment rates • No state or city personal income tax
6 Supportable Execution Plan to Become A Leading Platform	**1 Operational improvements** • Redesign JEA's operating practices to achieve top-quartile performance as measured against JEA's peer set **2 Strategic capital investments** • Make incremental investments in traditional utility infrastructure to deliver new outcomes and benefits to our customers (e.g., climate resiliency, grid flexibility and customer choice, clean and sustainable, etc.) **3 Core growth opportunities** • Invest in new growth businesses core to the utility model: transport electrification, energy efficiency, distributed generation **4 Additional growth opportunities** • Identified additional growth initiatives that position JEA as a growth platform, that are not included in the model

Guidelines to Building a 'New' Strategy for JEA

Work JEA has undertaken to date to build the Strategy

Transition

- Develop guiding principles and strategic framework, corporate dashboard and financial tools to support strategy assessment

Establish baseline

- Assess current "business as usual" financial projection

Strategy development

- Design strategies to meet future targets and challenges
  - "Traditional" response (within existing charter)
  - 2030 Strategy, "Non-traditional" unconstrained strategy

Core guidelines of the Strategy

Build from the baseline

- Assess the strategy relative to the baseline as outlined in the May Board package

Apply a non-governmental lens

- Assume a regulated rate base and corresponding revenue requirement

Take an unconstrained view

- Assume JEA can alleviate the constraints associated with JEA's existing charter

Contemplate strategic partners

- Assume JEA can access the capital and capabilities required to execute the strategy through partnerships

As part of its 2030 Strategy, JEA will implement the initiatives that JEA's Senior Leadership Team ("SLT") incorporated into their 2030 Strategy base case projections (the "2030 Strategy" or "Management Case")

Supportable Execution Plan to Become A Leading Platform

Overview

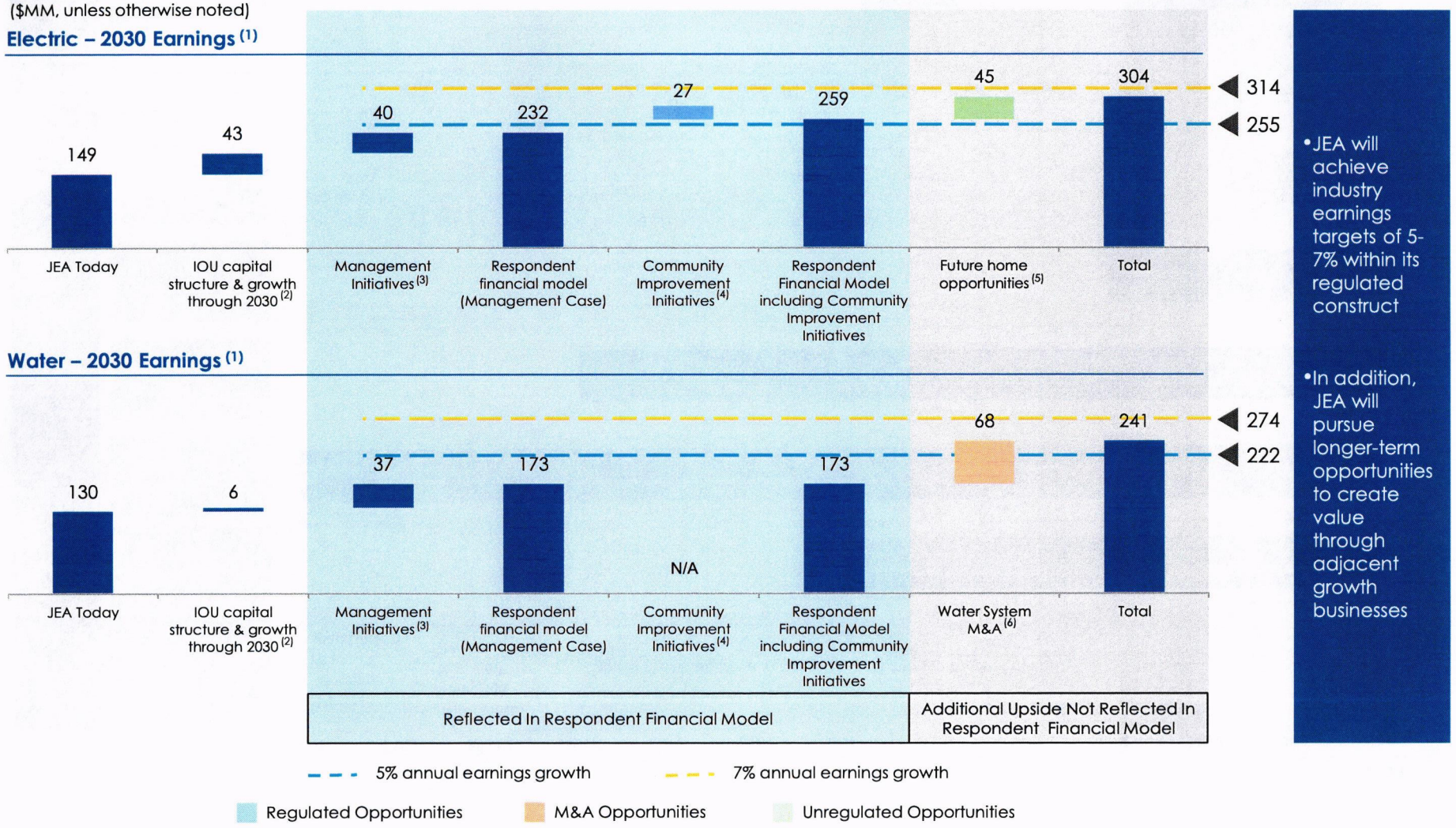
- JEA, as a core infrastructure service provider, can expand on its current position and harness new revenue growth
- JEA will achieve these aspirations through execution of the Management Initiatives – 1 operational improvements, 2 strategic capital investments, 3 core growth opportunities along with 4 additional growth opportunities outside the scope of the Respondent Financial Model

Management Initiatives	1 Operational Improvements	2 Strategic Capital Investments	3 Core Growth Opportunities	4 Additional Growth Opportunities
	Increase the efficiency and productivity of JEA's operations and O&M and capex spend to create investment headroom to reinvest, to support customer affordability, and to improve service quality and performance outcomes	**Make incremental capital investments in JEA's core, existing utility businesses** that expand the capabilities of JEA's infrastructure to serve customers while growing earnings and the regulated asset base	**Invest in new growth businesses** – both within the regulated utility and beyond it – that grow JEA's earnings through delivery of new services and solutions to JEA stakeholders	• Water and Wastewater System expansion • Growth of the District Energy System • Further dark fiber utilization • Establishment of LNG, port, rail and/or data center facilities • Future home
	Reflected In Respondent Financial Model	**Partially reflected In Respondent Financial Model**		**Additional Upside Not Reflected In Respondent Financial Model**

Enablers	
	Digital Capture new data sources, automate workflows and digitalize processes to ensure JEA has access to the suite of capabilities it needs to execute
	Regulatory and policy strategy Develop regulations, policies and legislation to authorize or continue to enable JEA to execute

The 2030 Strategy Delivers the Earnings Needed to Meet JEA's Targets, with Upside Potential from Adjacent Growth Businesses

($MM, unless otherwise noted)

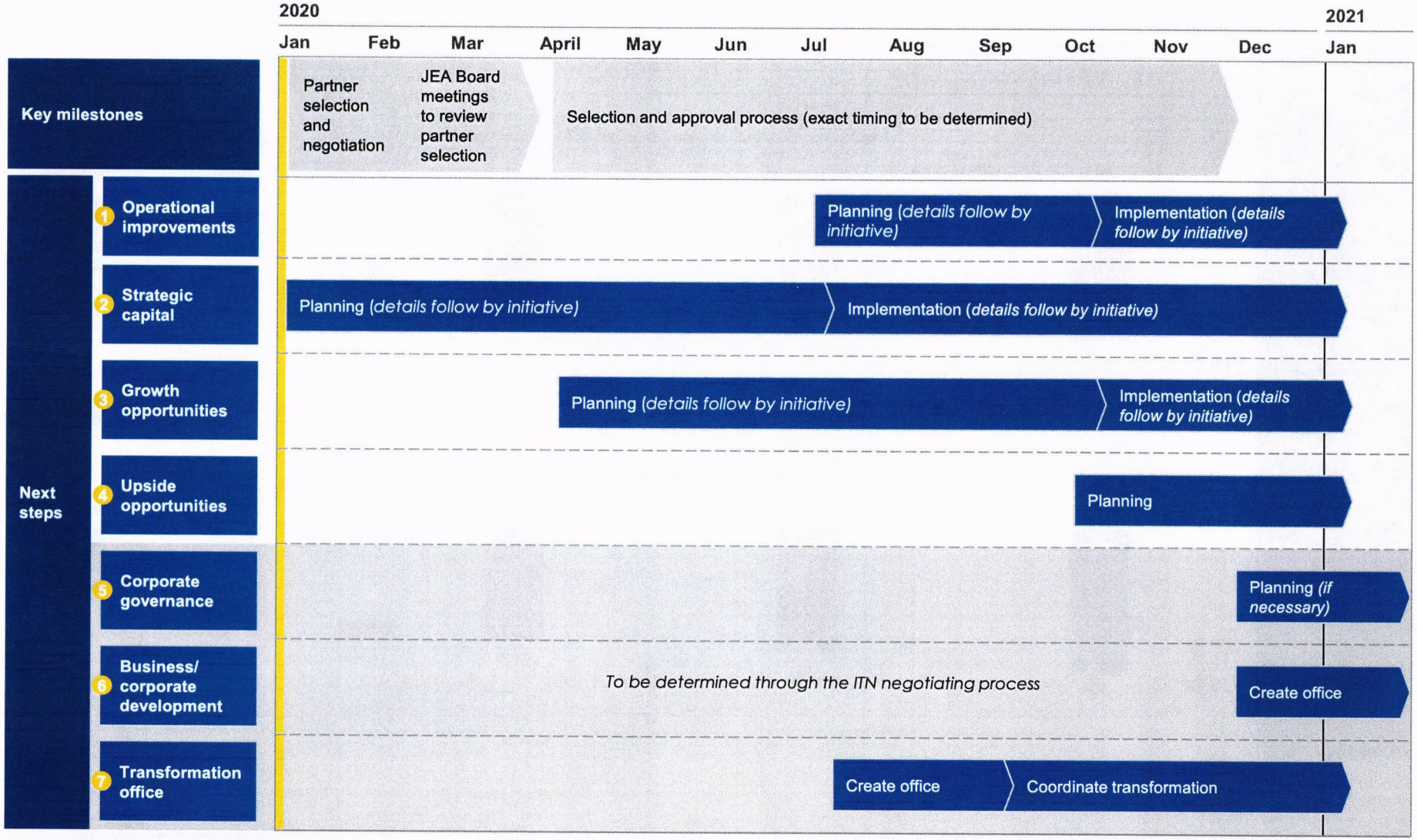


- JEA will achieve industry earnings targets of 5-7% within its regulated construct
- In addition, JEA will pursue longer-term opportunities to create value through adjacent growth businesses

Notes:

1. Assumes perfect rate-making with a 52.5% equity layer and a 10.6% ROE on the electric system and a 10.0% ROE on the Water System does not conform to the rate stability case in the Respondent Financial Model
2. Earnings impact of being an IOU as well as perfect rate making through 2030 assuming the capital schedule provided in the financial model Management Case
3. Earnings impact of Operational Improvements and certain Strategic Capital investments and Core Growth Opportunities as budgeted by JEA's SLT
4. Additional Strategic Capital Investments and Core Growth Opportunities not captured in the Management Case reflected in the financial model by running case 3 on the Control Tab cell I10
5. Estimate of potential earnings under a high case. Other additional growth opportunities (e.g., expansion of dark fiber leasing, SJRPP monetization, District Energy System expansions) not reflected here
6. Assumes upside case for acquisition of water utilities along I-10, I-4, I-75, and I-95 routes

Potential Timeline to Prepare JEA for Strategy Execution



Overview of Operational Improvements

JEA is launching a set of initiatives that cut across business functions to increase quality of service while reducing costs

Frontline operational improvements	• **Implement lean process improvements** to drive increased productivity that will be monetized through attrition, e.g.: – Eliminate wait times in core processes (e.g., crews have required materials to complete at job at the start of the shift) – Eliminate unnecessary work or processes (e.g., stop preventative maintenance and inspections that don't improve asset performance or health) – Streamline routing of crews and materials to lower transportation costs (e.g., redesign work planning and dispatch)
Digitalization and automation	• **Leverage digital tools to redesign our ways of working** (e.g., predictive maintenance algorithms, automated scheduling tools that prioritize and assign work to the right crews at the right time) • **Provide seamless, low-touch digital channels** to meet customer needs through mobile and web platforms • **Automate and streamline basic tasks,** including customer interactions, using process automation, self-service tools, and intelligent chatbots
Spend management	• **Optimize the demand for materials and 3rd party services** across the organization (e.g., frequency of replacements, revising required specs of materials and scope of services, deferring or cancelling unnecessary spend)
Optimization of fuels and energy consumption	• **Reduce heat rate** to minimize fuel consumption through performance tracking and targeted technical improvements • **Minimize consumption** of auxiliary load across JEA's facilities (e.g., turning off unnecessary equipment)
Strategic sourcing	• **Scrub the capital portfolio** against JEA's strategic priorities, eliminating or deprioritizing non-critical projects • **Optimize project delivery** (e.g., integrated design and project execution) to deliver the work at a lower cost • **Manage strategic sourcing events to maximize value to JEA,** leveraging the full suite of tools available – commercial negotiations (e.g., fact-based, value-focused negotiations with suppliers) and process improvements (e.g., developing and managing systems to claim warranties)

Overview of Strategic Capital

Electric Water Cross-cutting

System resiliency	Reduced impacts on utility services from extreme weather events through the deployment of new technologies and enhanced design standards
Grid flexibility	The ability to use a growing, diverse set of resources to dynamically shift demand (load) or supply (generation) across multiple timescales, depending on system needs
Advanced asset management[1]	Improved observability of infrastructure systems through the deployment of distributed, intelligent devices and advanced operational technology platforms
Septic tank phase-outs	Cleaner, safer, and more convenient wastewater services through system expansion and phase-out of septic tanks
Alternative water supply	Accelerated plans to expand reclaimed water infrastructure

- There are significant **investment opportunities incremental to JEA's baseline** (i.e., the 10-year capital forecast)
  - The capital associated with these investment opportunities are included in the Respondent Financial Model as separate, discrete line items
- The following pages show **both specific potential investments *and* a reasonable 10-year capital program for each category**
- Unlike the rest of JEA's capital plan, these figures do not reflect a bottom's-up, granular investment plan

Note:
1. Advanced asset management investments (e.g., data and analytics platforms) can support both electric and water businesses (e.g., predictive maintenance strategies, crew routing and dispatching). A greater share of the required capital identified to date is related to the electric business (e.g., transformer monitoring solutions, new WMS), so the capital associated with advanced asset management ($70M) has been fully allocated to the electric business in the Respondent Financial model as a simplifying assumption

JEA

Section 3

Electric System

Subsection A

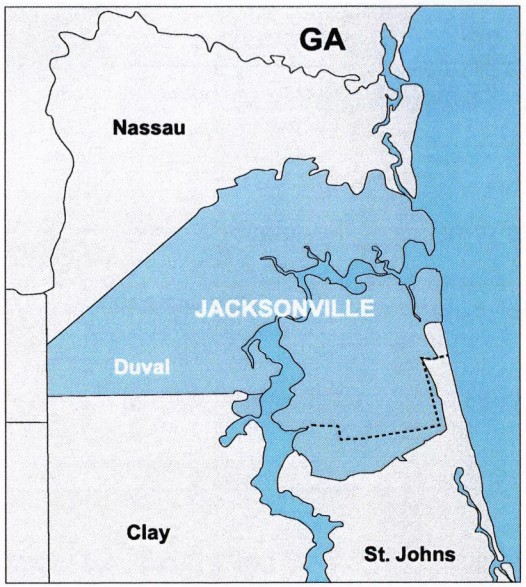
OVERVIEW

JEA Electric System

Overview

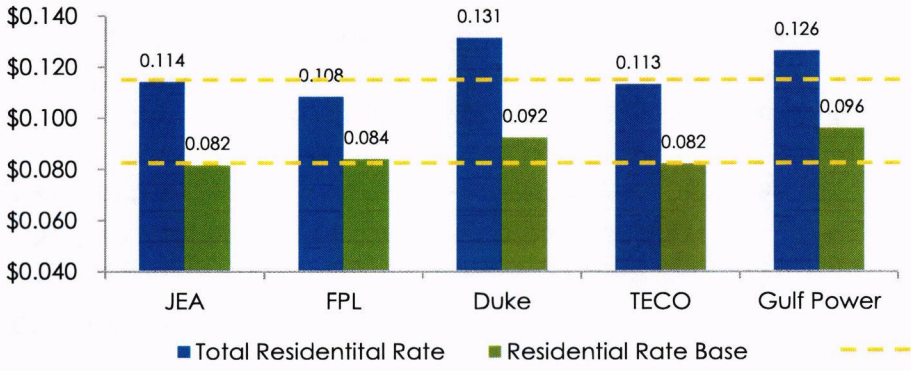
- JEA is the eighth largest municipally owned electric utility in the United States in terms of number of customers
- The JEA Electric System is an integrated energy provider engaged in electric power production and transmission and distribution operations
- JEA delivers approximately 12.5 billion kilowatt hours ("KWh") of electricity to 475,786 customers in Northeast Florida
- JEA's 900 square mile service territory encompasses virtually the entire City of Jacksonville as well as portions of St. Johns, Clay, Nassau, Baker and Duval Counties

JEA Service Territory



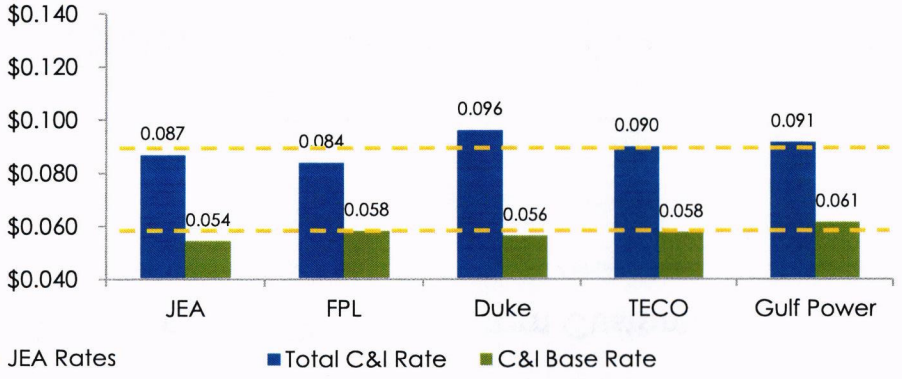
Current JEA Residential Rates (1)

(Revenue / kWh)



Current JEA Commercial & Industrial Rates (1)

(Revenue / kWh)



Note:
1. Estimated IOU rates to be included in Respondent Financial Model; total rates include Fuel & Purchased Power; denominator in all cases is Sales to Ultimate Customers

Source: FTI Florida Electric Utilities Rate Comparisons, 2019 Annual Disclosure Report

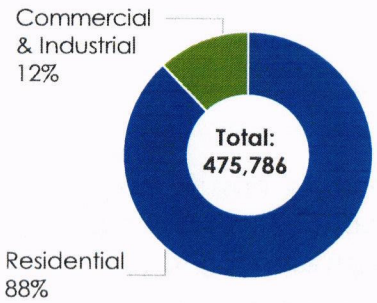
Electric System Customer Overview

Overview

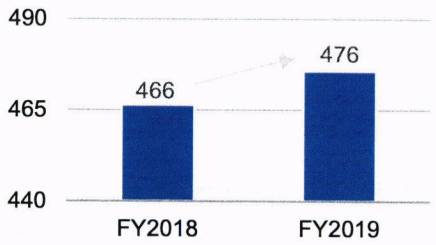
- Total revenues, including investment income, for the Electric System for FY2019 were approximately $1.275Bn
- 47% of the Electric System's revenues were contributed by commercial and industrial customers
- 49% of the Electric System's revenues were generated by its residential customers
  - These customers spend ~$1,500 on average annually for service

Customer Breakdown

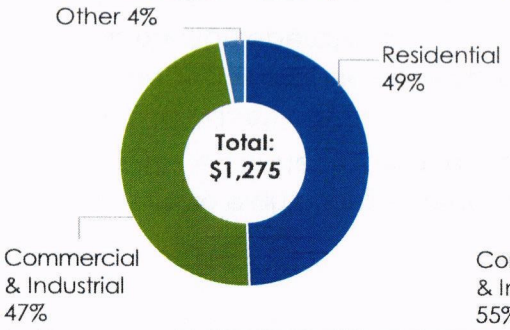
Average # of Accounts



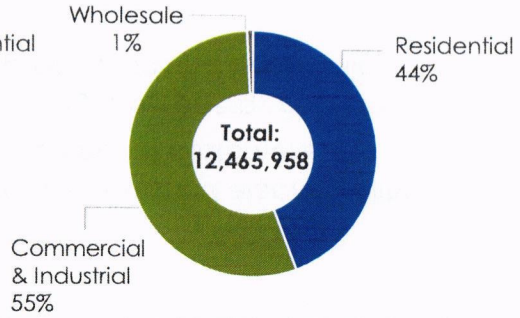
Average # of Customer Accounts (000's)



Revenues ($ in miilions)



System Sales (MWh)



FY2019 Top Ten Electric System Customers

Ten Largest Customer Accounts	Annual $ Billed	% of Revenues
U.S. Navy Public Works Center	24,139,244	1.9
City of Jacksonville	22,627,898	1.8
CMC Steel Florida	18,644,348	1.5
Duval Counting School District	14,725,557	1.2
WestRock CP LLC	13,367,030	1.1
Southern Baptist Hospital of Florida Inc.	8,518,750	0.7
Publix Supermarkets Inc.	7,967,480	0.6
Johnson & Johnson Vision Care Inc.	7,762,522	0.6
Mayo Clinic Jacksonville	7,561,055	0.6
Anheuser Busch, Inc.	7,253,348	0.6
Total	**132,567,233**	**10.7**

Growing Customer Base with Low Concentration

Source: 2019 Annual Disclosure Report, 2019 FY JEA Unaudited Financials

Generation Overview

Overview

- The generation fleet consists of four owned and operated power plants that use fossil fuels, primarily natural gas, with generating capacity of 2,935 Megawatts[1] ("MW"), a joint ownership interest in Plant Scherer Unit 4, which has a net generating capacity of 198 MW, and various power purchase agreements
  - JEA's four owned and operated plants include 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")
  - JEA's generation fleet resources are committed and dispatched on an economic basis as necessary to serve JEA's load
- JEA is dedicating capital to ensure the long-term availability of safe, reliable power while taking into consideration the age of its generation assets, prospective environmental regulations, energy efficiency and demand-side management and evolving customer preferences and expectations

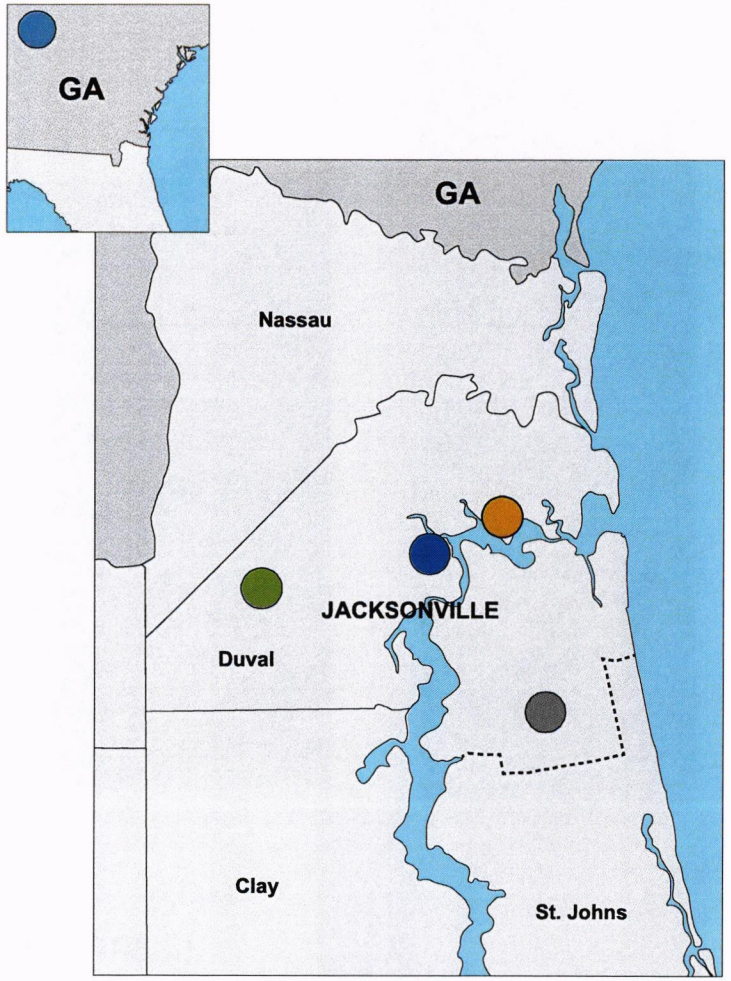
Generation Fleet

Facility	Primary Fuel Type	Capacity (MW) [1]	Year in Service
Gas Fuel:			
Brandy Branch	Natural Gas	815	2001-2005
Northside Unit 3	Natural Gas / Oil	524	1977
Kennedy	Natural Gas	382	2000-2009
GEC	Natural Gas	382	2011
Solid Fuel:			
Northside Units 1&2	Pet Coke	586	2003
Scherer Unit 4	Coal	198	1989
Peaking Reserve:			
Northside CTs	Diesel Fuel Oil	246	1975
Total		**3,133**	

Source: 2019 Annual Disclosure Report

Note:
1. Reflects Winter Net Capacity

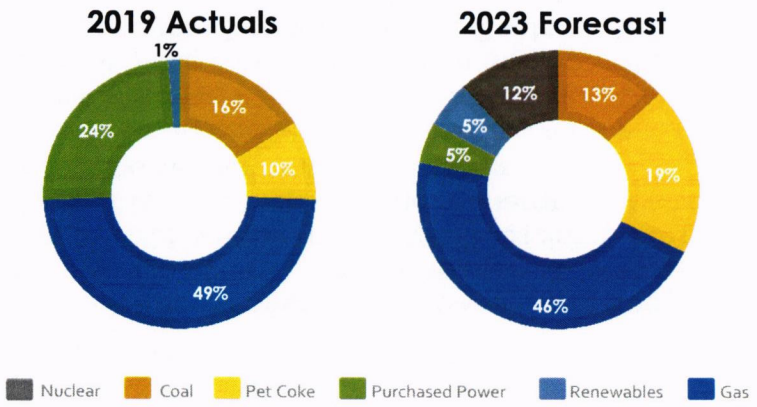
Generation Facility Locations



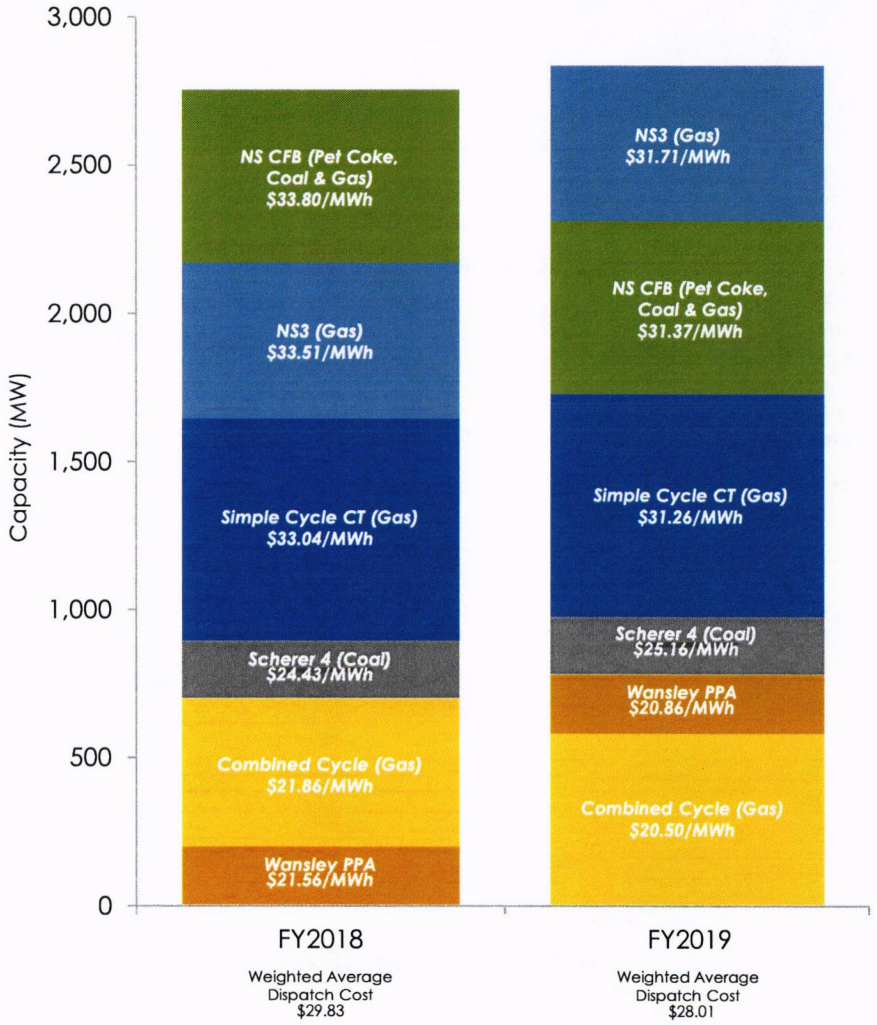
Generation Fuel Mix & Dispatch Stacks

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 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 uses circulating fluidized bed technology in Northside Units 1 and 2. This technology allows JEA to use a blend of petroleum coke, bituminous coal and natural gas in these units
- Scherer Unit 4 burns sub-bituminous coal from the Powder River Basin, providing further fuel diversification



Dispatch Stack (1)



Source: 2019 Annual Disclosure Report

Note:

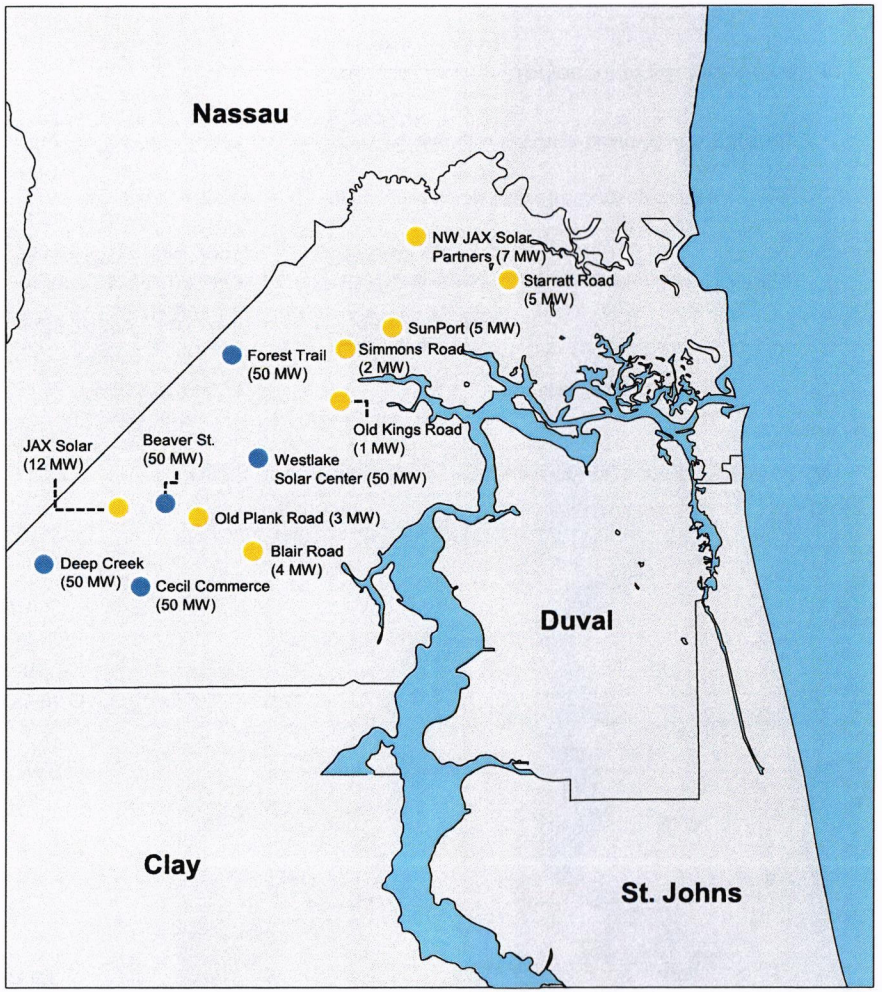
1. The average dispatch prices at maximum load for each unit from 10/1/2018 through 9/30/2019

Solar PPAs

Summary of Solar Power Purchase Agreements ("PPAs")

Project	MW	Counterparty	Start Date	End Date	Length (Years)
Operating					
JAX Solar	12	PSEG	Sep-10	Sep-40	30
NW JAX Solar Partners	7	American Electric Power	May-17	May-42	25
Old Plank Road	3	VeloSolar / COX	Oct-17	Oct-37	20
Starratt Road	5	C2 Energy Capital	Dec-17	Dec-37	20
Simmons Road	2	Inman Solar Holdings 2, LLC	Jan-18	Jan-38	20
Blair Road	4	Hecate Grid	Jan-18	Jan-38	20
Old Kings Road	1	Mirasol Farco Solar	Oct-18	Oct-38	20
SunPort	5	NationalSolar	Dec-19	Dec-39	20
Total Operating	**39**				
Planned					
Cecil Commerce Solar Center	50	EDF renewables	Feb-21	Feb-45	24
Forest Trail Solar Center	50	EDF renewables	May-21	May-46	25
Deep Creek Solar Center	50	EDF renewables	Aug-21	Aug-46	25
Westlake Solar Center	50	EDF renewables	Oct-21	Oct-46	25
Beaver St. Solar Center	50	EDF renewables	Jan-22	Jan-47	25
Total Planned	**250**				
Total Operating & Planned	**289**				

Source: JEA Ten Year Site Plan, April 2019

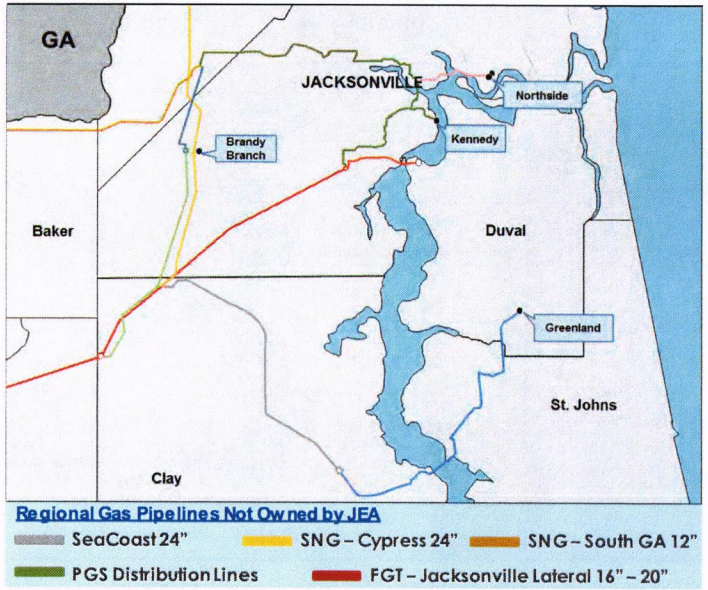


JEA retains buyout options on the Cecil, Forest Trail, Deep Creek, Westlake and Beaver St. facilities at 10 years, 20 year and 25 years, respectively

Gas Pipelines within Electric System

Overview

- Gas pipelines that supply JEA generation portfolio are under the jurisdiction of the Florida Public Service Commission ("FPSC")
- JEA and Peoples Gas ("PGS") jointly own pipelines that serve Northside and Brandy Branch. JEA assumes 100 percent of ownership of Brandy Branch-Baldwin Lateral in 2030, under agreement with PGS
- JEA owns the GEC lateral pipeline (the "Greenland Lateral") which is used to deliver gas to GEC. JEA has a firm intrastate gas transportation agreement with the Seacoast Pipeline for service to the Greenland Lateral
- JEA has commitments to purchase natural gas delivered to Jacksonville under a long-term take and pay contract for 61,000 MMBtu/day (~50% of JEA demand) with Shell Energy North America L.P. (Shell Energy) that expires in 2021. This contract has been extended for 60,000 MMBtu/day beginning 2021 through 2031
- JEA has long-term contracts with PGS, Florida Gas Transmission, Southern Natural Gas and SeaCoast Gas Transmission for firm gas transportation



Gas Pipelines

Pipeline Name	In-Service Date	Length (Miles)	Current Operating Pressure (psig)	JEA Delivery Pressure (psig)	Contractual Capacity %	Pipeline Description
Southside Line	6/1983	6.3	250	50	JEA 73.33% / 2,200 Mcfh PGS 26.67% / 800 Mcfh	PGS's Main Gate Station to JEA's Southside Generating Station
Northside Line	6/1990	6.9	300	60	JEA 70.5% / 6,100 Mcfh PGS 29.5% / 2,550 Mcfh	PGS's Main Street Pipeline to the JEA's Northside Generating Station
Greenland Energy Center Lateral	12/2010	26.6	860	770	JEA 100% / 6,100 Mcfh	Interconnection with SeaCoast pipeline
Baldwin / Brandy Branch Line	8/2006	7.5	600	475	JEA 50% / 4,058 Mcfh PGS 50% / 4,058 Mcfh	From PGS/SONAT Baldwin Gate to JEA's Brandy Branch site
Brandy Branch Lateral	10/2000	18.6	850	475	JEA 100% / 7,200 Mcfh	From mile marker 21adjacent to U.S. Highway 301 to Brandy Branch
SJRPP House Line [1]	2008	1.8	-	-	-	-

JEA is advantageously positioned near several major interstate gas pipelines compared with others in Florida

Note:
1. SJRPP House Line not depicted on map due to its size

Transmission & Distribution System

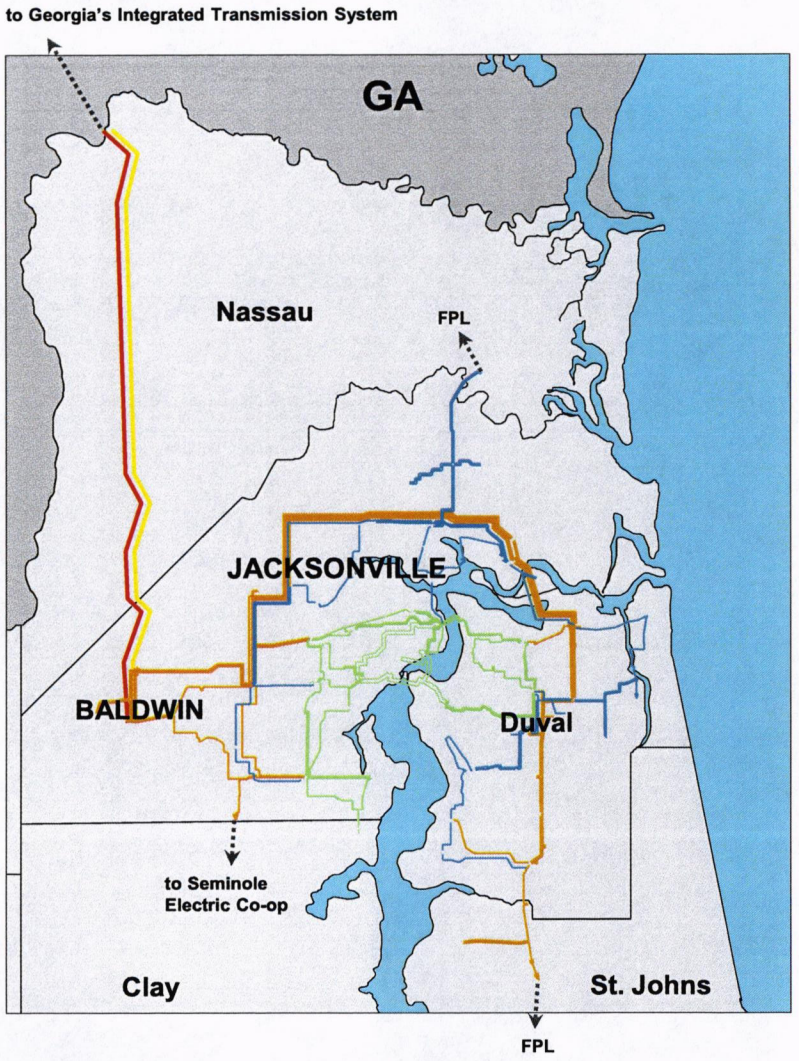
Transmission & Distribution System Overview

- The JEA's transmission system consists of 744 miles of all JEA-owned bulk power transmission facilities operating at 69 kV or higher
  - 691 are overhead miles and 53 are underground
  - JEA owns two 500 kV lines jointly with FPL that are connected between the FPL Duval Substation and the GPC system at the Florida state line
- There are currently 90 substations in the JEA Service Territory

Transmission Line	Overhead Miles	Underground Miles
500 kV	75	-
230 kV	299	4
138 kV	204	3
69 kV	113	46

- The distribution system covers approximately 7,028 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 constructed since 1968 are served by underground 26.4 kV distribution
- The transmission and distribution system is controlled by the system operators through a supervisory control and data acquisition system

Transmission System



JEA

Subsection B

Current Operations and Management

Transmission & Distribution System Metrics

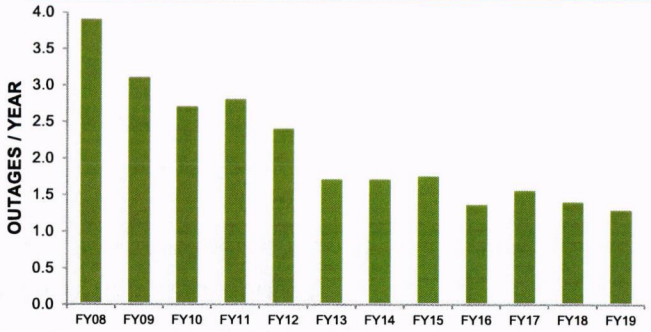
Electric Service Reliability
- Outage frequency and duration have been reduced significantly over the last 9 years

Transmission Line Reliability
- Overall downward trend over the last eight years
- FY19 (1.2) is better than target

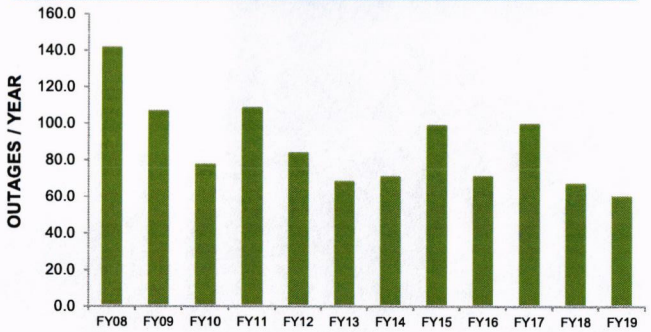
CEMI-5
- Significant improvement trend over past three years for CEMI5
- 407 (0.08%) of our customers have experienced more than 5 outages in the past 12 months, a record low for JEA

JEA continues to show favorable trends over time across all other operational metrics

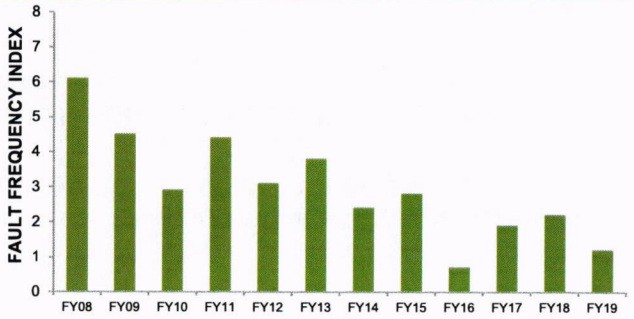
Electric Service Reliability: SAIFI



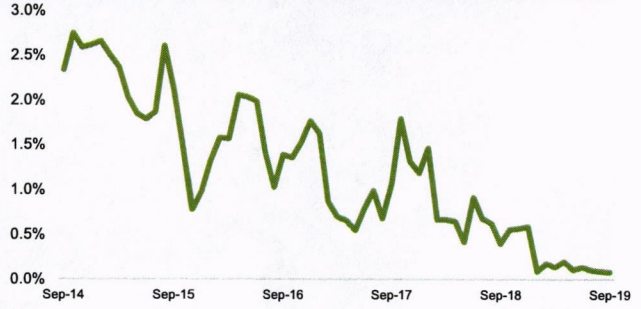
Electric Service Reliability: SAIDI



Transmission Line Reliability: TAFFI



CEMI-5



T&D Grid Performance	Metric	FY2017	FY2018	FY2019 Target	FY2019
Customer Outage Frequency	# of Outages per Year	1.6	1.4	1.6	**1.3**
Electric Outage Duration	# of Minutes out per Year	100	67	75	**60**
Transmission Line Faults	# of Faults per 100 miles	1.9	2.2	2.5	**1.2**
$CEMI_5$	% Customers > 5 outages per yr	1.07%	0.40%	0.80%	**0.08%**

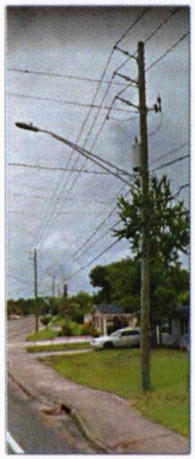
Transmission & Distribution System Improvements | Resiliency Programs

Background

- Historically, like most electric utilities, JEA built distribution lines to meet a minimum level for performance and safety
  - Adherence to the National Electric Safety Code (NESC)
  - Run to failure approach, with minimal focus on preventative/predictive maintenance
  - Little attention to power quality and reliability
- In the 1980s, JEA began to focus more on building and maintaining systems above the minimum threshold, seeking to improve power quality and reliability for customers
- In the 21st century as JEA transforms into the Utility 2.0 model, the old approach towards resiliency is not adequate anymore

JEA Took Action

- In 2007, JEA initiated an on-going resiliency program based on the traditional system hardening methods with an approximately $20MM annual budget
- Distribution System Inspection & Pole Replacement Programs
  - JEA inspects its entire distribution system on a rolling 8-year cycle
- Vegetation Management Program ($6.5MM annual budget)
  - JEA performs industry standard vegetation management on its 3,000 miles of overhead distribution a rolling 2 ½-year cycle
- CEMI-5 Program ($24MM invested over the last 5 years)
  - Targeting customers and neighborhoods experiencing more than five outages in excess of 1 minute over 12 months
  - Over 875 projects completed in the last 3 years, involving work at over 12,000 locations
- In 2017 JEA launched a new program reducing customer outage duration utilizing more advanced technologies ($30MM invested over four years)
  - Program includes the installation of 129 Automated Switches (AS), 54 Automated Reclosers (AR), 2,285 Trip Savers (TS), 3,000 Fault Current Indicators (FCI)



Transmission & Distribution System Improvements | Undergrounding Overhead Power Lines

Background

- JEA began installing underground distribution lines in the early 1970s – primarily for aesthetic reasons accompanied by strong community and developer interest
- City ordinance passed requiring underground electric for all new subdivision development projects
- In June 2019, Senate Bill 796 ("SB 796") went into effect in Florida, requiring each of the IOUs to file 10-year system hardening plans, mostly related to undergrounding wires, which will be recovered via a charge separate from base rates

Opportunity

- Estimated cost to convert all of JEA's 3,000+ miles of overhead distribution lines is $6.6Bn [1]
  - Currently ~57% of JEA's ~7,000 miles of distribution lines are underground, with ~43% remaining as overhead distribution lines
- Conversion to underground provides a rate/tariff option for customers interested in exercising the opportunity
- JEA and the City have a program in place today to support and enable underground conversion projects
- JEA has made significant investments in the past hardening and improving the reliability of the entire distribution system

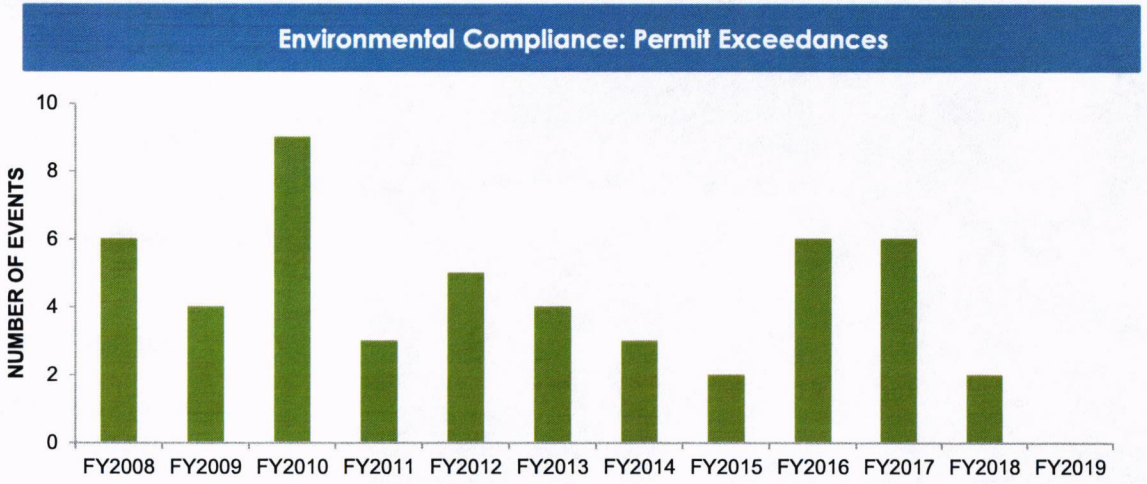
Undergrounding represents a significant incremental community improvement opportunity for capital to be deployed throughout JEA's Electric System

Note:
1. From FY 2020 – FY 2030, the Respondent financial model includes $470MM of total capital expenditure in the "Management Case" and "Scenario A", of which, $470MM corresponds to Management Case Initiatives

Generation Metrics

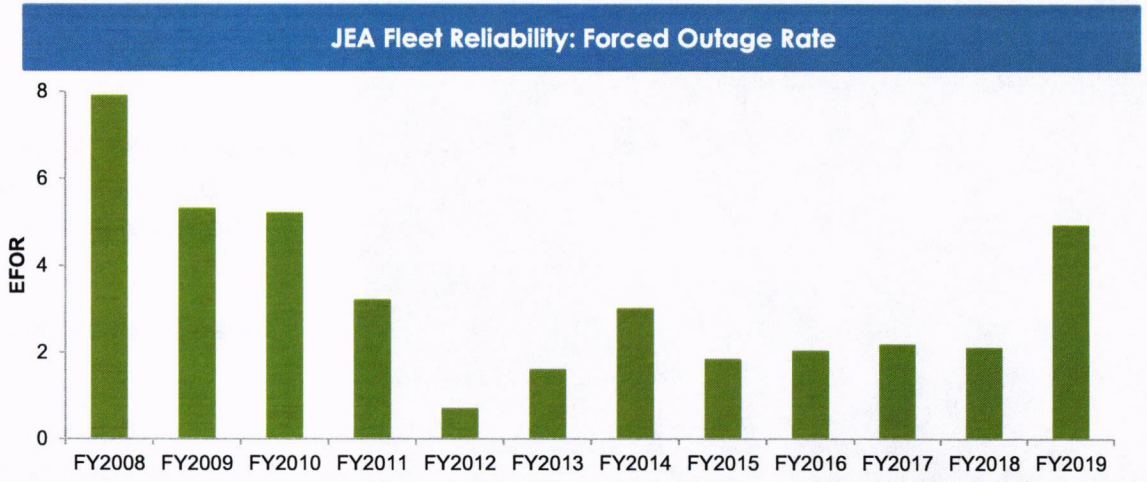
Environmental Compliance

- We experienced 0 permit exceedances during FY2019
- JEA remains actively engaged in preparing for all new and emerging environmental regulations



Generating Fleet Reliability

- The JEA Fleet Forced Outage Rate exceeded target through FY19 due to various issues including extended unit recovery on NS Unit 2 as a result in plugging
- NGS personnel conducted a systematic review of all control systems and operational equipment associated with the Circulating Fluidized Bed ("CFB") and air flow systems, resulting in the correction and reestablishment of proper Original Equipment Manufacture operational parameters
- Additional Preventive Maintenance work orders have been initiated to create a proactive and ongoing monitoring and corrective response process



Generation Performance	Metric	FY2017	FY2018	FY2019 Target	FY2019
Generation Fleet Reliability	Forced Outages Rate	2.2	2.1	2.0	4.9
Environmental Compliance	Permit Exceedances	6	2	4	0

Generation Improvement | The Decommissioning of St. Johns River Power Park ("SJRPP")

Benefits of Transaction

Benefit	Description
Provides Rate Stability for Customers	• Transaction provides significant annual cost savings beginning in 2020 • Allows JEA to maintain stable rates and continue early debt retirement
Appropriately Sizes the Generation Fleet	• Increases asset utilization • Maintains cost effective system resource mix
Reduces JEA's Impact on the Environment	• Reduces JEA's CO2 output by 30% by 2030 • Decreases nitrogen to the St. Johns River • Avoids future expense for compliance with environmental rules
Stimulates Economic Development	• Expands economic opportunities for industrial and manufacturing growth on 1,000 acres of property in and around the Port of Jacksonville
Proactively Addresses the Future of SJRPP	• Transaction provided a clear path for the termination of the SJRPP Joint Ownership Agreement and the retirement of the facility

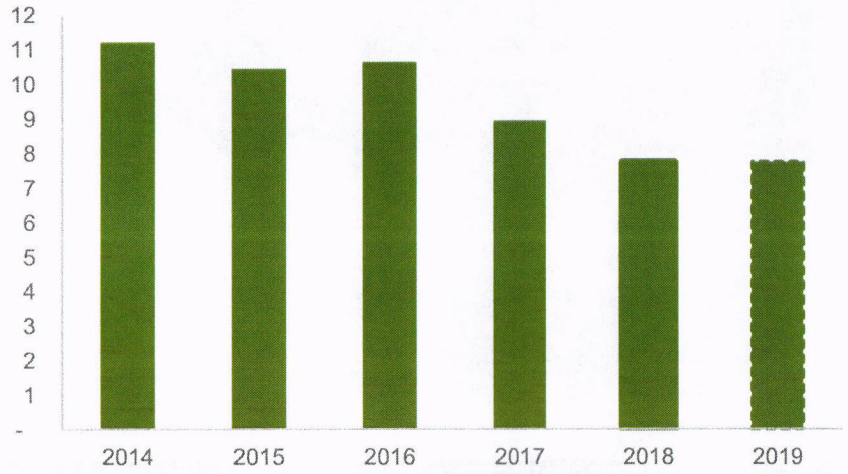
The total transaction NPV benefit to JEA is approximately $460MM

Trends

- CO2 emissions decrease of ~31% from 2014 to 2017 is primarily due to increased dispatch of natural gas units vs. solid fuel (coal/pet coke) units
- Additional CO2 emissions decrease of ~13% from 2017 to 2018 is primarily due to decommissioning of SJRPP
  - Reduces JEA's CO2 output by 30% by 2030
- Further reductions in CO2 emissions are expected in the future from 2019 to 2024 due to the following:
  - Recent combined cycle turbine upgrades at Brady Branch
  - Planned heat rate improvements at Northside
  - Planned solar additions between 2022 and 2023

CO2 Short Tons

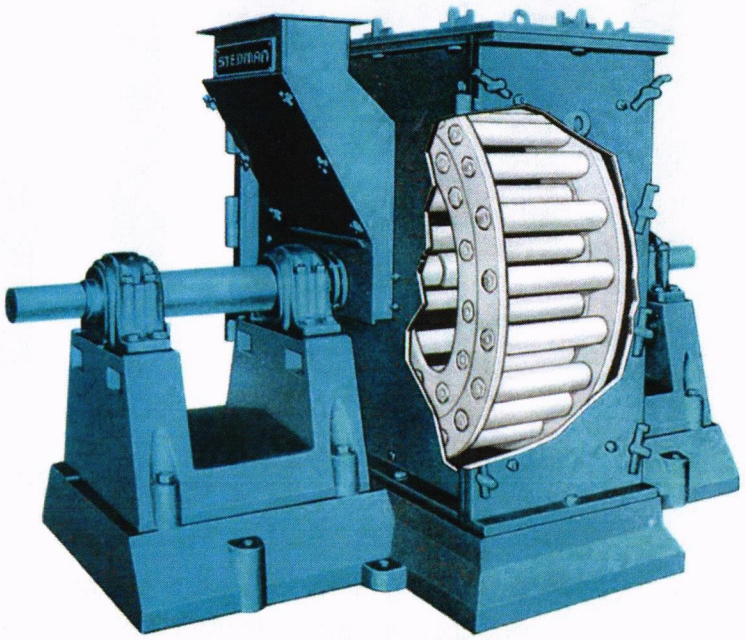
Millions



Generation System Improvements | Northside Generation Station

Northside Generation Station Limestone Utilization Improvement

- Limestone is used in the CFB Boilers to capture sulfur from the fuel and meet the emission limits
  - The size of the limestone particle is directly related to the amount of sulfur captured and the amount of ash generated
  - The results of independent testing show that the surface of the limestone particle which is calcium carbonate converts to Calcium Oxide when heated and reacts with the sulfur to create calcium sulfate
  - The smaller the limestone particle the more surface area is available for sulfur capture
  - The more surface area the less limestone by weight is required for a given fuel feed rate
- Project is being completed in two parts:
  - Part one installed one limestone dryer and three crushes under Unit 1, which was the was completed in FY19
  - Part two will install a second dryer in 2020 and a third dryer and three crushers in 2021 under Unit 2



	2019				2020				2021			
Task Name	Jan	April	July	Oct	Jan	April	July	Oct	Jan	April	July	Oct
Engineering												
Procurement												
Construction												
Closeout												

The estimated cost for part two of the project is ~$5.6MM and is captured in the Respondent financial model

Subsection C

Strategic Capital Improvements

Evolution of Generation Portfolio in the Next Decade

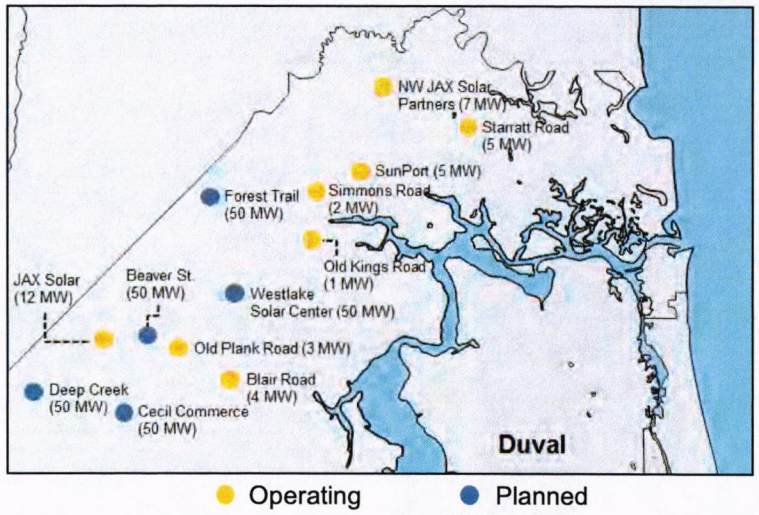
Conventional Generation Fleet

JEA is planning two significant retirements and replacements to maximize value to customers in the community:

- Beginning in 2025, JEA will replace the 524 MW Northside Unit 3 with a natural gas combined cycle facility
  - This replacement enables the smooth retirement of a vintage 1977 unit from JEA's fleet and replacement with a more efficient facility, improving JEA's environmental footprint

Renewable Fleet of Future

- Later In the decade, JEA expects solar + storage to offset the costs of operating Units 1 & 2, allowing JEA to replace 586 MW of coal generation with clean, reliable capacity and energy
  - Enhanced investment opportunity resulting in lower overall rates to customers and substantially improving JEA's environmental footprint is a unique win-win-win opportunity



Counterparties [1]: PSEG, American Electric Power, VeloSolar / COX, C2 Energy Capital, Hecate Grid, Mirabol Farco Solar, NationalSolar, EDF renewables, Inman Solar Holdings 2, LLC

Source: JEA Ten Year Site Plan, April 2019

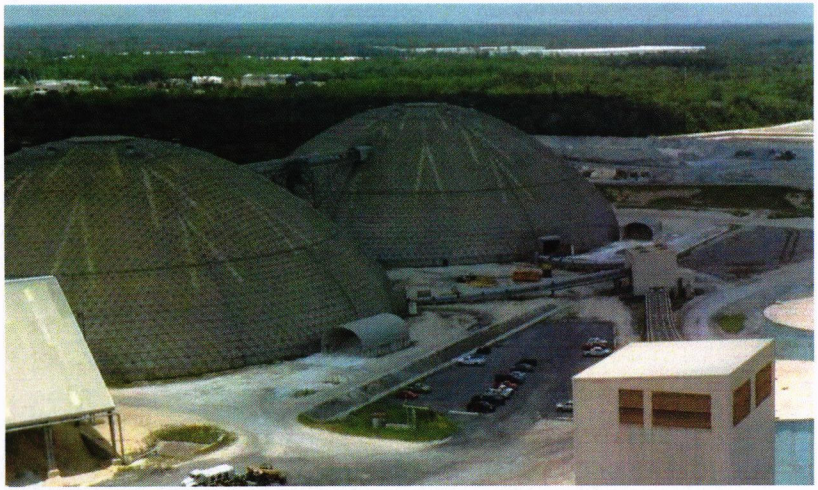
The Northside replacement initiatives and additions to JEA's portfolio of solar PPAs represent a material increase in renewable energy that has the ability to improve JEA's environmental footprint and lower overall customer rates

Note:
1. JEA has a PPA with each of these counterparties; these PPAs include buyout rights for JEA at varying dates as negotiated with the respective counterparties

Northside Generation Station | Base Case

NGS Repowering Project

2001-2002



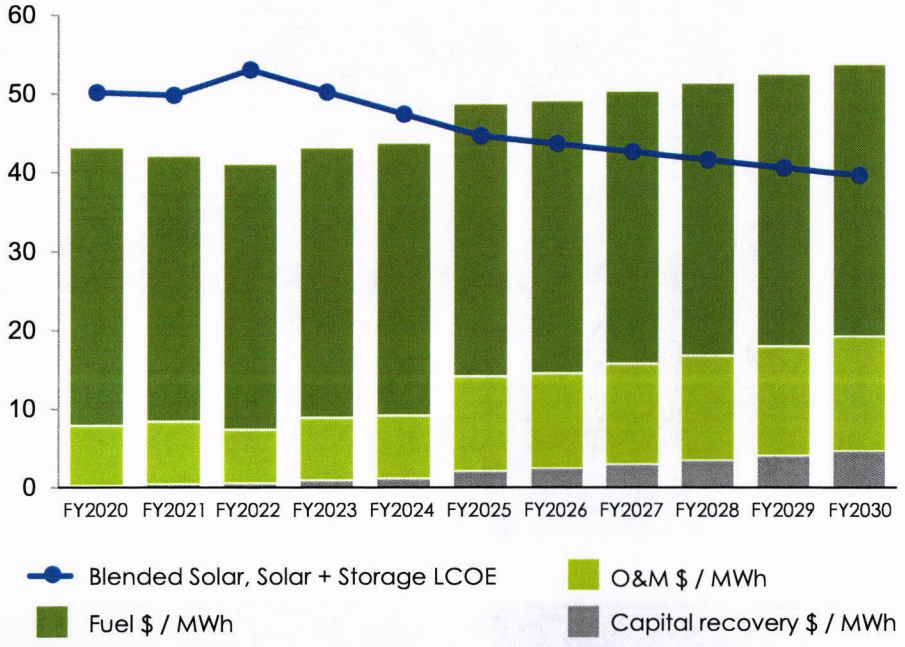
- Repowering resulted in 2.7 times the power output while decreasing air emissions and groundwater consumption by >10%
- New CFB Units 1 and 2, about 300 MWe each, equipped with modern pollution control equipment (Scrubbers, SNCR, Baghouses)
- Project cost $309MM (JEA $234MM, DOE $75MM)
- CFB's allow for greater fuel flexibility(pet coke, Coal, other)
- Stack emissions for SO_2, NOx, PM, CO, and VOC for Units 1, 2, and 3 were reduced by 10%, and also met more stringent operating permit limits

NGS Units 1 &2 Replacement with Batteries and Solar

Key Assumptions

- ~50% of solar capacity has storage, 50% is standalone
- 28.0% capacity factor
- For solar paired with storage, 4 MWh duration per MW capacity
- Northside O&M held flat, with 2/3 allocated to Units 1 + 2
- ITC steps down to 10% in 2022
- IRENA cost curves
- 7% WACC used for capital recovery charges

NGS Units 1&2 dispatch cost vs. blended solar, + solar storage LCOE



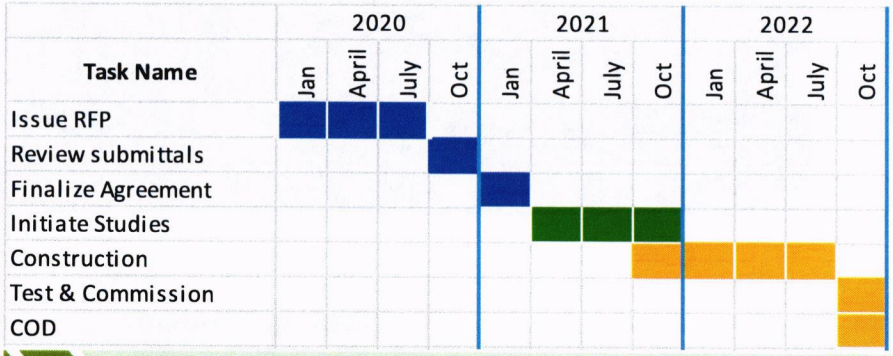
Utility Scale Battery Storage

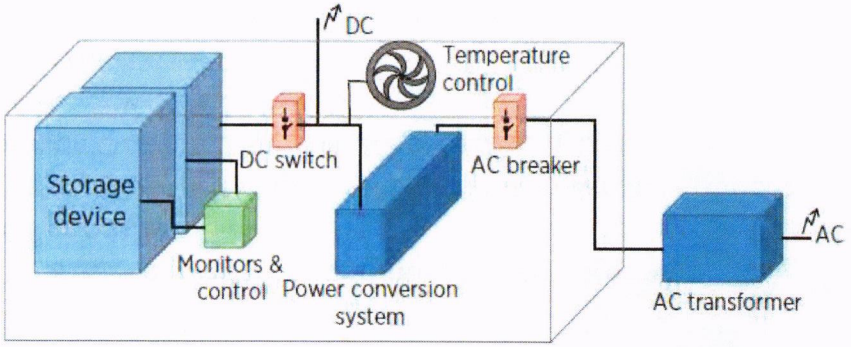
Utility Scale Battery Storage Overview

- The new 5x50 MW Solar plants were contracted requiring the developer to leave an area near the interconnection point with an easy connection for future storage ("Plug and Play" Storage)
- In 2020, JEA will issue an RFP to establish the pricing for these connections
- Quantity and capacity is yet to be determined, but JEA anticipates in the vicinity of 20-30 MW per site (total of 100-150 MW)
- The primary use case for the storage would likely alternate – load balancing in the summer and shoulder seasons (levelizing the real-time solar output) and peak trimming in the winter

High Level Schedule

- Issue RFP in 2020 for both PPA or full ownership options. Determining battery technology to be part of RFP submittal
- Begin negotiations and sign PPAs for all 5 sites
- Perform required Generator Interconnection studies for JEA and FRCC and obtain approvals
- Construct and commission
- Achieve COD by December 31, 2022



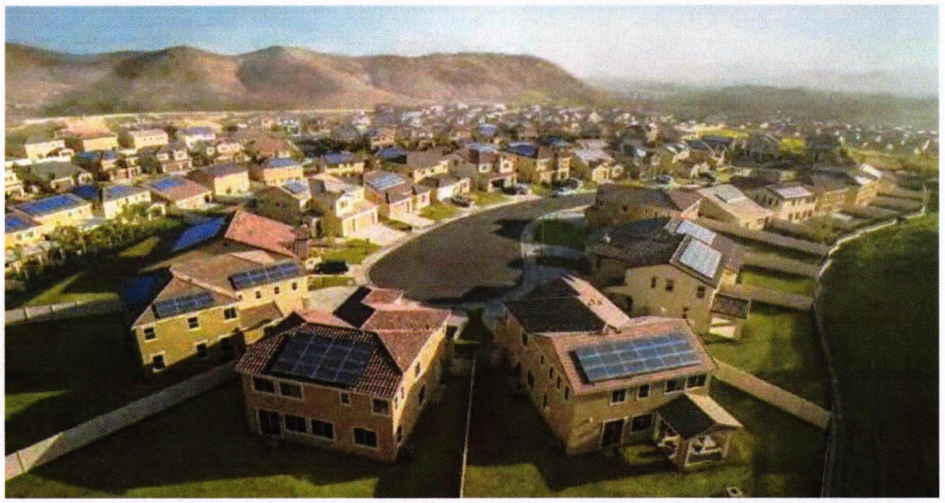


The cost for 150 MW's for 4 hours of output is estimated around $180MM not including wholesale replacement of Li-ion batteries every 10 years (cost not determined)

Virtual Power Plant

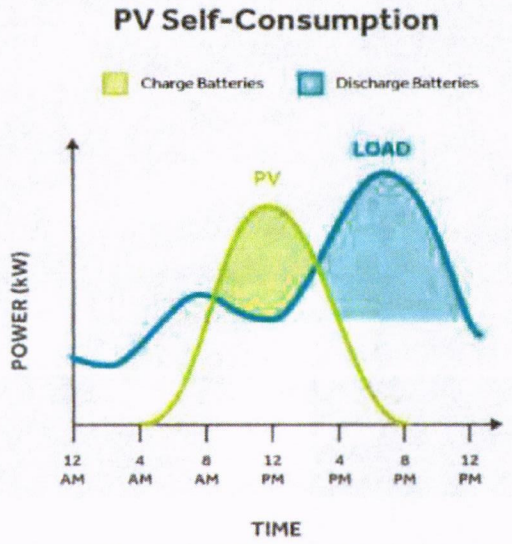
Virtual Power Plant Pilot Project Overview

- A virtual power plant ("VPP") works remotely to combine a number of independent energy resources from disparate locations into a network that provides reliable power 24 hours a day
  - These sources can be utility assets or behind the meter customer assets
- The plants employ software-based technology that relies on the smart grid.
  - JEA has had preliminary discussions with Sonnen and Tesla, both of whom are developing battery based VPPs
- For FY2020, the goal is to develop a pilot project plan to integrate a customer battery program with a VPP package and build the groundwork for deployment
- The vision is to develop a platform to accommodate VPP growth, which will be more flexible (albeit potentially more expensive) than traditional generation
  - JEA will likely look at employing this technology as part of a microgrid solution



Conceptual Schedule

Task Name	2020				2021				2022			
	Jan	April	July	Oct	Jan	April	July	Oct	Jan	April	July	Oct
Identify Pilot area												
Identify Comm needs												
Issue RFP												
Review submittals												
Finalize Agreement												
Sign up Customers												
Construction												
Test & Commission												



The full deployment cost for 150 MW's (30k units) of output is estimated around $243MM plus $5MM for communication infrastructure not including wholesale replacement of Li-ion batteries every 10 years (cost not determined)

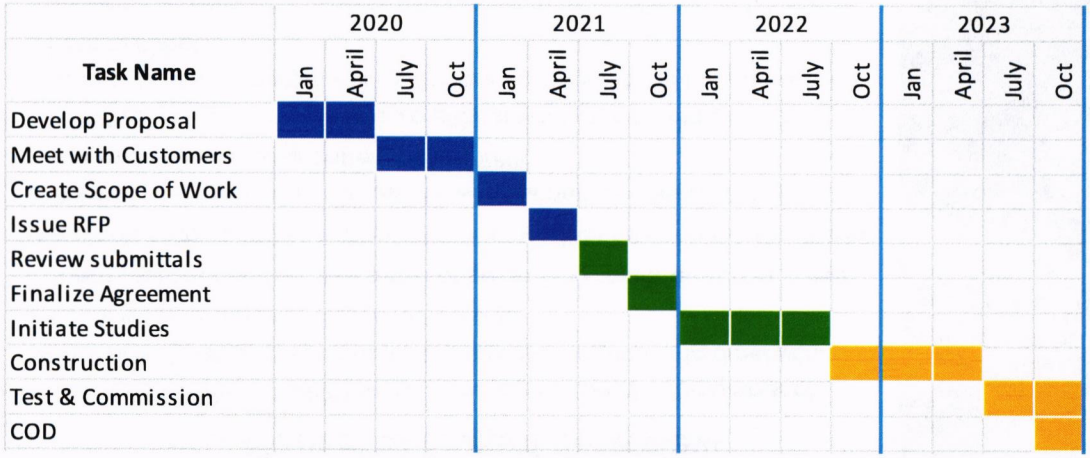
Utility Owned Distributed Generation

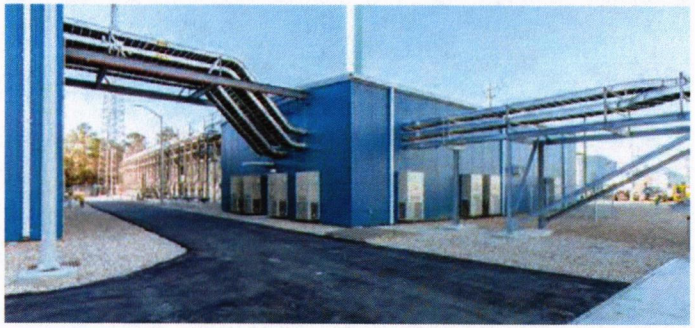
Distributed Generation Overview

- JEA is developing plans to determine the viability of integrating a utility-owned distributed generator (likely a gas-powered Reciprocating Internal Combustion Engine (RICE)) or small turbine at 2 potential locations
  - One near a large institutional campus; the other potential site is near a large manufacturer
- This additional generation will accommodate future planned load growth at either location and cover the contingency of loss of one Substation Transformers at peak load times for either customer site

Customer Focus - Resiliency

- The DG allows for the creation of microgrids providing additional resiliency for the targeted customers





The estimated cost for six (6) - 18 MW RICE engines is $104MM plus gas line extension costs; cost for two (2) – 18 MW RICE engines is estimated at $45MM

JEA

Subsection D

Core Growth Opportunities

Opportunities Across Three Markets to Serve Customers More Effectively, Driving Development in Jacksonville

	How trends are creating opportunities	Jacksonville Today	How JEA will harness opportunities for customers
Electrified transport and facilities	• The transition to electrified products – driven by declining costs and evolving customer preferences – requires significant infrastructure investments and grows load	• EV penetration is approximately 33% of the national average [1] • No plans to fully electrify ports or municipal fleets	• Provide EV incentives, public charging infrastructure and private charger installation, boosting EV adoption to be in line with the US average • Electrify the Port of Jacksonville / non-road end users and municipal and public school buses
DG solar and storage	• Solar and storage LCOEs declined nearly 3x in Florida from 2010-17 due to lower hardware prices • Customers are increasingly looking to solar plus storage as a convenient, affordable and reliable generation option	• Fewer than 0.5% of customers in Jacksonville have installed DG solutions	• Build community solar, providing equitable access to DG • Offer residential storage installation to accelerate pre-parity adoption • Provide C&I DG installation services throughout the region
Energy efficiency	• Customers are seeking out an increasingly sophisticated, robust set of energy efficient ("EE") home and business solutions to manage energy use	• Jacksonville residents are increasingly adopting EE products, but FL utilities have been hesitant to seek earnings on lost load [2] • JEA has begun some public lighting upgrades, in partnership with the City [3]	• Seek incentives that provide fair compensation for the deployment of EE devices • Power Jacksonville's streetlights with "smart", efficient lighting, building on current programs [3]

Notes:
1. As a % of car parc. Based on Management Response forecasts, in 2019, EVs comprised 0.2% of the JAX LDV fleet, vs. the national average of 0.6%
2. While US utilities, on average, earned 0.7% of 2017 retail sales from Energy Efficiency savings, Southeast utilities earned 0.3%
3. JEA has upgraded 30,000 traffic signal bulbs to LED, and has upgraded the majority of its streetlights (> 60%)

JEA's 2030 Core Growth Opportunities Consist of 8 Initiatives

	Market	Initiative [1]	Cumulative regulated capital deployment, 2020-30 [2]	Cumulative unregulated margins
Core Growth Opportunities	Electrified transport and facilities	1 Expand incentives for electric vehicles and chargers	$15MM	--
		2 Build out public DC FAST and L2 charging throughout Jacksonville	$304MM	--
		3 Own and operate bus charging infrastructure for Jacksonville's city and public school fleets	$95MM	--
		4 Build an L2 home charger installation business	--	<$1MM
		5 Electrify the Port of Jacksonville	$35MM	--
	DG solar and storage	6 Install, maintain and dispatch residential storage	$31MM	--
		7 Build a C&I DG solar design, development, and installation business	--	$12MM
	Energy efficiency	8 Install "smart poles" to enable new smart city use cases	$200MM	--

x Included in the Respondent Financial Model Management Case and Management Case under Scenario A

x Included in the Respondent Financial Model Community Improvement Case

Notes:
1. Detail follows. Initiatives with regulated capital deployment generate earnings via the regulated rate base. Initiatives with unregulated margins do not contribute to the rate base
2. Refer to the Respondent Financial Model for required rate of return

Core Growth Opportunities

Electrification

Initiative	JEA's business model	Start year
1 Expand incentives for electric vehicles and chargers	• JEA will generate regulated earnings from the $15MM in Capex deployed to provide vehicle and charger incentives to customers, and administer the overall program, contributing to an incremental 72GWh of load growth in 2030 by supporting EV market growth	2020
2 Build out public DC FAST and L2 charging throughout Jacksonville	• JEA will generate regulated earnings from the $304MM in Capex deployed to install and maintain public L2 and DC Fast chargers, contributing to an incremental 72GWh of load growth in 2030 by supporting EV market growth	2021
3 Own and operate bus charging infrastructure for Jacksonville's city and public school fleets	• JEA will generate regulated earnings from the $95MM in Capex deployed to design, install, and maintain municipal electric school buses and public transit bus charging infrastructure in partnership with the City and Jacksonville Public Schools	2022
4 Build an L2 home charger installation business	• JEA will become the premier entity in Jacksonville to install the ecosystem of private home L2 chargers, earning a 15% [1] margin on installation, contributing to an incremental 72GWh of load growth in 2030 by supporting EV market growth	2023
5 Electrify non-road end uses [2]	• JEA will generate regulated earnings from the $35MM in Capex deployed from an ambitious program to support electrification of port equipment and in-port activities (e.g., cranes and freight carriers)	2023

x Included in the Respondent Financial Model Management Case and Management Case under Scenario A

x Included in the Respondent Financial Model Community Improvement Case

Notes:
1. Assumes ~15% margin, $420/charger fee, and share of new chargers market reaching 27% in 2030
2. Capital opportunity reflects investment the Port of Jacksonville, but JEA will pursue other non-road electrification opportunities as well

Core Growth Opportunities Detail (cont'd)

DG Solar and Storage

Initiative	JEA's business model	Start year
6 Install, own and dispatch behind the meter DG storage	• JEA will generate regulated earnings from the $31MM in Capex deployed to install and maintain utility-owned behind-the-meter battery storage, "boosting" near-term DG uptake in the pre-cost parity years	2021
7 Build a DG solar installation business for Industrial customers	• JEA will provide solar design, development and installation services for C&I customers	2022

Energy Efficiency

Initiative	JEA's business model	Start year
8 Install "smart poles," building on JEA's existing "smart streetlights' program	• JEA will generate regulated earnings from the $200MM in Capex deployed to build out "smart poles" in its service territory to enable the roll-out of new public services and smart city use cases (e.g., free community WiFi, environmental data sensors to support traffic algorithms, etc.)	2023

x Included in the Respondent Financial Model Management Case and Management Case under Scenario A

x Included in the Respondent Financial Model Community Improvement Case

Section 4

Water System Overview

Subsection A

Overview

JEA Water and Wastewater Systems

Overview

- The Water and Wastewater System provides service within the urban and suburban areas of Jacksonville. The Water and Wastewater System's service territory extends into St. Johns County to the southeast of Jacksonville and Nassau County to the north and also serves a number of customers in Clay County to the southwest
- In 2019, JEA Water and Wastewater Systems generated $450MM in operating revenue, comprised of 39% water revenues, 57% wastewater revenues and 4% of revenues coming from water reuse
- The Water System, including reuse accounts, serves approximately 369,902 customers
- The Wastewater system serves 277,815 customers

Water & Wastewater Highlights

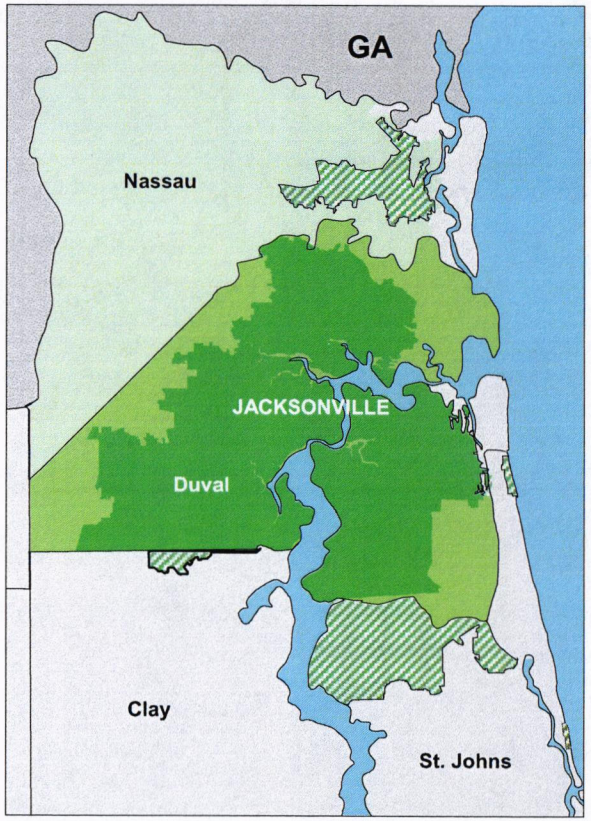
Water System

- 20 major and 18 small water treatment plants and two re-pump facilities
- 137 active water supply wells, and 4,806 miles of water distribution mains
- Total finished water storage capacity of over 83 million gallons
- Two major and four small distribution grids

Wastewater System

- Approximately 4,113 miles of gravity sewers and force mains
- 1,482 pumping stations and 754 low pressure sewer units
- 11 treatment plants with a rated average daily treatment capacity of approximately 123 MGD and maximum daily flow capacity of 247 MGD

Service Territory



Source: 2019 JEA Annual Report, June 25, 2019 JEA Board of Directors Board Package, 2019 FY JEA Unaudited Financials

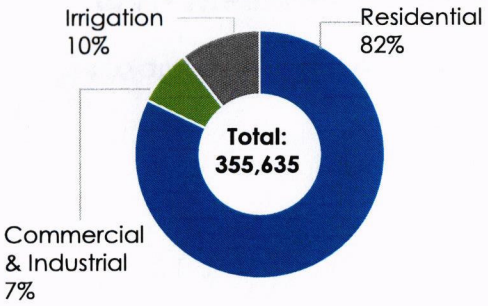
JEA Water System

Overview

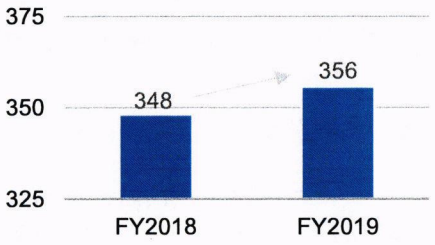
- Serves 355,635 customer accounts and 14,267 reuse water customers
- System is currently composed of 38 water treatment plants, two repump facilities, 137 active water supply wells, ~4,806 miles of water distribution mains and storage capacity of 83 million gallons
- The Water System provides service in an area currently comprising ~769 square miles in Duval County, approximately 63 square miles in St. Johns County, approximately 77 square miles in Nassau County and approximately 4 square miles in Clay County

Customer Breakdown

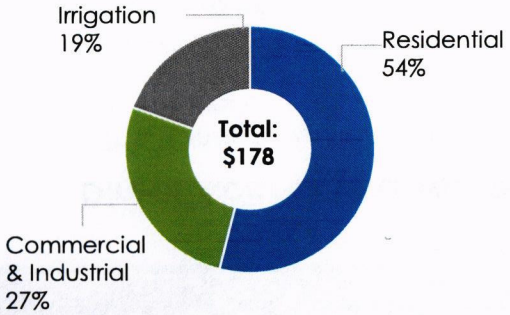
Average # of Accounts



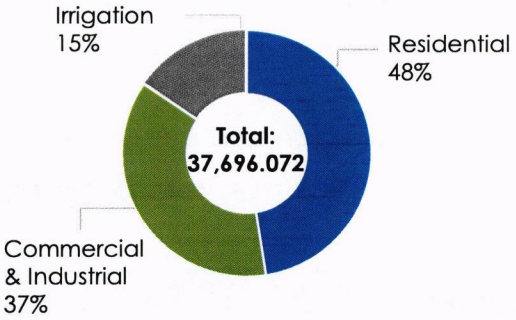
Average # of Customer Accounts (000's)



Revenues ($MM)



System Sales (kgals)



Source: 2019 JEA Annual Report, 2019 FY JEA Unaudited Financials

Top 10 Customers for Water System

Ten Largest Customer Accounts		Annual $ Billed	% of Revenues
	City of Jacksonville	2,259,070	1.1
	Duval County School District	1,183,717	0.6
	St. Johns County Utility	868,258	0.4
	American Homes for Rent LP	659,306	0.3
	Southern Baptist Hospital of Florida, Inc.	636,579	0.3
	DR Horton, Inc. Jacksonville	506,283	0.3
	Johnson and Johnson Vision Care, Inc.	473,175	0.2
	St. Vincent's Health System, Inc.	395,469	0.2
	The American Bottling Company	388,436	0.2
	Mayo Clinic Jacksonville	337,468	0.2
	Total	**7,707,761**	**3.9**

Growing Customer Base with Low Concentration

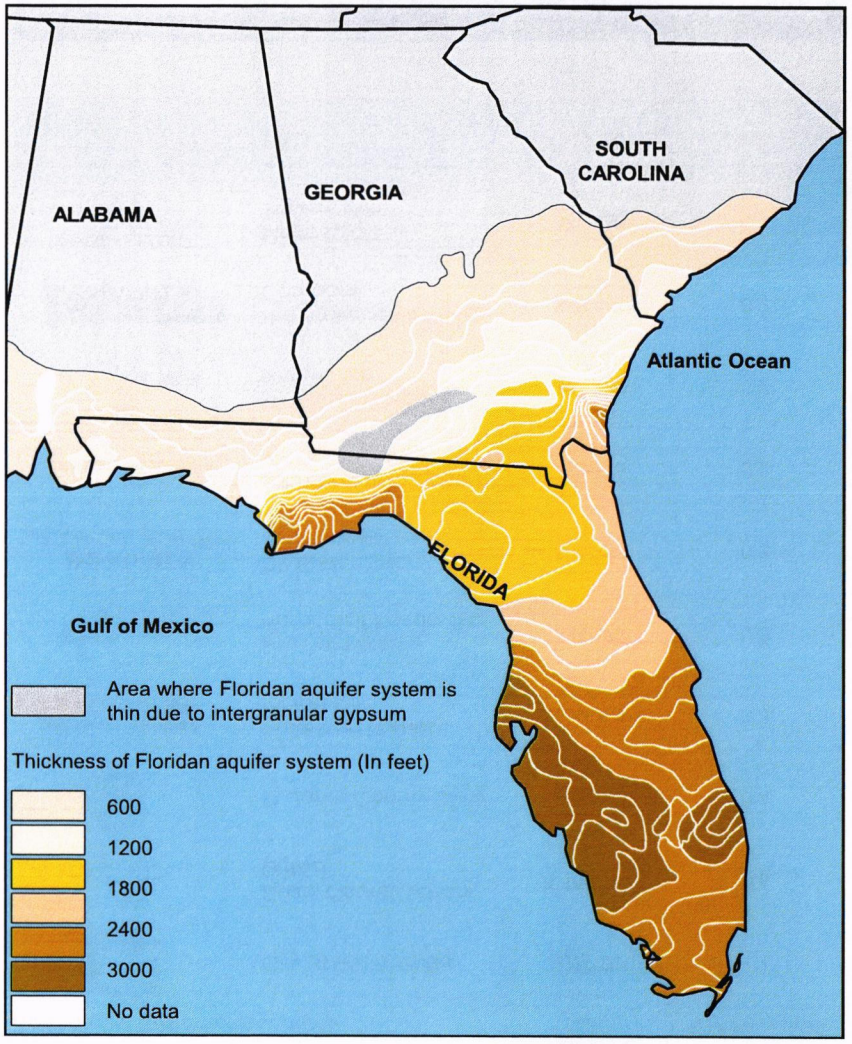
Floridan Aquifer System Overview

Direct Access to a World-Class Water Source

- The Floridan aquifer system is one of the most productive aquifers in the world
- The Floridan aquifer system is the primary source of water for nearly 10 million people and supports agriculture, industry and tourism throughout most of the region
  - ~3 billion gallons of water per day are drawn from the Floridan aquifer for public, residential and agricultural uses
- In most areas, including Jacksonville, water in the aquifer system needs very little treatment before use
- Water stored in the aquifer is replenished directly from rainfall

JEA's Well Access System

- In the 1880s, Jacksonville became one of the first municipalities to use the Floridan aquifer as a public water source
- Today, JEA's drinking water system consists of wells, water treatment plants, the distribution grid of pipelines and finally the customers' meters
- JEA has over 130 wells that utilize turbine pumps to withdraw water from the Floridan aquifer, in the North grid pumps are 1,200 feet below land surface and in the South grid pumps are 800 feet below land service
  - The fresh, clean water is pumped from the well fields to one of 38 water treatment plants



JEA is positioned directly on top of the Floridan aquifer, one of the most productive aquifers in the world

Source: United States Department of the Interior, St. Johns River Water Management District, City of Jacksonville

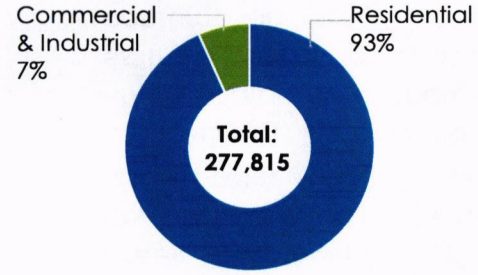
JEA Wastewater System

Overview

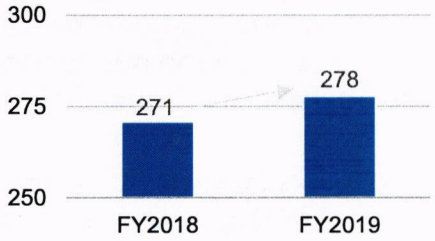
- Serves 277,815 customer accounts and is composed of 11 wastewater treatment plants with a rated average daily treatment capacity of 123 MGD and a maximum daily flow capacity of 247 MGD
  - 1,482 pumping stations, 754 low pressure sewer units and 4,113 miles of gravity sewers and force mains
- Wastewater System experienced an average daily flow of 76 MGD and a non-coincident maximum daily flow of 106 MGD during the Fiscal Year ended September 30, 2019
- Service territory is essentially the same as that for the Water System, serving ~76% of the service territory

Customer Breakdown

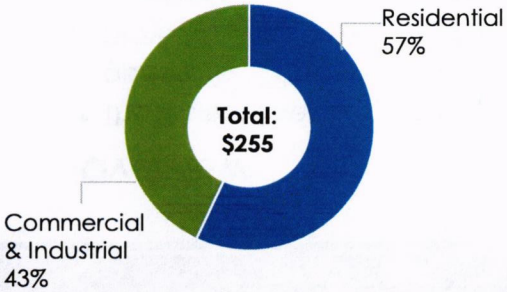
Average # of Accounts



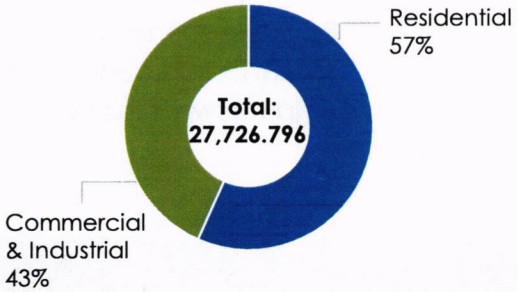
Average # of Customer Accounts (000's)



Revenues ($MM)



System Sales (kgals)



Source: 2019 JEA Annual Report, 2019 FY JEA Unaudited Financials

Top 10 Customers for Wastewater System

Ten Largest Customer Accounts		Annual $ Billed	% of Revenues
	City of Jacksonville	2,606,769	1.0
	Duval County School District	2,249,240	0.9
	St. Johns County Utility	1,509,191	0.6
BAPTIST HEALTH	Southern Baptist Hospital of Florida, Inc.	1,048,756	0.4
	Symrise, Inc.	1,045,916	0.4
DR PEPPER SNAPPLE GROUP	The American Bottling Company	1,042,775	0.4
Johnson & Johnson	Johnson and Johnson Vision Care, Inc.	984,972	0.4
ST. VINCENT'S HEALTHCARE	St. Vincent's Health System, Inc.	934,011	0.4
WhiteWave	WWF Operating Company	928,978	0.4
MAYO CLINIC	Mayo Clinic Jacksonville	857,977	0.3
	Total	**13,208,585**	**5.2**

Growing Customer Base with Low Concentration

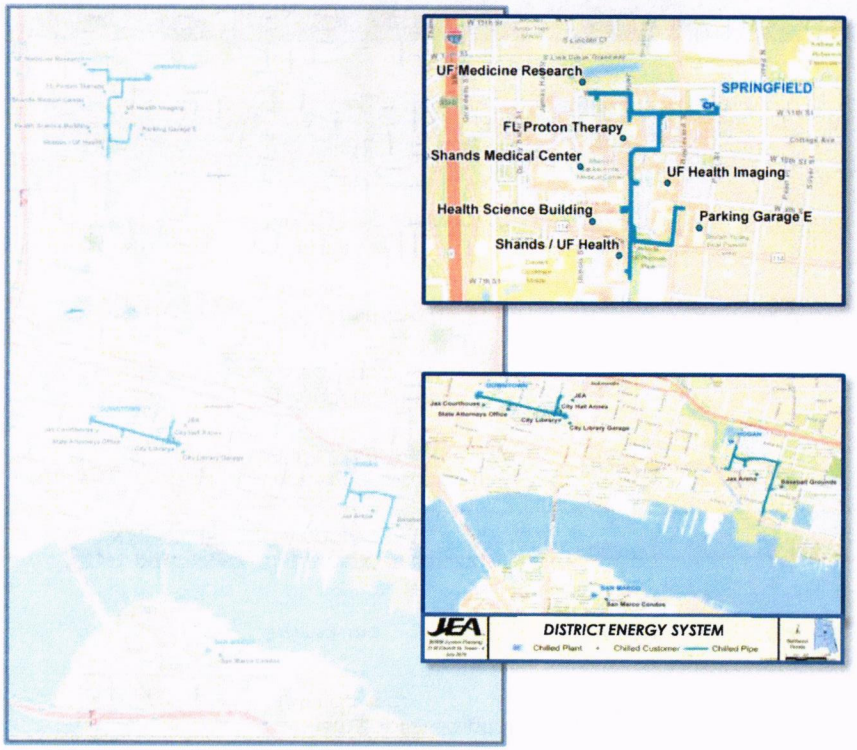
JEA District Energy System

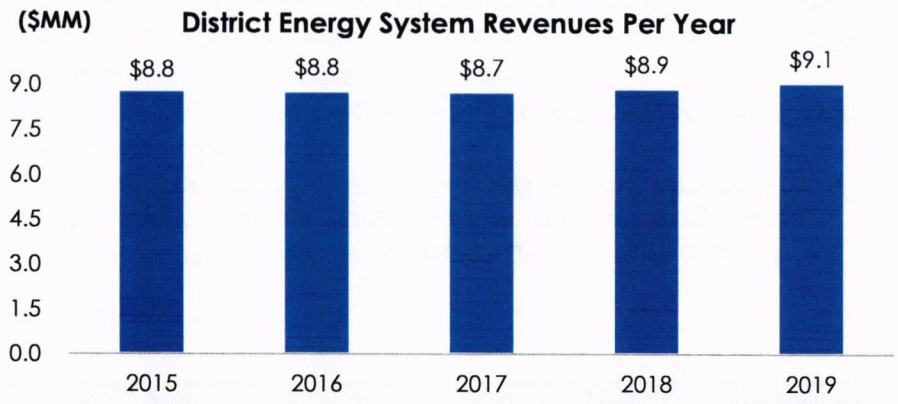
Overview

- The District Energy System consists of chilled water plants that generate chilled water and underground piping, which provides chilled water to customers for air conditioning
- Contracts are in place with 17 locations in the City to provide chilled water from JEA's four chilled water plants: Hogan's Creek, Downtown, Springfield, and San Marco. Current contract demand for the four locations is 16,324 tons, with a total capacity of 20,700 tons
- District Energy System revenues are generated by two types of charges: a demand charge, based on the customer's estimated expected cooling load requirements, and a consumption charge, based on the actual amount of chilled water consumed

District Energy System

- Four chilled water plants
- Total capacity: 20,700 tons





Source: 2019 JEA Annual Report, 2018 Annual Disclosure Report, 2019 FY JEA Unaudited Financials

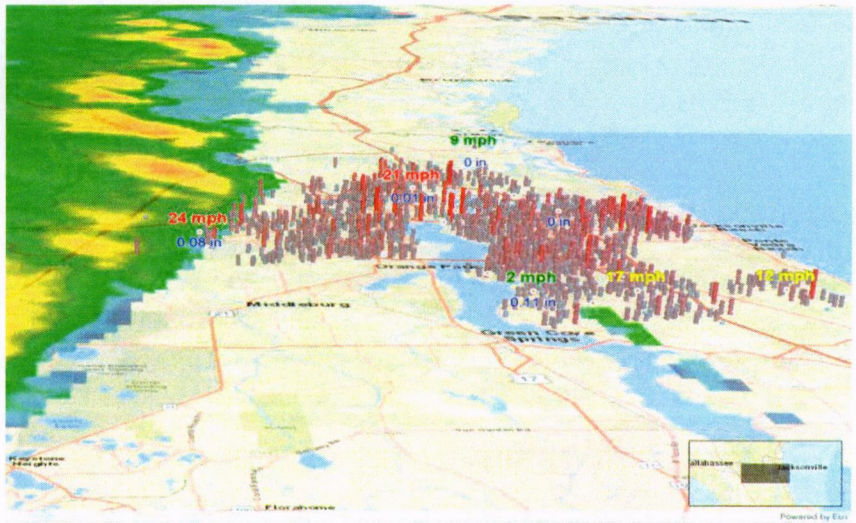
Service Locations

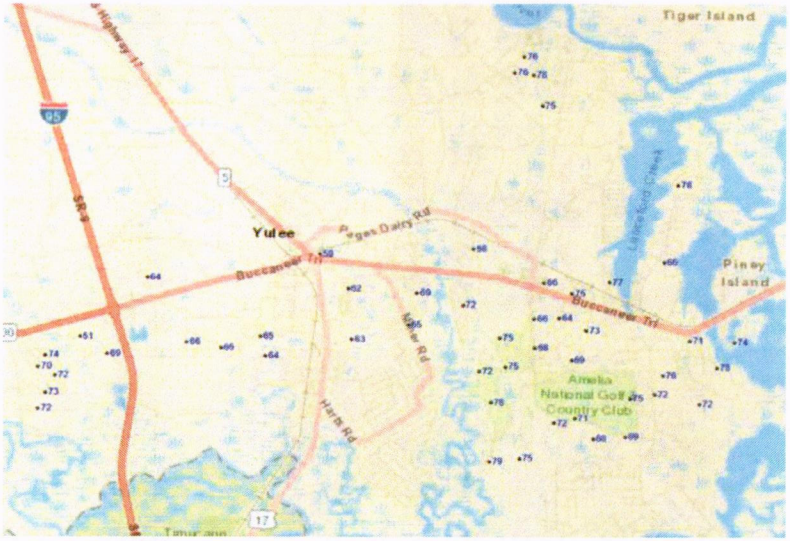
Vystar Veterans Memorial Arena	City Hall Annex
Baseball Grounds of Jacksonville	San Marco Place
Library / Library Garage	Florida Proton Therapy Institute
Judicial Complex	Shands Jacksonville
JEA Plaza	University of Florida College of Medicine

Water & Wastewater System Innovation

System Wide Operational Awareness

- Water pressure sensors
  - Being added throughout to provide advance warning of main breaks and low pressures causing unsafe drinking water conditions
- Permanent leak detection sensors
  - Being tested for large diameter water mains to predict leaks prior to catastrophic bursts
- IoT sensors on manholes
  - Installed to alert of potential overflows to trigger quick response
- Web based Operational Awareness map
  - Shows real time sensor data geographically





Water Pressure Sensor Project

Optimized Systems Control of Aquifer Resources

Use Case

- Additional water pressure monitors to support the development of Optimized Systems Control of Aquifer Resources ("OSCAR") 2.0

Complete

- An additional 58 water pressure sensor monitors were added to the Nassau grid and displayed on AOI
- All pump stations in Nassau now have water pressure monitors
- Over 100 more added in JEA's service territory to fill gaps in the hydraulic model

Geo-spatial, interactive 3D mapping system provides real-time condition monitoring of field assets, which allows effective deployment of crews to keep wastewater off the street

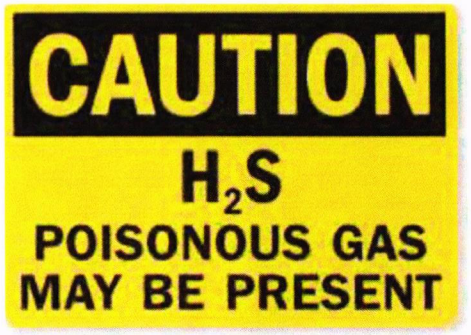
Water & Wastewater System Innovation | Virtual Pump Station Inspection

Advanced Camera Technology

- Thermal Imaging cameras
  - Identify temperature variances sending automated alerts
- HD cameras
  - Provide visuals to monitor performance and assist in troubleshooting
- Night Vision cameras
  - Monitor wet well for grease build up

Operations Monitoring

- Vibration Monitors
  - Remotely sense abnormal vibrations to reduce wear and failures
- H2S Monitoring
  - Senses odor conditions requiring odor control equipment maintenance required. Monitors for dangerous gas conditions in buildings
- Audible Capabilities
  - HD cameras provide audible and visuals to monitor performance and assist in troubleshooting
- Conductivity and pH Monitoring
  - Detects excessive inflow and infiltration, industrial waste, illegal dumping
- Force Main Flow and Pressure Monitoring
  - Detects poor pump performance or force main stoppages



JEA

Subsection B

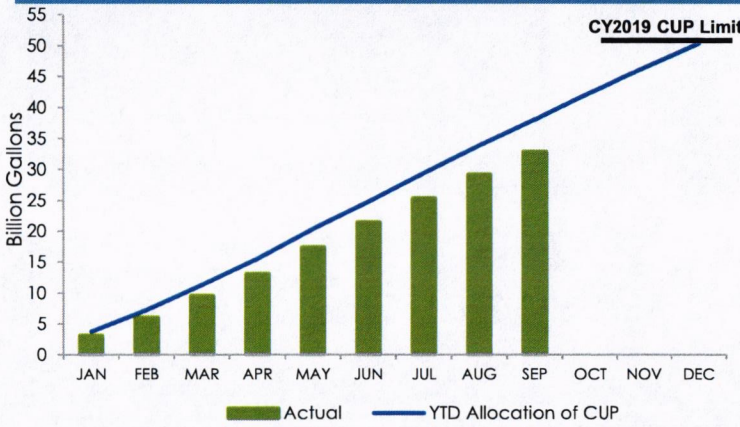
Current Operations and Management

Water System Consumptive Use Permit

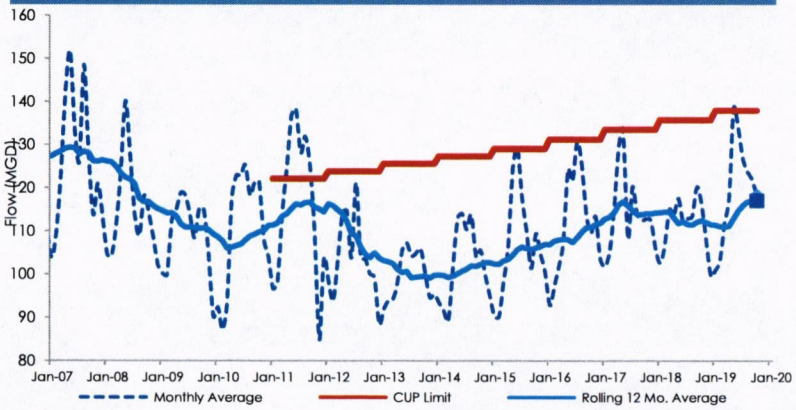
Consumptive Use Permit

- Single consolidated permit for entire JEA service territory
- Issued 2011, expires 2031
- Individual wellfield allocations with flexibility for 28% overage N Grid and 20% S Grid for drought years or extenuating circumstances
- Forecasted Demand <142 MGD at 2031
- Caps water use S grid ~50 MGD

2019 Consumptive Use Permit (CUP)



JEA Water Production vs CUP Limit



CUP Condition 44: South Grid Wellfield Allocation Limits

	Permit Limit	Actuals					
Critical Wellfields	Post 2014	2014	2015	2016	2017	2018	YTD 2019
Deerwood III	7.00	7.01	6.67	7.88	7.64	7.17	7.40
Ridenour	6.85	6.39	6.66	7.64	6.68	6.54	6.88
Oakridge	5.65	6.23	4.99	5.79	5.49	5.55	5.70
Greenland	4.53	1.53	4.27	4.16	3.99	4.18	4.26
Brierwood	3.02	4.53	2.84	3.36	2.98	2.43	2.64
Subtotal	***27.05***	***25.69***	***25.43***	***28.83***	***26.78***	***25.87***	***26.89***
Other Wellfields	**23.18**	**20.92**	**22.07**	**24.12**	**21.85**	**20.48**	**22.18**
Total South Grid	**50.23**	**46.61**	**47.50**	**52.95**	**48.62**	**46.35**	**49.06**
Total System ADF MGD	**138**	**104**	**107**	**112**	**114**	**112**	**120**

Consumptive Use Permit	Metric	FY2017	FY2018	FY2019 Target	FY2019
Water	CUP Limits (MGD)	114 (133 limit)	112 (135 limit)	138 limit	120
South Grid	Wellfield Allocation (MGD)	48.62 (<50.23 limit)	46.35 (<50.23 limit)	< 50.23 limit	49.06
Reclaim	Usage (MGD)	20	17	19	19

Meeting Water Supply Challenges | Overview

Water Use is More Efficient

- Historically water use paralleled population growth. This trend changed around 2007 as a result of numerous conservation efforts:
  - Passive conservation – houses, appliances, plumbing fixtures all progressively more efficient
  - Utility effort – strong tiered rates, public messaging, and continued expansion of reclaimed to serve irrigation needs in areas of greatest growth

Conservation Alone Will Not be Enough

- We know that conservation alone will not ensure a sustainable water supply in the future
  - Our conservation savings are very high already, with projections reaching a leveling off period in the near future
  - Using same amount of groundwater as 2006, serving 150,000 more people

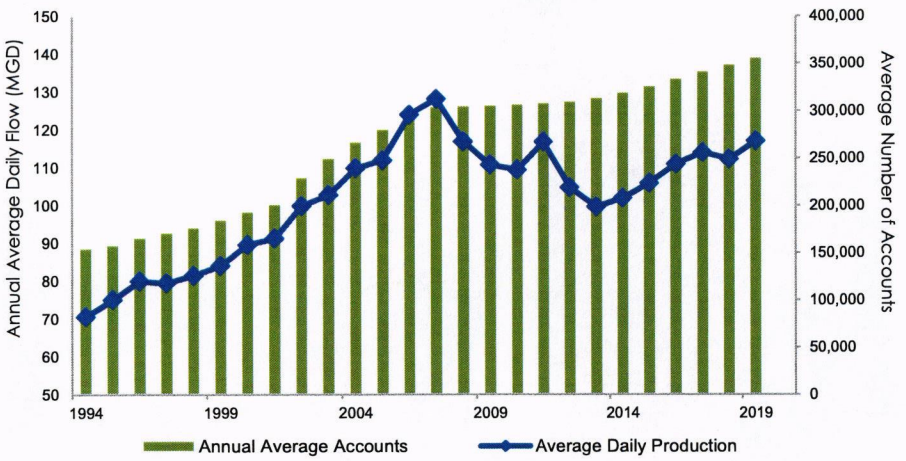
Need for Alternative Water

- The Floridan Aquifer is approaching sustainable withdrawal limit
  - Our population is projected to continue to grow and our available water supply is limited
- Our community has done well as stewards of water resources but we will challenges to ensure its sustainability

JEA OneWater Concept

- All water has been used before many times.
- JEA OneWater emphasizes protection of our water through conservation and the diversification of supply, especially via reuse
- Sources in our area: Ocean, river, reclaimed. Reclaimed is a superior source

JEA Water Production Vs. Number of Accounts



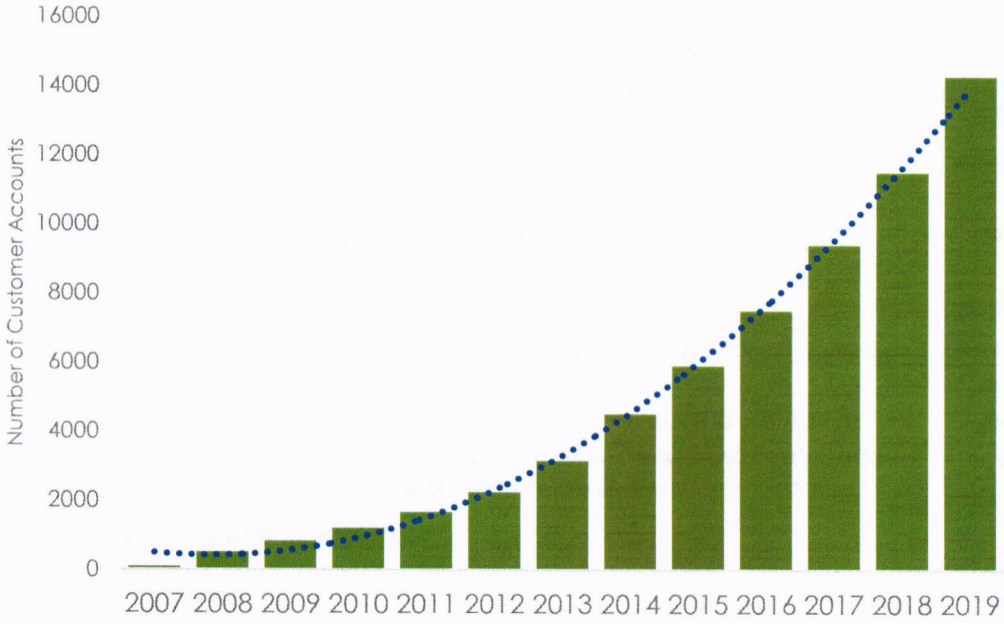
Water Consumption on a Per Capita Basis

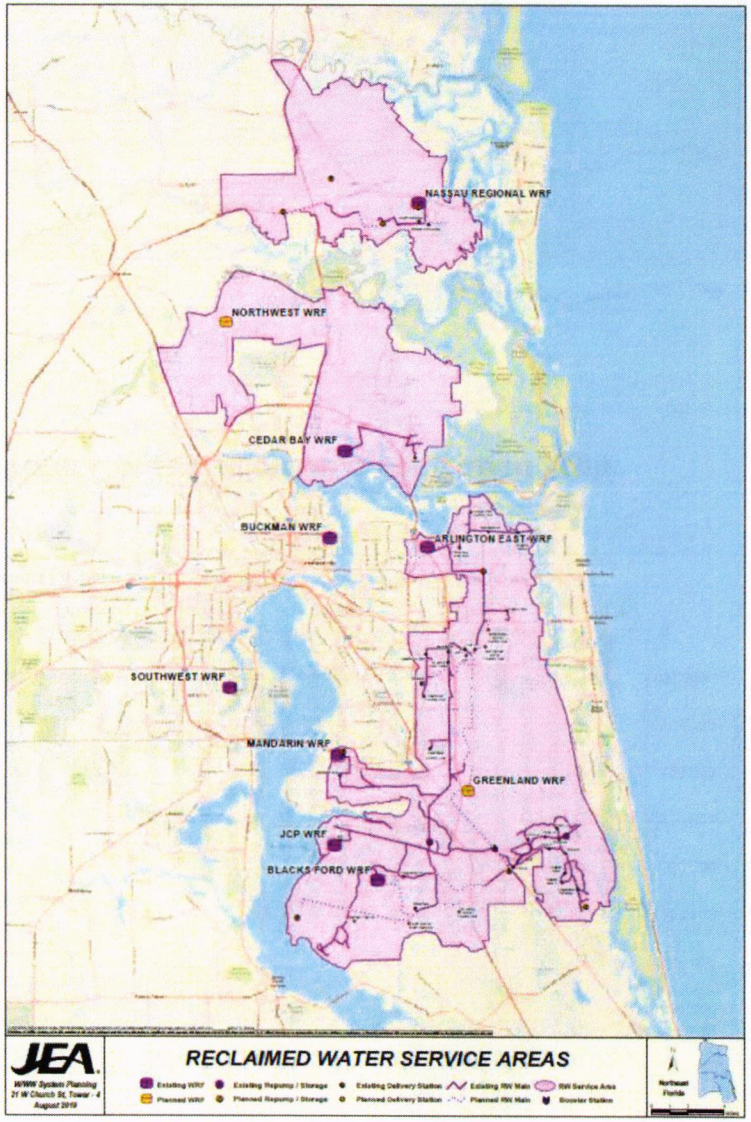
Notes:
1. FY04-FY11 values are estimates based upon finished water totals. FY12 to present are raw water totals
2. For the Average Daily Production, Fiscal Year data is used from 2001 to Present

Meeting Water Supply Challenges | Reclaimed Water System

JEA's Expansive Reclaimed Water System

- Started in 2000
  - Focused on areas of greatest growth
  - Greater than $100MM investment including significant cost share from St, Johns River Water Management District
  - Significant change in average number of customer accounts trend beginning in 2008
- Used as a water resource, not disposal
  - Conservation rates
  - Reduce potable water use
- Winner of the FWEA 2015 David York Water Reuse Award

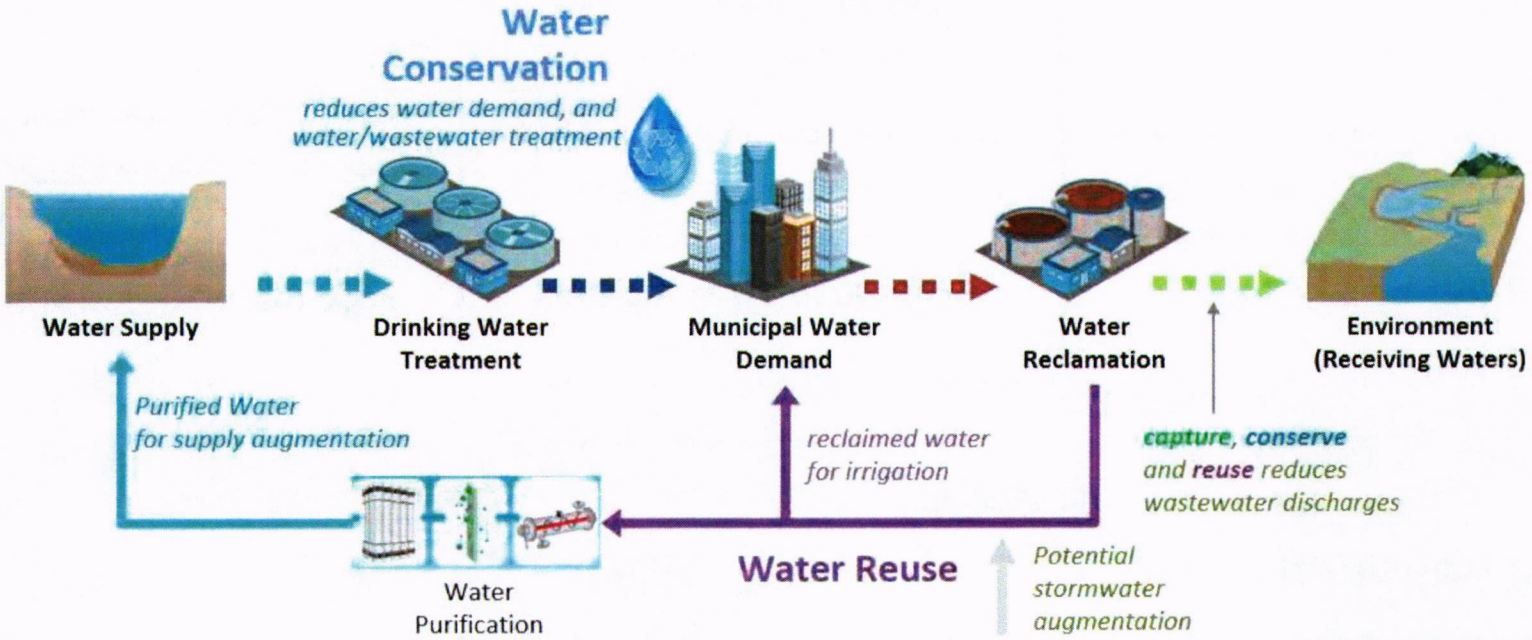




Meeting Water Supply Challenges | Integrated Water Resource Plan

Integrated Water Resource Plan 'One Water' Philosophy

- Water and Wastewater planning has evolved from a traditional water -> wastewater -> discharge model to a full water ecosystem
- The ecosystem allows water and wastewater utilities like JEA to serve growing populations with reliable, safe, clean water supply in an environmentally responsible way
- This ecosystem approach guides significant capital investments in the future



Meeting Water Supply Challenges | Water Supply Planning Cycle

iWater
JEA Water Supply Testing and Rehabilitation Program

FY15 to FY20

IWRP Study
Integrated Water Resource Plan

FY19 to FY21

Implementation Plan
JEA Water Supply and Demand Program

FY20 ...

Production & Transmission
- Well rehab and performance for 84 of JEA's 137 raw water wells
- Hydraulic and water quality modeling
- Identify transmission piping projects

Supply & Transmission
- Maximize reclaimed water
- TWMP* (FY 2000 to Present)
- Water purification demonstration plant
- 3rd river crossing evaluation
- Aquifer storage and recovery

* JEA's Total Water Management Plan (TWMP)

IWRP Implementation
- Alternative water supplies
- Demand-side management program
- Reclaimed Water

- JEA obtained a 20-year consolidated Consumptive Use Permit (CUP) in May 2011
- JEA continues to implement the wellfield rehabilitation and Reclaimed System expansion program
- Sustainable water supply will integrate outcomes of the IWRP

Meeting Water Supply Challenges | Purified Water Program

Phase I: Research and Development

- Phase I testing included testing of over 3,000 water quality samples to evaluate the performance of two water purification technologies (UF-LPRO-AOP compared with Ozone-BAF-AOP)
- UF-LPRO-AOP was selected due to its operational advantages and the ability to consistently produce higher water quality at a similar cost,
  - This state-of-the-art, multi-barrier treatment approach is both proven and reliable, making it the most widely-used water purification technology throughout the U.S. and globally

Phase II: Demonstration

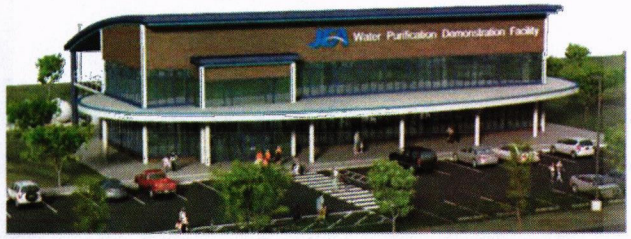
Water Purification Demonstration Facility

Key Aspects

Cost	O&M	Construction	Building Size	Area
$15MM – $20MM	~$1MM/yr	18 Months	11,000 sq.ft.	2-5 acres

- Capable **of producing up to 1.0 MGD**
- Learning Center area for public tours and operator training
- Offices for personnel, equipment, and conference rooms

Demonstrating Safe and Reliable Alternative Water Supply Through a Collaborative Partnership with the State



Phase III: Commercial Implementation

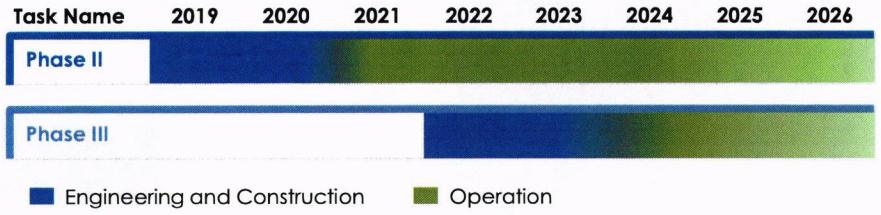
Potential for Planned Full Scale Deployment

Key Aspects

Cost	O&M	Begin Design	Building Size	Area
$94MM	$5MM	3 years	32,000 sq.ft.	5-10 acres

This facility currently has
1 MGD capacity, expandable to 10 MGD capacity

JEA plans to lead the state in full commercial application of potable reuse results of Phase II performance optimization and JEA's Integrated Water Resources Plan ("IWRP") will identify the timing, quantity, and locational needs for implementing Phase III of the WPT Program



Full scale implementation at 40 MGD would cost an estimated ~$815MM in CIP. 15 MGD implementation would cost an estimated ~$389MM and is loaded in the financial model through 2030

Wastewater Improvements | Pelletizer Replacement

PUBLIC-PRIVATE PARTNERSHIP FOR ORGANIC RECYLING

- The Buckman incinerator was replaced in 2000 with the current pelletizer process which produces slow release fertilizer. This has created beneficial reuse material, but the equipment is coming to the end of its useful life and the process is energy intensive
- Moving to MORF facility- a carbon supplemented composting process which will produce slow release fertilizer product. This process is much less costly and energy intensive which will allow digester gas to be marketed as a renewable product and can be done at a lower cost to customers

Merchant Organics Recycling Facility (MORF) replaces Buckman's pelletizer as the next generation in beneficial use

Wastewater Improvements | Renewable Natural Gas

- Biogas Credit Feasibility Study underway
- Upgrade biogas from Buckman Water Reclamation Facility ("WRF") to a purified Renewable Natural Gas (RNG)
- Evaluate injecting RNG into commercial natural gas pipeline
- Optimize production of RNG from WRF digestion processes
- Avoids significant purchase of quantities of natural gas needed to produce pellets

By capturing waste gas produced by wastewater treatment, JEA reduces greenhouse gas emissions and increases financial value

Wastewater System Environmental Compliance

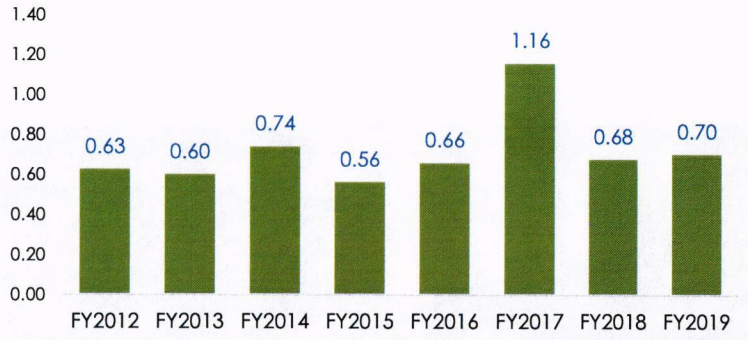
Environmental Compliance

Sanitary Sewer Overflows (SSOs to US Waters)
- FY04 – FY07: 54 per year average
- FY08 – FY18: 33 per year average
- FY19: 36

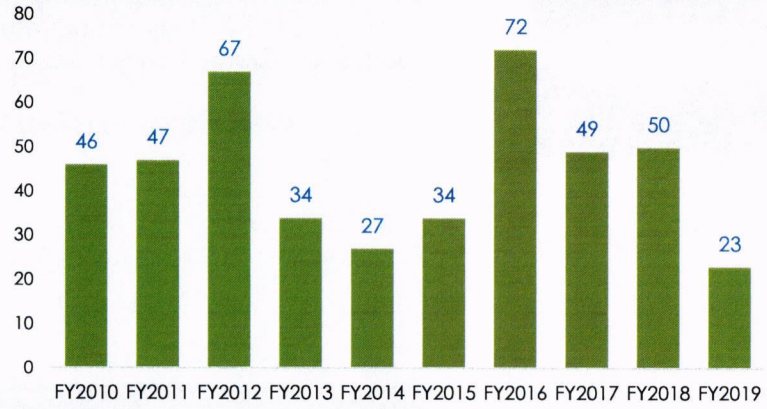
Nitrogen Discharge to St. Johns River
- Current 12 month rolling total is 393 tons versus permit of 683 tons
- In FY2019, JEA experienced its lowest nitrogen discharge to the St. Johns River in company history

NPDES Permit Exceedances
- FY19 = 23, fewest number over past 10 years
- 45,000 permit compliance opportunities per year – the past 10 year average of 45 per year is excellent

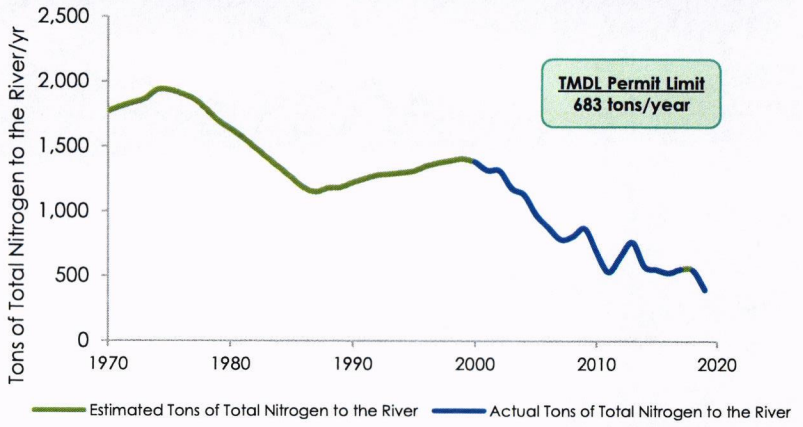
SSOs Impacting Waters of the US (per 100 miles of pipe)



Wastewater Exceedances by Fiscal Year



Total Nitrogen Discharge to St. Johns River



Environmental Compliance	Metric	FY2017	FY2018	FY2019 Target	FY2019
Sewer	Nitrogen (N) Tons – FY basis	527 (TMDL of 683*)	550 (TMDL of 683*)	616	**396**
Sewer	SSOs – US Waters (per 100 miles of pipe)	1.15	0.68	0.58	**0.70**

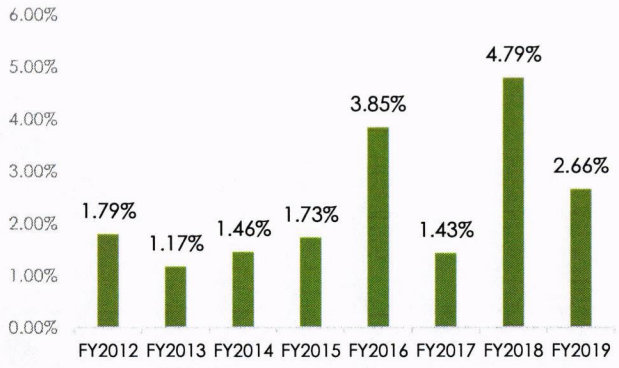
Water & Wastewater System Reliability & Resiliency Metrics

Unplanned Water Outages
- Percentage of customers affected by unplanned outages
- Large water main break in August caused FY2019 goal of 2% not to be met

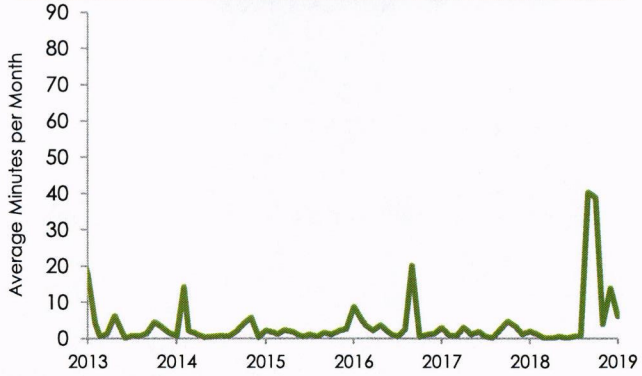
Water Pressure (minutes per month < 30 psi)
- Measured by ~300 pressure monitoring stations in the distribution system
- Pressure must be greater than 30 psi, and is expected to be greater than 50 psi
- Regulatory requirement is minimum 20 psi

Customer Response Time
- Average time from a customer call to the ticket completion or transfer to a field crew for a more extensive repair
- Exceeded FY2019 goal of 65 minutes

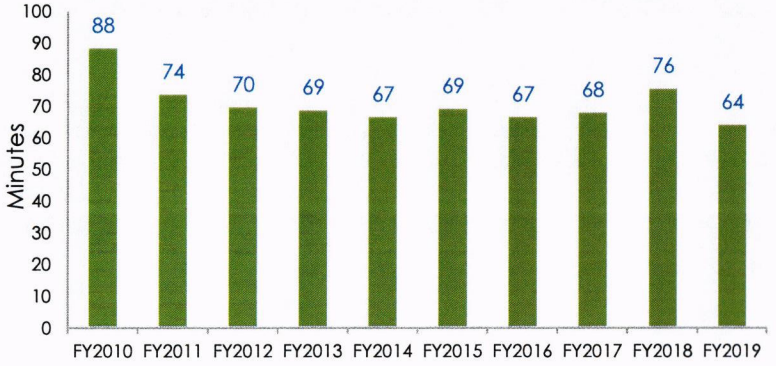
Customers Affected by Unplanned Outages (% of customers)



Water Distribution System Average Minutes Water Pressure Less than 30 psi



Priority Tickets: Customer Reponses



Water & Wastewater Reliability Improvements | Resiliency Program

Framework to Resiliency

In response to the challenges JEA experienced during Hurricanes Matthew and Irma, the resiliency program was developed to better understand system vulnerabilities and proactively improve system reliability and operational continuity of JEA's Water, Wastewater, Reclaimed Water and Chilled Water Systems

- Signed contract with CH2M/Jacobs in 2018 to provide Resiliency Assessment, Program Management and Engineering Services
  - Identify system vulnerabilities and provide recommendations to address
  - New Standards will be developed based on findings from assessments as well as projected future climate conditions
- Collaborating with JEA's Electric System Analysis Group to proactively evaluate power quality of electric circuits serving JEA's critical Class III and IV pump stations
  - Identify dual electric feed opportunities at specific pump stations
  - Identify improvements on JEA's electrical grid
- Initiated system hardening projects such as converting primary and secondary electric lines serving critical pump stations from overhead to underground
  - At the end of FY18, 26 secondary electric lines and 19 primary electric lines were converted from overhead to underground
- Having backup generation is essential to maintaining operational continuity especially during extreme weather conditions
  - JEA has purchased multiple types of assets for backup power
  - JEA has also entered into a lease agreement to rent backup power during hurricane season
  - 93% of Wastewater peak hourly flow is covered by back up

Fixed Generators	Fixed Pumps	Portable Pumps and Generators	Dual Electrical Feed
347	110	274	7

Wastewater System Improvements | Resiliency Program

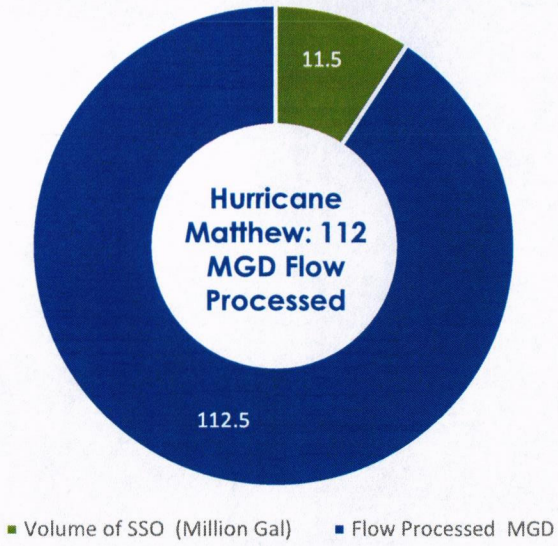
Storm Resiliency Improvements - Pump Stations

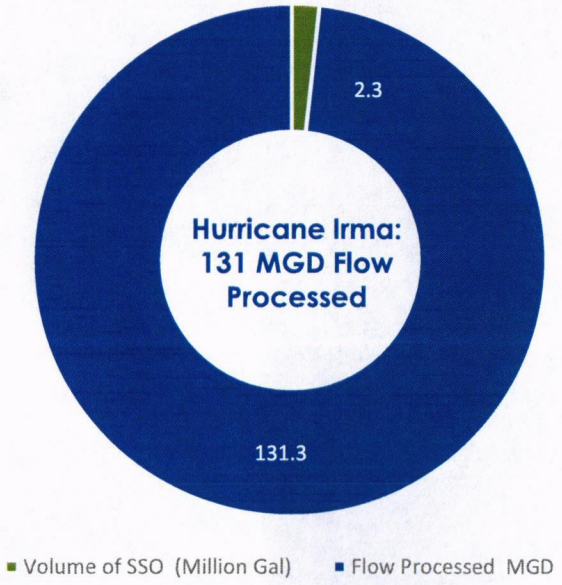
Loss of line power is a major contributor to sewer overflows at pump station
- Locations of Loss of Power varies based on the storm characteristics
- Loss of power is typically tree canopy related

JEA has mitigated the potential for loss of power through:
- Aggressive tree mitigation
- Undergrounding services at heavily wooded sites
- Additional back up power added to pump stations
- Prioritization of electrical restoration with Energy
- Raised standards to require 3 hour hold time or back up power
- Flood inundation study completed and used for new designs

Results: reduction of SSO volume from Hurricane Matthew to Hurricane Irma
- Normal treatment flow is 75 MGD
- Hurricane Matthew flow was 112.5 MGD
- Hurricane Irma flow was 131 MGD

Due to aggressive improvements after Hurricane Matthew, less impact was felt by Hurricane Irma
- Loss of power down by 55 stations (4%)
- SSO's down by 7 stations (13%)
- Sewer overflow volume down by 9.2 million gallons





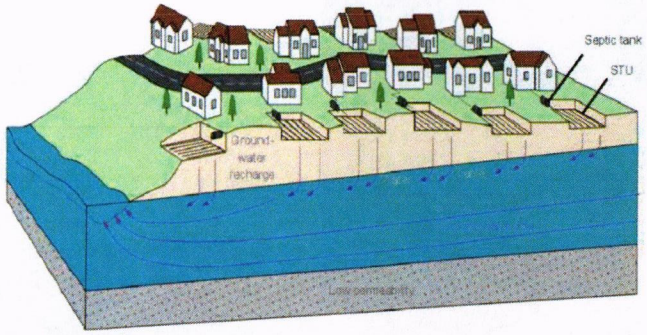
Subsection C

Strategic Capital Improvements

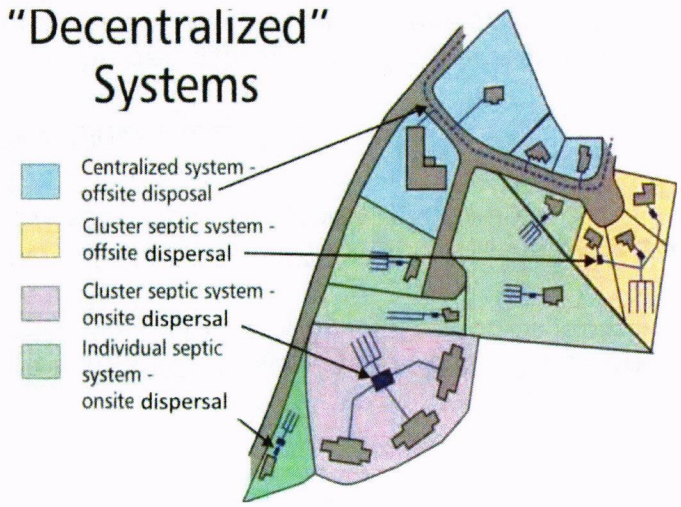
Wastewater System Improvements | Septic Tank Phase Out (STPO) Initiatives

Failing septic systems – negative environmental impact

- JEA is developing innovative solutions to address failing septic systems in Duval County and Northeast Florida
- Replacing 22,000 priority septic tanks with traditional gravity is estimated to cost ~$708MM over 30 years



Overall there are over 65,000 septic systems



- JEA and its engineering partner are studying solutions which reduce costs of replacement:
  - Study will identify specific solutions for the 22,000 priority locations; solutions for collection may include gravity, low pressure system and vacuum or elimination of collection utilizing on-site treatment systems
  - Solutions will then inform decisions for replacement of the remaining 43,000 units
  - Study includes:
    - Research of available systems
    - Considers alternatives such as decentralized treatment systems
    - Planning for potable water upgrades as needed
    - Pilot of viable systems as required

Overall there are over 65,000 septic systems, the replacement of these systems is estimated to cost $1.3Bn [1], if innovative solutions are found

Note:
1. From FY 2020 – FY 2030, the Respondent financial model includes $440MM of total capital expenditure in the "Management Case" and "Scenario A", of which, $440MM corresponds to Management Case Initiatives

Significant Investment Opportunities in Wastewater Treatment

Overview

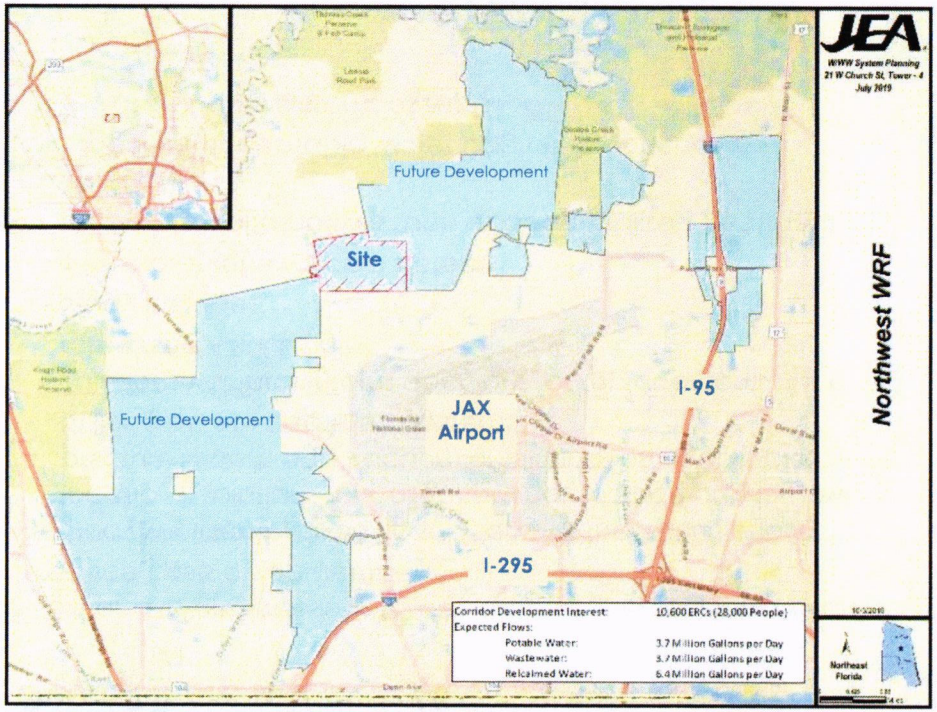
Population growth and future development elevate the need for additional wastewater treatment investments

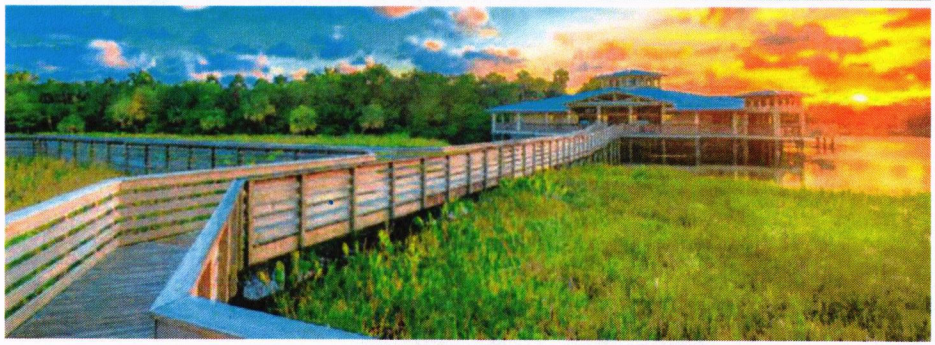
Greenland WRF

- In the early 2020s, the Greenland WRF will be constructed to provide service to the Southeast region of Jacksonville
  - JEA is investing over $80MM dollars in the 6.0 MGD advanced wastewater treatment plant

Northwest Jacksonville WRF

- Later in the decade, significant development (11,000 connections based on current developer indications) will drive the need for a new WRF
  - JEA is projecting costs at over $290 – $325MM dollars for the wastewater, purified water and reclaimed water facility [1]





New wastewater treatment facilities unlock regional growth potential in a sustainable way

Note:
1. From FY 2020 – FY 2030, the Respondent financial model includes $180MM of total capital expenditure in the "Management Case" and "Scenario A" for upgrades to Northwest and other facility systems

Subsection D

Additional Growth Opportunities

Water & Wastewater System Opportunities

Since 2000, JEA has acquired numerous local utilities in the greater Jacksonville area. Our charter has limited us in the past but we have a history of acquiring and assimilating utilities

Target	Seller	Announcement Date	# of Water Connections [1]	# of wastewater Connections [1]	Transaction Value ($MM)
Gate Maritime	Gate Maritime Properties, Inc.	6/13/2000	NA	NA	1.0
Regency Utilities	Regency Utilities Inc.	4/10/2001	NA	NA	7.7
United Water	United Water Florida LLC	12/28/2001	37,000	37,000	219.0
Florida Water	Florida Water Services Corporation	10/15/2003	5,800	5,300	25.0
Nocatee	Nocatee Utility Corporation	12/6/2004	17,500 [2]	17,500 [2]	2.3
St. Joe	St. Joe Utilities Company	12/22/2004	8,600 [2]	8,600 [2]	2.3
Total			**68,900**	**68,400**	**257.2**

JEA has the historically-proven ability to expand its footprint through strategic acquisitions of nearby utilities

Notes:
1. Approximated connection figures
2. Estimated connections at build out

Water & Wastewater System Opportunities (cont'd)

Overview

JEA has or could build this capability internally

JEA would likely need to partner to build this capability

Water/wastewater utilities face increasing pressures, but have limited ability to respond…

- Florida water utilities will require $10Bn through 2030 to replace aging infrastructure
- US water bills increased ~6% since 2010, while average consumption has decreased
- Water / wastewater regulations increased 40% from 2010 to 2017. FL lawmakers are considering new environmental standards, but few utilities have the expertise to meet these regulations

…a high performer with operational excellence and access to capital can radically transform FL water/Wastewater utilities

- JEA is a top performing water/wastewater utility that has maintained high quality operations while keeping rates below Florida's mean
  - The average water utility's O&M/customer spend is 4x higher than JEA's and wastewater O&M/customer spend is 5% higher
- JEA is a leader in environmental water quality and can help Northeast Florida utilities meet and exceed environmental standards

How JEA will capture value

JEA will acquire and transform nearby water utilities along major Florida transit routes, becoming a roll-up platform for water services by doing the following:

- Bring acquired utilities up to top performer status
- Optimize back office services
- Enhance systems through efficient Capex deployment, maintaining affordability across a wide customer base

What it takes for JEA to be successful

- A deep understanding of the water system, regulations and customer relationships
- A trusting relationship with Florida municipalities and utilities to support smooth acquisition and integration
- Operational expertise in managing regional capital projects, including implementing emerging technologies
- A partner to infuse capital for water acquisition, integration and system improvements, given 30x P/E multiples [1]

By the numbers – expansion potential	**Up to 2.95MM** new customer accounts added by acquiring utilities in Florida	**$1,135MM of** potential Opex savings from moving these utilities to JEA's efficiency [2]	**$930MM** run-rate capex investment opportunity through 2030 [3]

JEA can grow its water footprint via acquisition, using its top quartile operational performance and capabilities to provide more efficient, affordable services across Florida

Source: GWI, Circle of Blue, AWWA State of Water Industry 2019, Michigan State University, EPA, Market data, BAML analyst reports, press search, JEA Invitation to Negotiate

Notes:
1. In 2018, water utilities were trading at P/E multiples of ~30x, higher than electric (~19x) and gas (~21x) utilities
2. Assumes Northeast Florida utilities' cost profiles resemble the national average, as benchmarked by AWWA, and that JEA can improve O&M/customer spend to JEA's levels by 2030
3. Assumes JEA will invest Capex at 50% of the rate of its core business (including baseline Capex spend and incremental Strategic Capital investments in water)

JEA

Section 5

Financial Overview

Rate Base Overview

Summary Overview of FTI's Analysis of Rate Base for Electric and Water and Wastewater Systems

- FTI completed an analysis of JEA's Electric System balance sheet and the adjustments that would be made to each pro forma balance sheet account for purposes of the Respondent Financial Model
- For each account, FTI determined whether a balance would transfer to the NewCo upon completion of the transaction
  - If it would, no adjustment was made and the JEA current balance serves as an input to the pro formas in the Respondent Financial Model
  - In some cases, assets or liabilities would be eliminated/liquidated or the account balance would remain with JEA following closing of the transaction. In those instances, an adjustment was made so that the starting point of the Respondent Financial Model would accurately reflect the assets and liabilities that transferred with JEA upon closing the transaction

Balance Sheet Adjustments	
	Elimination of cash and investment balances currently on hand to pay down debt or other purposes by JEA – these assets, some of which have offsetting liability accounts, will be liquidated and used to defease debt or for some other purpose and, as such, will not be included in the assets of the NewCo
	Assets that will be extinguished because JEA's pension obligations will be extinguished at the closing of the transaction. As a condition of the sale, JEA is meeting all outstanding pension obligations for its current employees. As such, these accounts are eliminated and are not transferred to the NewCo
	Miscellaneous adjustments, which will net against either debt or net position (equity) accounts that define total capitalization post adjustments

Electric System Starting Rate Base Build
($MM)

Beginning September 30, 2019 Electric System Utility Plant	**2,684**
(+) Capex	224
(-) Accounting Depreciation	(231)
(+) Net Working Capital & Other Net Regulatory Assets	441
(+/-) Accumulated Deferred Tax Assets / (Liabilities)	18
September 30, 2020 Rate Base	**3,136**

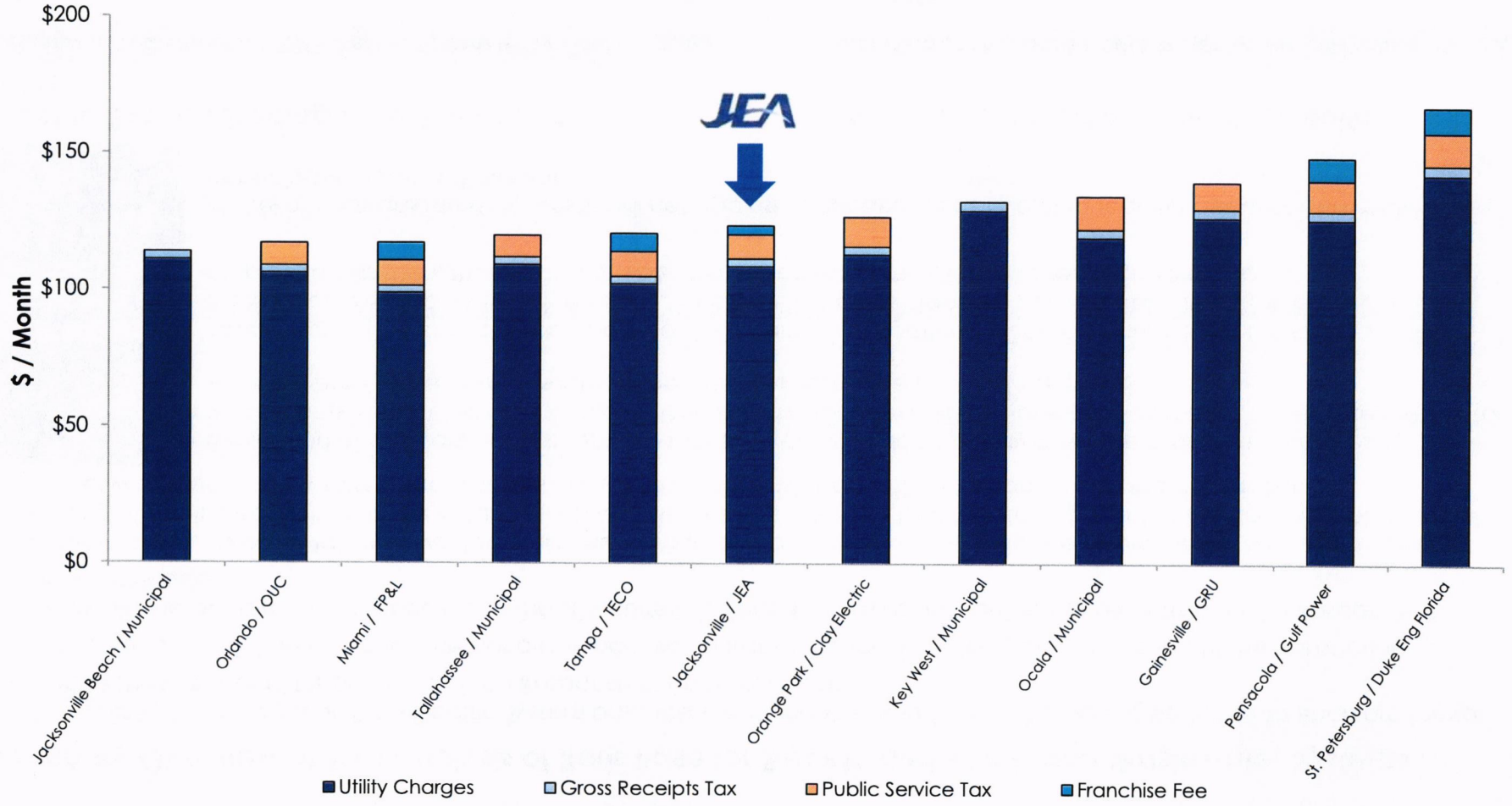
Water System Starting Rate Base Build
($MM)

Beginning September 30, 2019 Water System Utility Plant	**2,476**
(+) Capex	237
(-) Accounting Depreciation	(162)
(+) Net Working Capital & Other Net Regulatory Assets	89
(+/-) Accumulated Deferred Tax Assets / (Liabilities)	15
September 30, 2020 Rate Base	**2,655**

Note:
1. See JEA ITN Regulatory Report for additional detail and fulsome analysis

Rate Base Overview | Bill Affordability

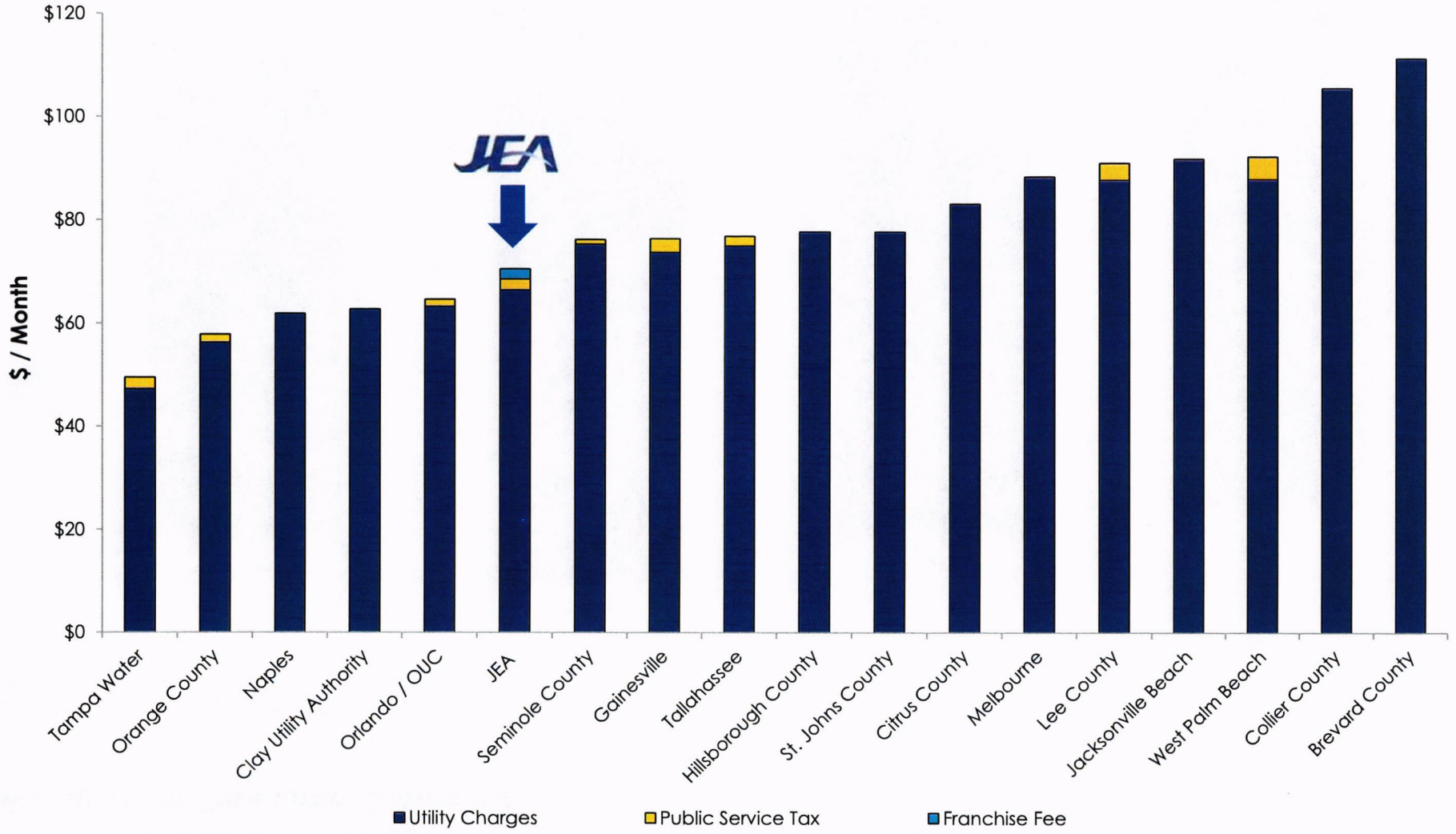
Florida Utilities Monthly Residential Electric Bill Comparison [1][2]



Notes:
1. Consumption @ 1,000 kWh
2. Residential Rates as of September 2019

Rate Base Overview | Bill Affordability

Florida Utilities Monthly Residential Water & Wastewater Bill Comparison [1][2]

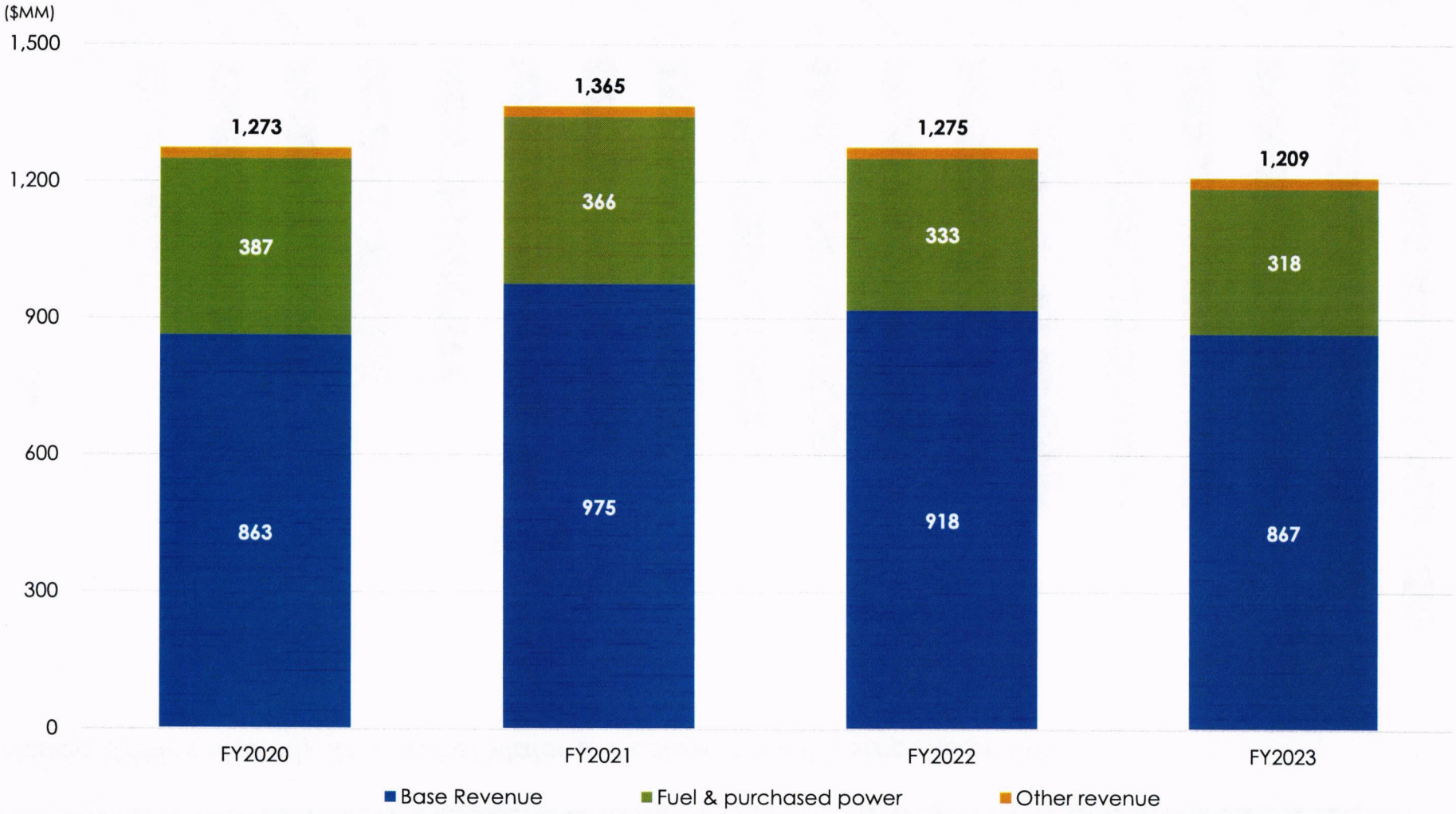


Notes:
1. Residential Service with a 5/8" meter and 6 kgals of Consumption
2. Residential Rates as of September 2019

Electric System Sales Forecast

Management Case Under Scenario A

Electric System Sales Forecast

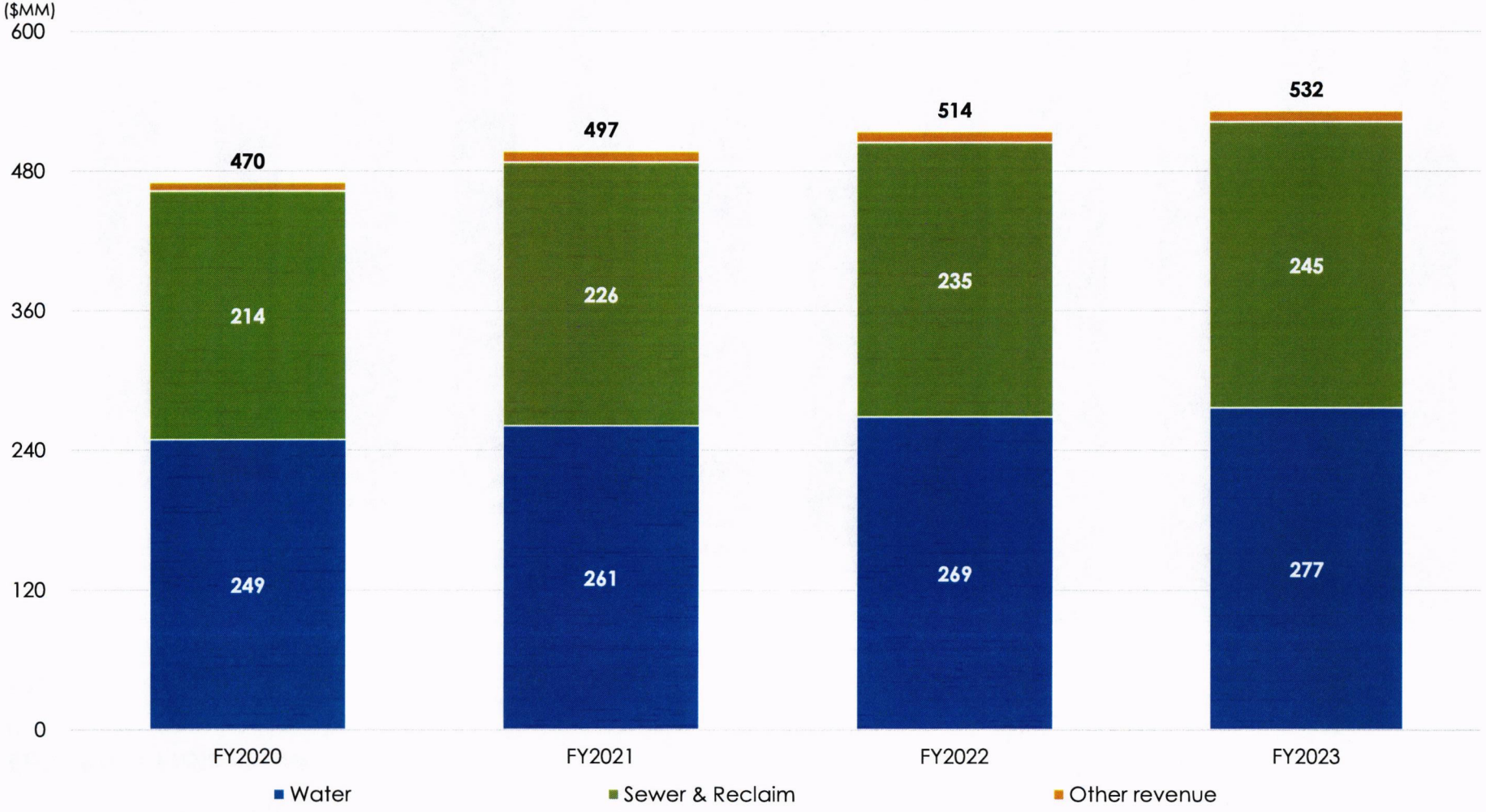


Source: JEA ITN Respondent Financial Model

Water & Wastewater System Sales Forecast

Management Case Under Scenario A

Water & Wastewater System Sales Forecast

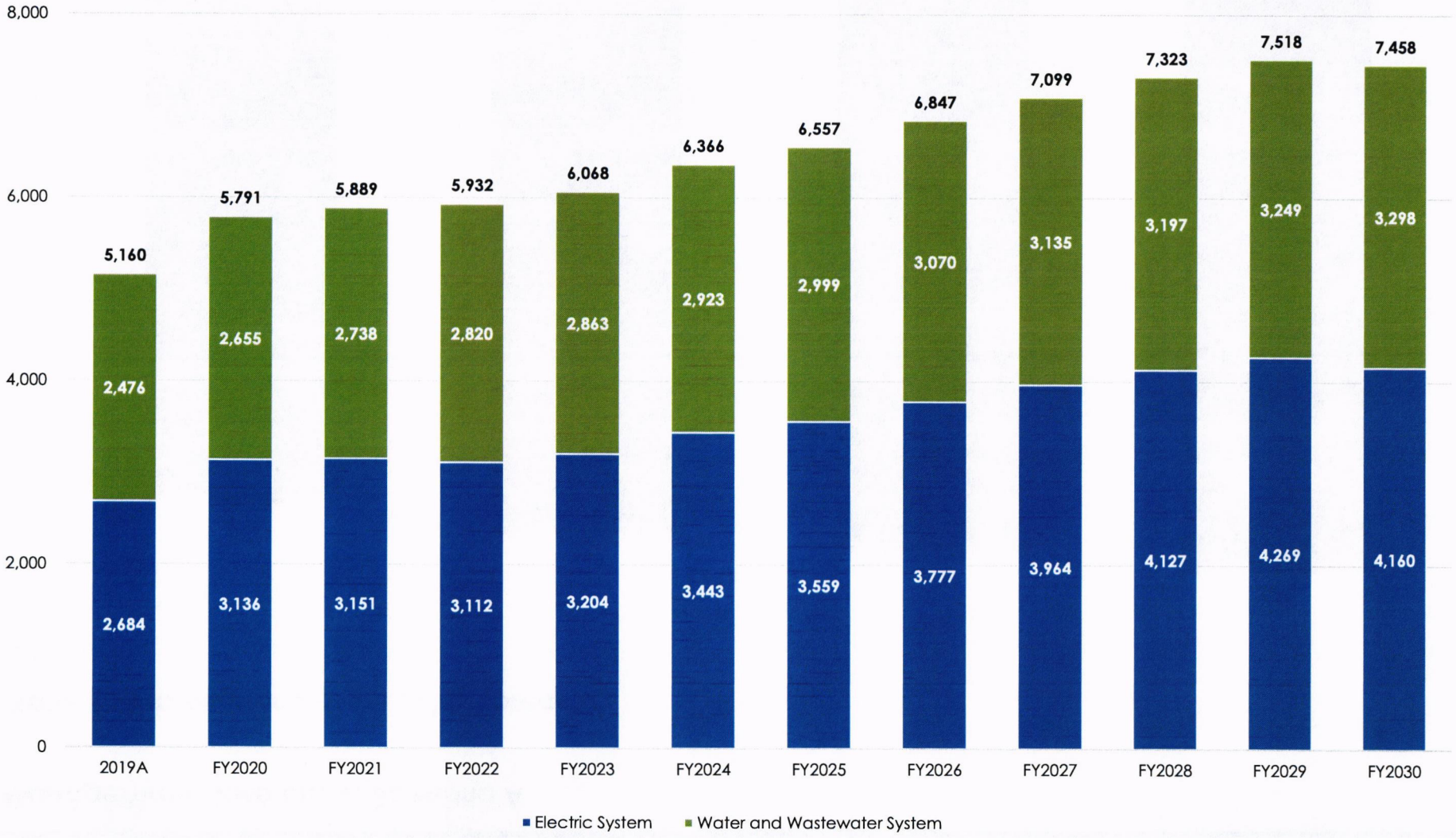


Source: JEA ITN Respondent Financial Model

Rate Base Projections

Rate Base Projections

($MM)

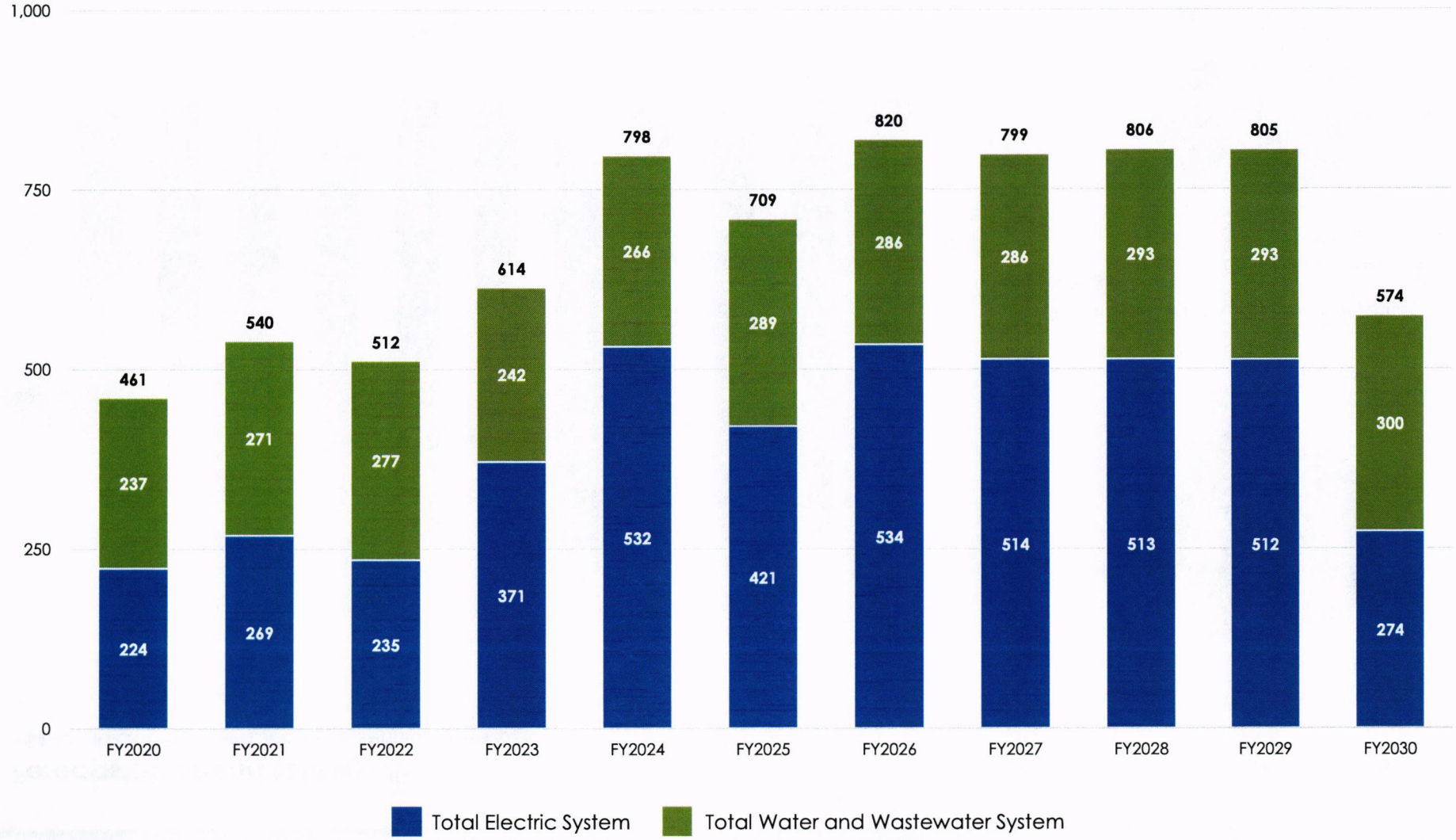


Source: JEA ITN Respondent Financial Model

Capital Expenditures Projections

Capital Expenditure Projections

($MM)

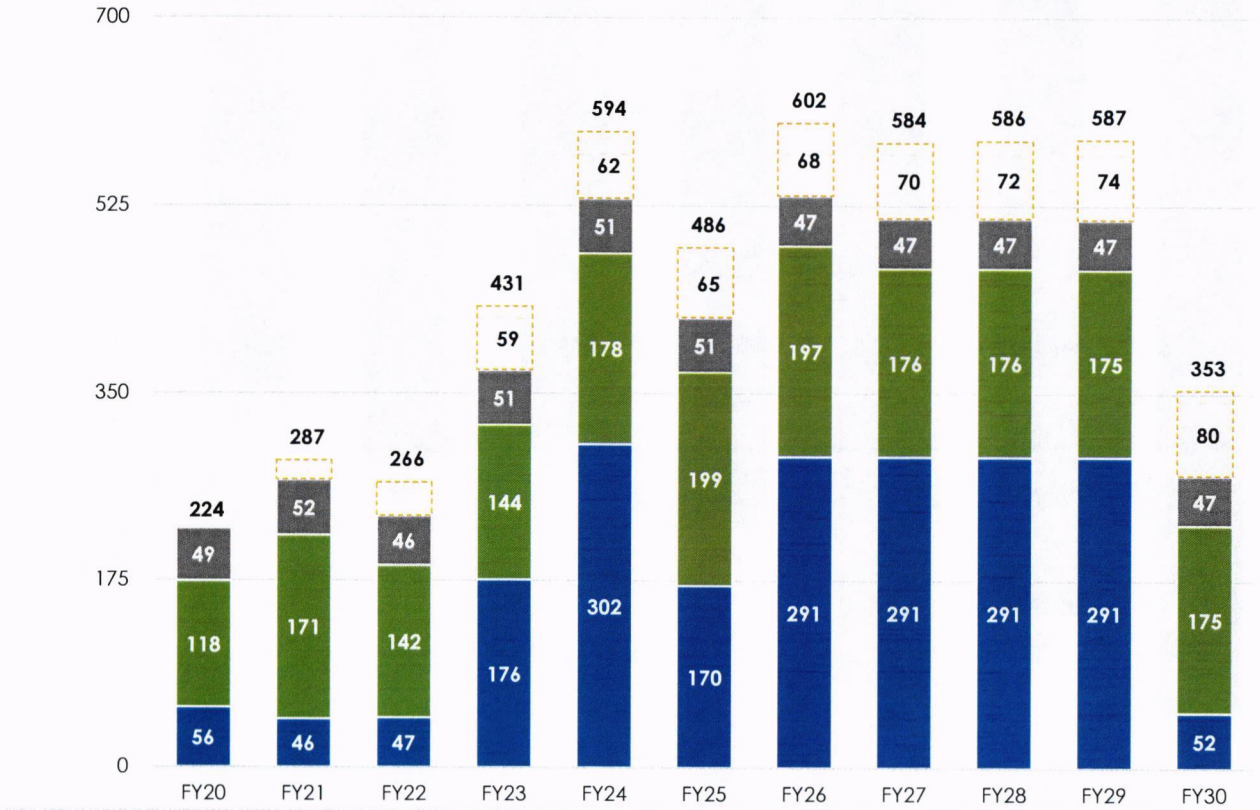


Source: JEA ITN Respondent Financial Model

Electric System | Planned Capital Expenditures

Forecasted Spend ($MM) [1][2]

~$4.4Bn in CapEx forecasted between 2020 and 2030



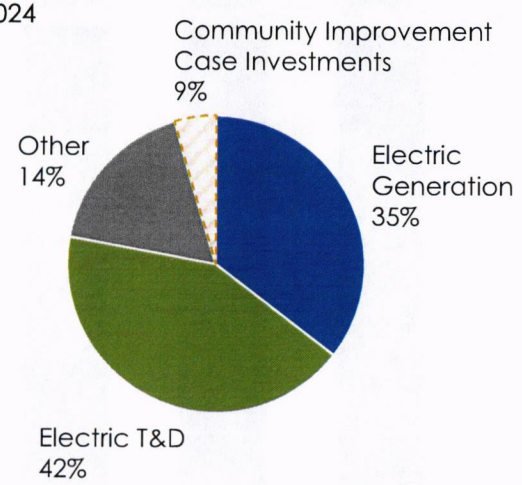
	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30
Management Case CapEx	224	269	235	371	532	421	534	514	513	512	274
Total CapEx	224	287	266	431	594	486	602	584	586	587	353

Electric Generation | Electric T&D | Other | Community Improvement Case Investments

Source: Company Projections

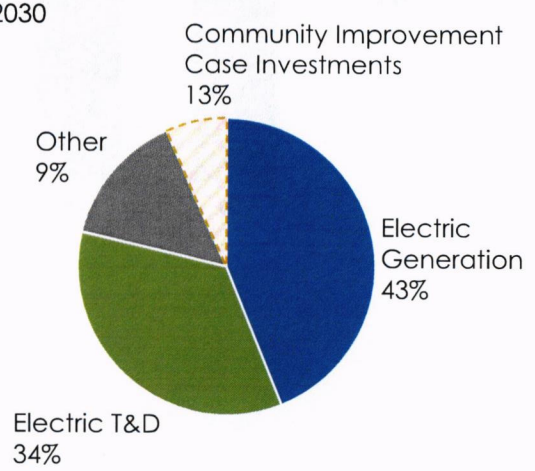
Total Projected Capex ($MM)

2020 – 2024



Total Projected Capex ($MM)

2025 – 2030



Notes:
1. Excludes Complete and Cancelled Projects and any non-regulated CapEx associated Community Improvement Case Investment
2. $770MM of the total $1,852MM Electric T&D CapEx or 42% and $151MM of the total $536MM Other CapEx or 28% over years 2020-2030 is associated with Management Initiatives

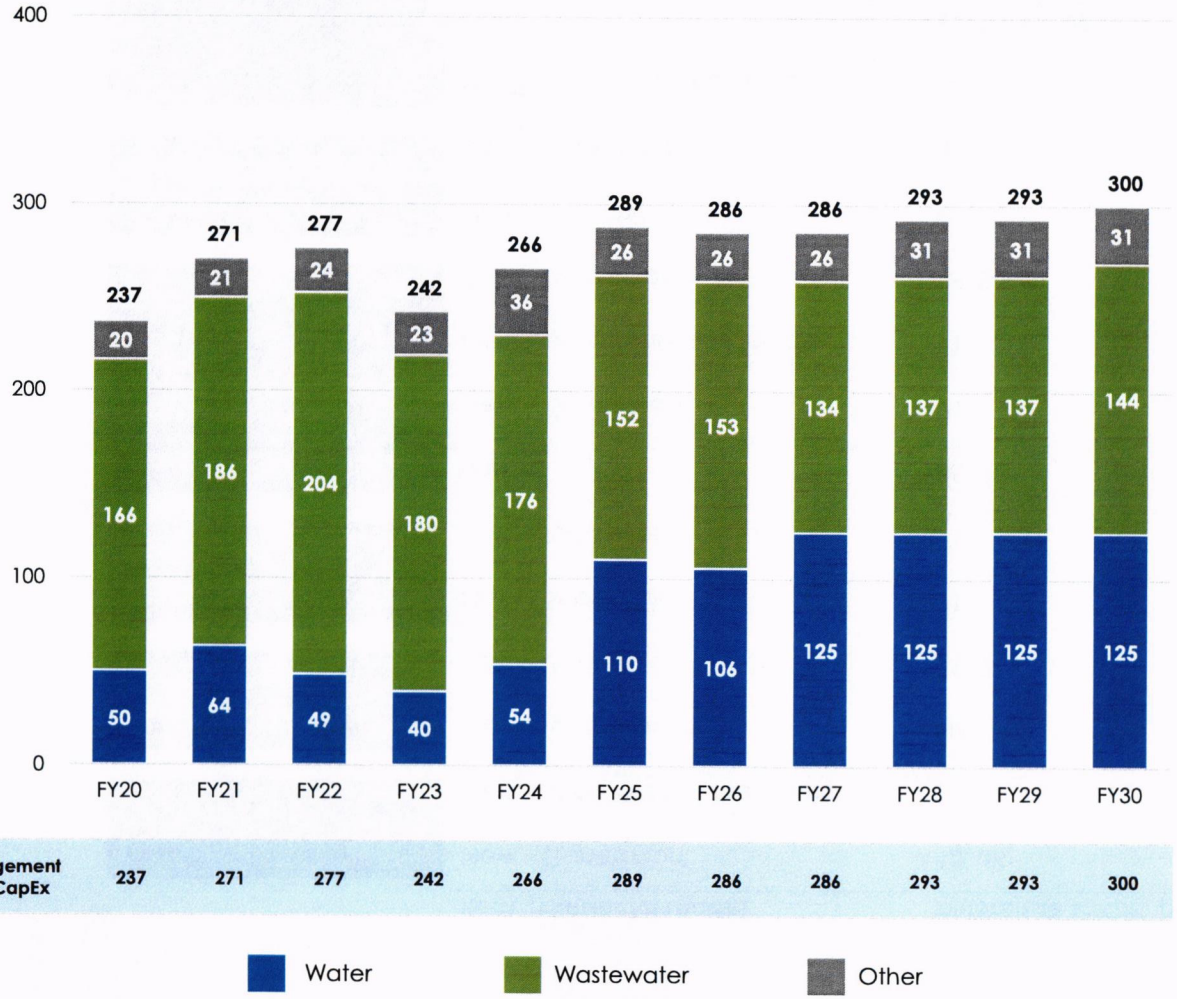
Where Base Electric System Capex Is Described CIP and Model

	Item in financial model	Reference to CIP, page	Reference to base 10-year forecast, row
Expanded generation capacity capex	New - Generation	10, 64	Row 5, Tab "Energy"
	Generation Fleet of the Future	21, 64, 78, 79, 93	Strategic capital
Electric System generation capex	Gas Line Upgrades	NA	Row 10, Tab "Energy"
	R&R – Generation	91, 94	Row 11, Tab "Energy"
Electric System substation capex	New – Substation	91	Row 7, Tab "Energy"
	R&R – Substation	91	Row 8, Tab "Energy"
Electric System distribution capex	Meters	85, 96	Row 13, Tab "Energy"
	New – Distribution	91	Row 14, Tab "Energy"
	New Development/Additions	91	Row 15, Tab "Energy"
	R&R – Distribution	25, 81, 91	Row 16, Tab "Energy"
Electric System transmission capex	New – Transmission	NA	Row 18, Tab "Energy"
	R&R – Transmission	81	Row 19, Tab "Energy"
Other capex	Facilities and Physical Security	NA	Row 21, Tab "Energy"
	Fleet	87, 93, 94, 95	Row 22, Tab "Energy"
	Miscellaneous	77, 78, 79	Row 23, Tab "Energy"
	Technology Services	77, 78, 80	Row 24, Tab "Energy"

Water & Wastewater Systems | Planned Capital Expenditures

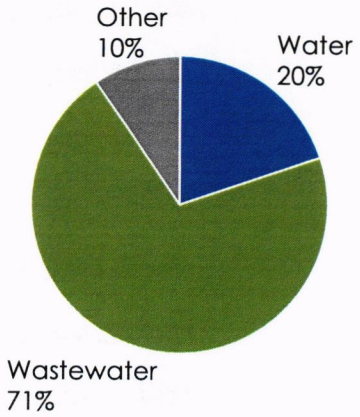
Forecasted Spend ($MM) [1][2]

~$3.0Bn in CapEx forecasted between 2020 and 2030



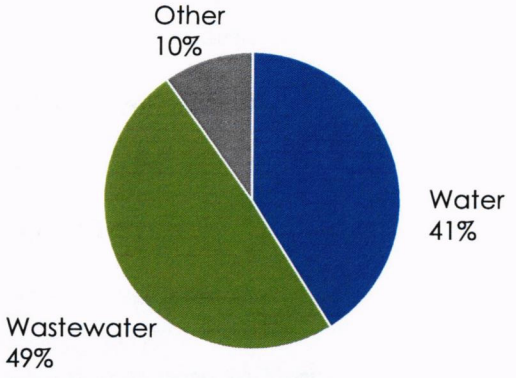
Total Projected Capex ($MM)

2020 – 2024



Total Projected Capex ($MM)

2025 – 2030



Source: Company Projections

Notes:
1. Excludes Complete or Cancelled Projects
2. $410MM of the total $972MM Water CapEx or 42% and $440MM of the total $1,770MM Wastewater CapEx or 25% over years 2020-2030 is associated with Management Initiatives

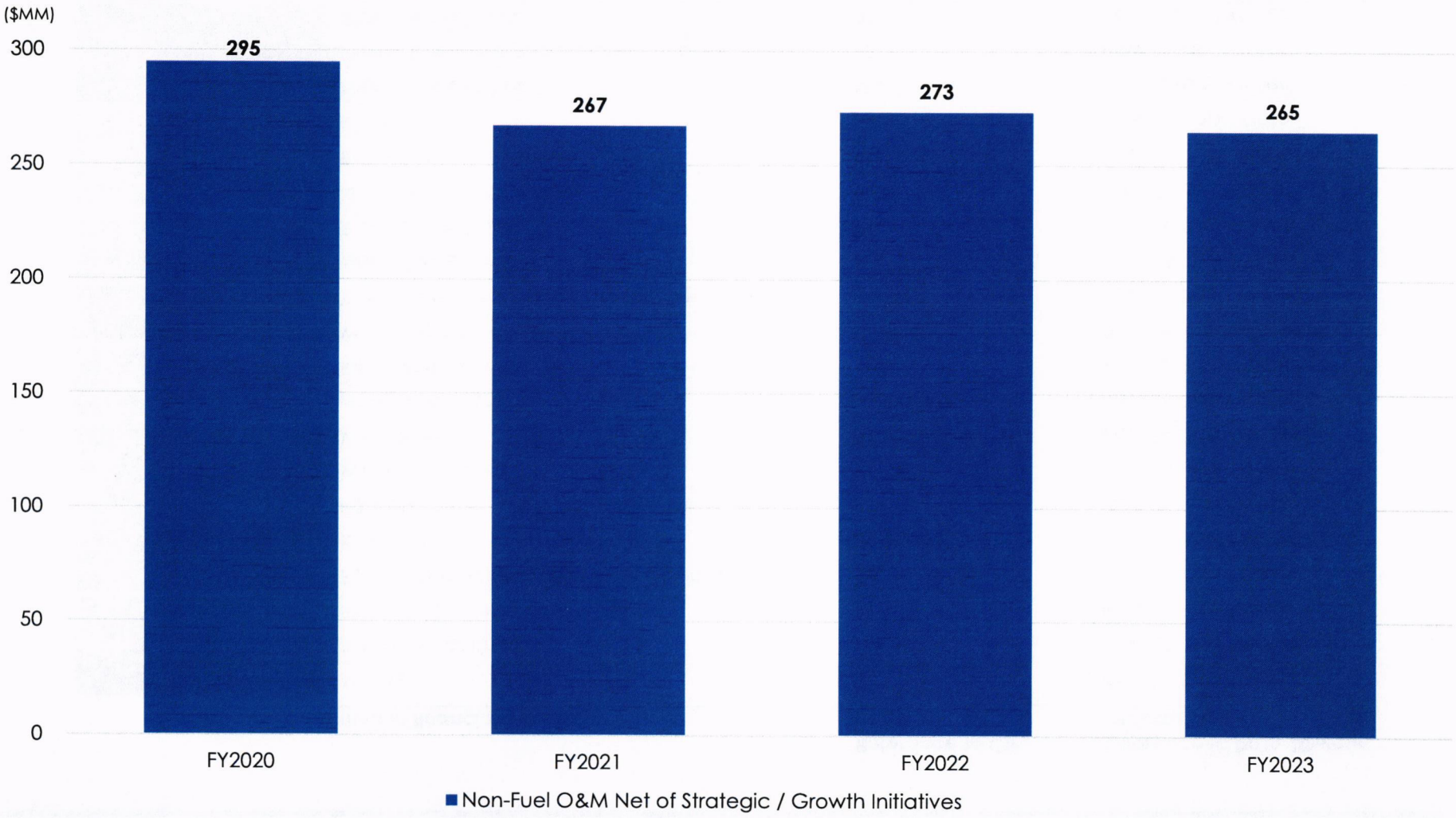
Where Base Water System Capex Is Described CIP and Model

	Item in financial model	Reference to CIP, page	Reference to base 10-year forecast, row
Water Distribution	Meters	85	Row 21, Tab "Water"
	New - Water Lines	NA	Row 22, Tab "Water"
	R&R - Water Lines	91	Row 23, Tab "Water"
Water Treatment	Purified and Alternative Water Options	33, 34, 90, 91, 140	Row 30, Tab "Water"
	R&R - WTPs	35, 82, 91	Row 31, Tab "Water"
	R&R and New - Wells & Storage Tanks	91	Row 32, Tab "Water"
	WTP - Expansions	91	Row 33, Tab "Water"
	WTP - New	91	Row 34, Tab "Water"
Wastewater Treatment	New - WRF Plants	35, 90, 91	Row 16, Tab "Water"
	R&R - WRF Plants	90, 91	Row 17, Tab "Water"
	WRF – Expansions	90, 91	Row 18, Tab "Water"
	WRF - Large Improvements/Upgrades	90, 91	Row 19, Tab "Water"
Sewer Collection	New - Sewer Lines	NA	Row 13, Tab "Water"
	R&R - Sewer Lines	91	Row 14, Tab "Water"
Sewage Pump Stations	New - Pump/Lift Stations	91	Row 9, Tab "Water"
	R&R - Pump/Lift Stations	91	Row 10, Tab "Water"
	Resiliency	91	Row 11, Tab "Water"
Reclaim Water Distribution	New - Reclaim Lines	NA	Row 5, Tab "Water"
	Plant - Upgrades and Expansions for Reclaim	35	Row 6, Tab "Water"
	R&R - Reclaim Lines	91	Row 7, Tab "Water"
Water Other Capital Projects	Facilities and Physical Security	NA	Row 25, Tab "Water"
	Fleet	82, 83	Row 26, Tab "Water"
	Miscellaneous	82, 83	Row 27, Tab "Water"
	Technology Services	82, 83, 91	Row 28, Tab "Water"

Electric System O&M Forecast

Management Case Under Scenario A

Electric System O&M Forecast



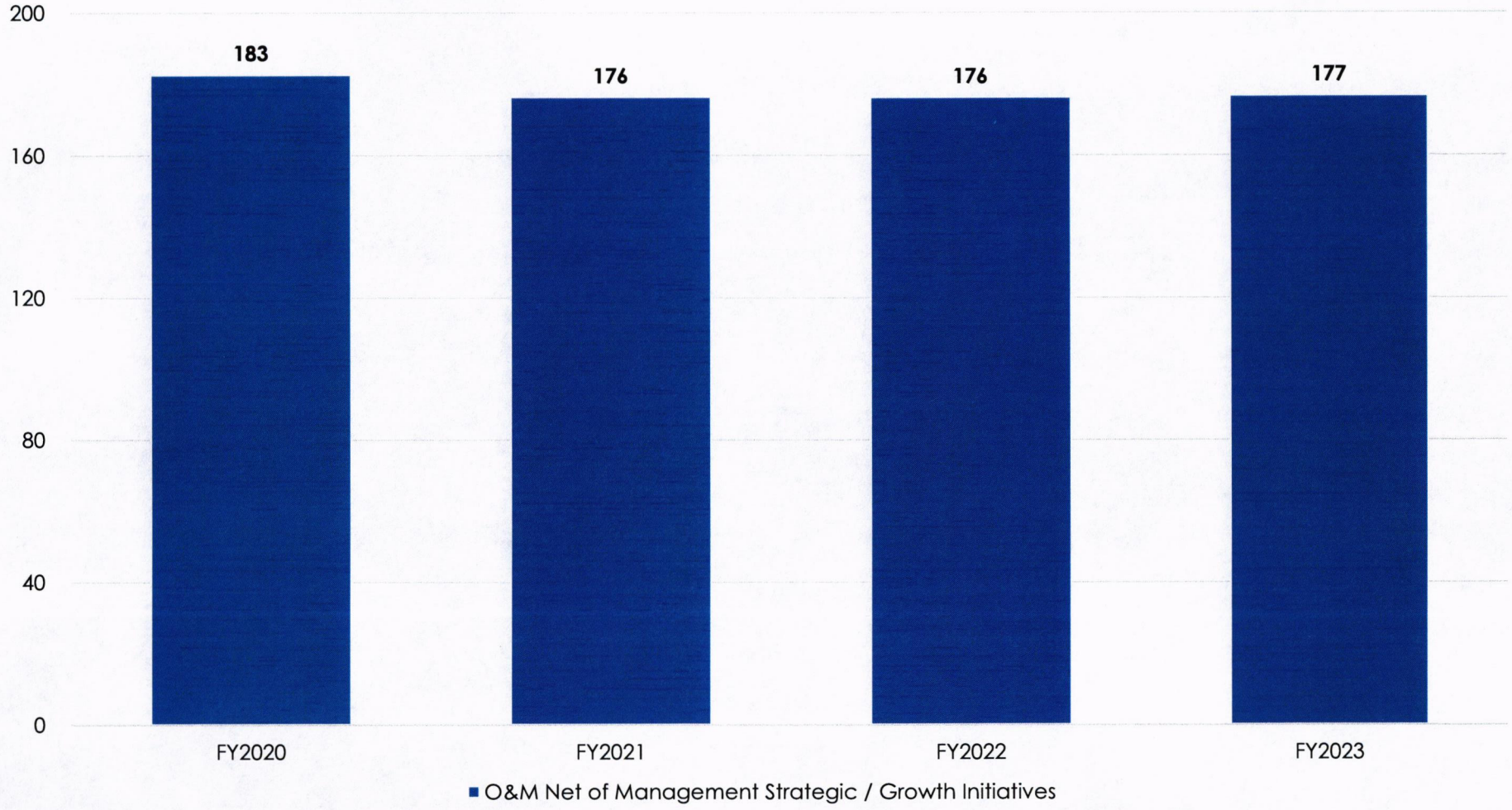
Source: JEA ITN Respondent Financial Model

Water & Wastewater System O&M Forecast

Management Case Under Scenario A

Water & Wastewater System O&M Forecast

($MM)



Source: JEA ITN Respondent Financial Model

Subsection A

Risk Management

Risk Management

Overview

JEA's goal is to minimize risk exposures to financial loss from bodily injury and/or property damage resulting from JEA's operations in a manner consistent with JEA's core values, policies and procedures. To achieve this goal JEA is responsible for providing protection for corporate assets through the application of risk management techniques and providing services such as:

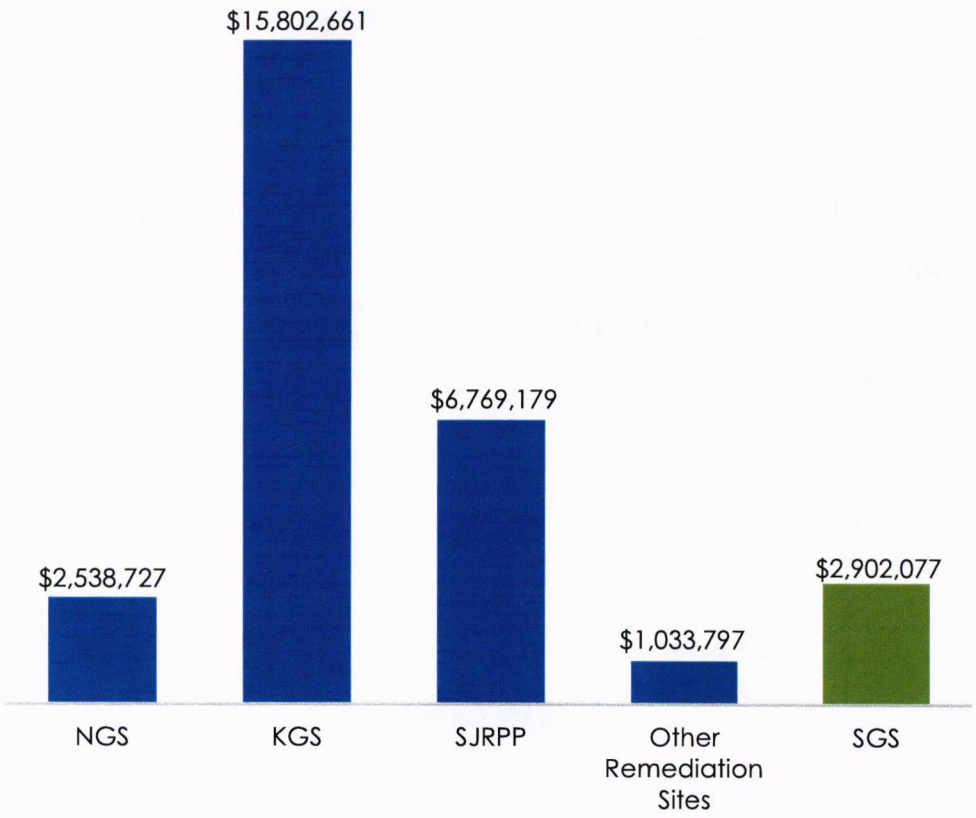
- Negotiation with insurance carriers, the procurement of JEA/SJRPP's property, liability and workers' compensation insurance, including management of self-insurance programs
- Manage public liability claims and litigation involving JEA/SJRPP for bodily injury and property damage to others
- Manage JEA property damage subrogation for reimbursement by third parties who damage JEA's assets
- Review of contracts, agreements and leases as a member of JEA's Solicitation Committee
- JEA's representative for FEMA to obtain reimbursement of disaster related damage to JEA's assets
- Work with JEA's facility managers to comply with our property insurance carrier's engineering recommendations for loss prevention to JEA's assets
- Communicate effectively with all JEA business segments to minimize overall company exposure and reputational risk

Post Remediation Closure Liabilities & Costs

Environmental Liabilities & Post Closure Costs

Estimated environmental liabilities and post-closure costs at the various JEA sites are $26.1MM

- Of the approximate $26.1MM, approximately $15.8MM is associated with the Kennedy Generating Station to address remediation of contamination from a wood preserving operation
- Approximately $6.8MM for the St. Johns River Power Park for Area B closure and post-closure actions
- Smaller amounts of costs (a total of $1.0MM) are allocated to various other sites
- Southside Generating Station not included in the $26.1MM total, however exists as a backstop if current developer defaults
- Future NGS demolition and remediation costs not included
  - Northside Generating Station is shown in the CIP to be decommissioned between the 2025 and 2030 timeframe
    - While total decommissioning costs have not been determined, Unit 3 is 1979 vintage
    - NGS Units 1 and 2 were repowered in 2002/2003 but Turbine components are also early vintage, and contain asbestos, lead paint and other construction materials
    - All three units prior to repowering were oil units



Post remediation & closure opportunities include potential sale and reuse of industrial sites/facilities

Section 6

Customer Engagement

JEA

Subsection A

Overview

The JEA Customer

JEA Residential Customer Segmentation

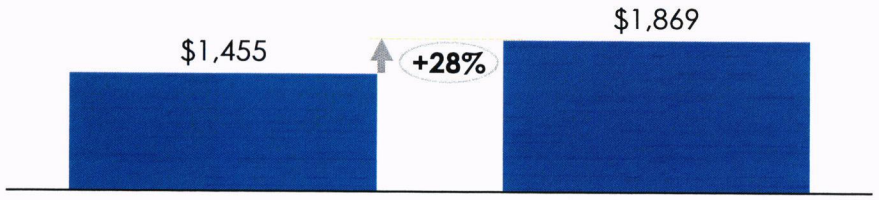
1- On The Move	2- Cost Conscious Needy	3- Erudite Splendor	4- Path to Prosperity	5- Set it and Forget it	6- Digital in Debt	7- Boomer Contentment	8- Blue Sustenance
15%	13%	13%	6%	7%	16%	16%	15%
• Young • Single • Renters • Low Incomes • Multi-family homes • Electric only consumption • Many customers < 3 years • Low consumption • Pay online • High % of low income	• High number of pre-pay • Young • Single • Small homes • Older homes • Low incomes • Water & electric consumption • Many customers < 3 years • Medium consumption • Collections and contact frequency • Pay online • High % of low income assistance	• High % of pools • Majority single family homes • Large homes • Mostly homeowners • Mostly married • High proportion of college degrees and professionals • Higher incomes • Mostly longer term residents • High usage • Mostly pay by check • Median age approaching 50	• Mostly homeowners • Large % of water only customers • Medium property size • Large % with college degree and professionals • Higher income • Good credit • Low maintenance • High Usage • Middle aged • Most pay by check	• Second highest % of pools • Majority single family homes • Mostly homeowners • Medium property size • Good credit • Middle aged • Mostly EZ pay • Highest % on Ebill • Low maintenance • Medium usage	• Youngest customers • Newer homes • Digitally inclined • Mostly single family homes • Higher % on Ebill • Majority pay online • High collections activity but low maintenance otherwise	• Highest proportion of retirees • Old homes • High length of residence • Good credit • Highest age group • High outage related effort but medium maintenance • Mostly pay by check	• >50% electric customers only • More renters • High blue collar population • Low to mid income • High % of low income assistance • Longer term of residence • Medium maintenance

40% of our residential customers are considered low-income or ALICE (Asset-Limited, Income-Constrained and Employed)

Bill Growth Will Be Outpaced By Wage Growth, Reducing Bills As An Overall Share Of Wallet

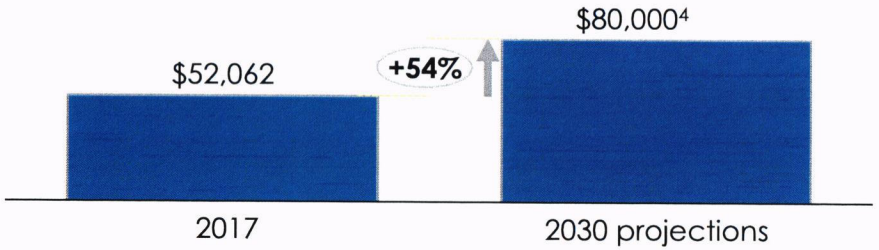
Increased investment in the electric system grows electric bills from an average of $1.4K in 2017 to $1.9K in 2030 …

Avg. electric bill [1], 2017, 2030 projections



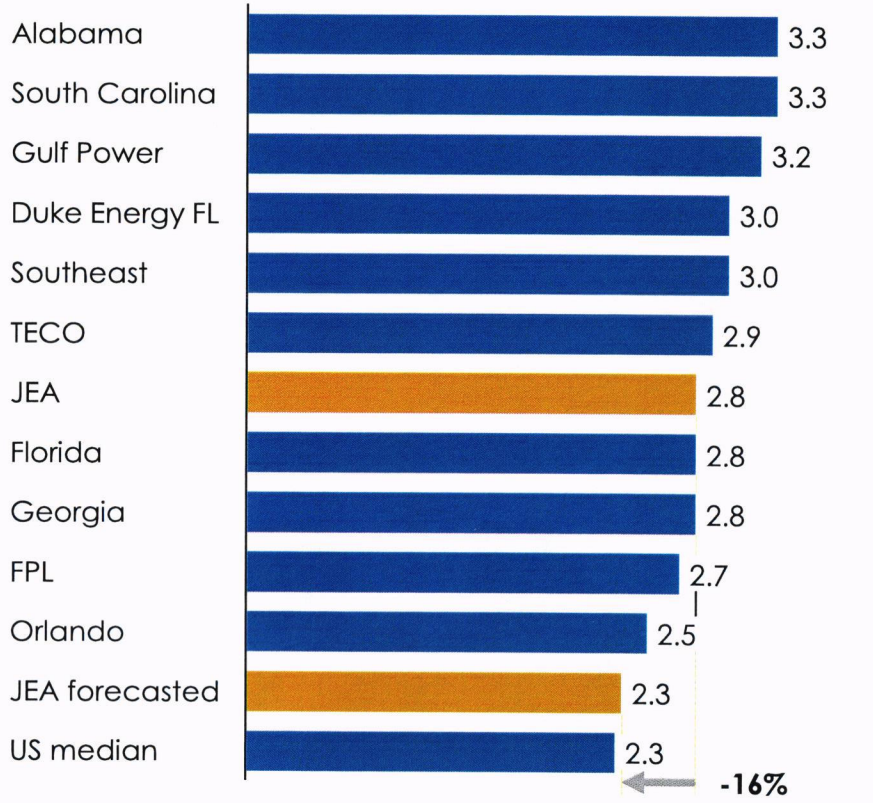
… but median incomes in Duval County are expected to grow at a faster pace of ~50%…[2]

Median household income [2], 2017, 2030 projections



… resulting in lower overall share of wallet in 2030 by .5 percentage points

Share of wallet [3], electricity spend as share of median income, 2017, 2030 projections



Source: Moody's Analytics, Census.gov, EIA, Bureau of Economic Analysis, company website

Notes:
1. EIA Form 861; ABB Energy Velocity 2 US census, household income 2017
2. Assumes median income CAGR of 2.7%, consistent with Duval County CAGR from 2010-2020
3. Share of wallet defined as average annual electricity bill (EIA Form 861) over median household income (census.gov)

Customer Engagement

Customer Satisfaction: From Worst to First

- In 2012 JEA's JD Powers customer satisfaction scores were in the lowest quartiles
- JEA took action to respond and hired their first Chief Customer Officer
- JEA embarked on a company wide effort to shift their focus to a customer centered focus
  - Customer service is not just the responsibility of the Customer Engagement team but of the entire JEA team as whole
  - The entire company is required to participate in annual customer service training
- In 2019, JEA reach its highest customer satisfaction score

Customer Engagement Team

- The Customer Engagement team is responsible for all customer facing or engaging activities. These activities include:
  - Customer Solutions & Market Development
  - Customer & Utility Analytics
  - Customer Revenue Services
  - Customer Field & Meter Services
  - Residential & Commercial Customer Experience Centers
  - Internal & External Communication
  - Ambassador Program
  - Website Management
  - Separate training and workforce management dedicated to customer advisors
  - Community Outreach

FY2019 Customer Satisfaction Goal

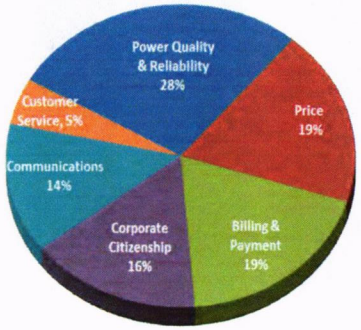
Achieve 1st Quartile Ranking for JD Power Customer Satisfaction Index for both Residential and Business Studies

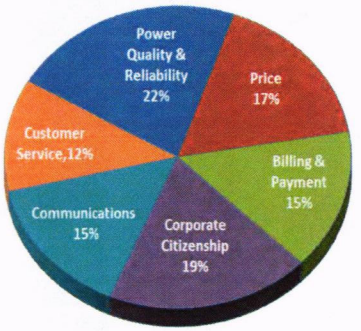
Residential (R)

FY2017		FY2018		Per 1		Per 2		Per 3		Per 4		FY2019	
1Q	747	2Q	737	2Q	750	1Q	765	1Q	754	2Q	754	1Q	756

Business (B)

FY2017		FY2018		Per 1		Per 2		FY2019	
1Q	779	1Q	802	3Q	760	1Q	804	2Q	782

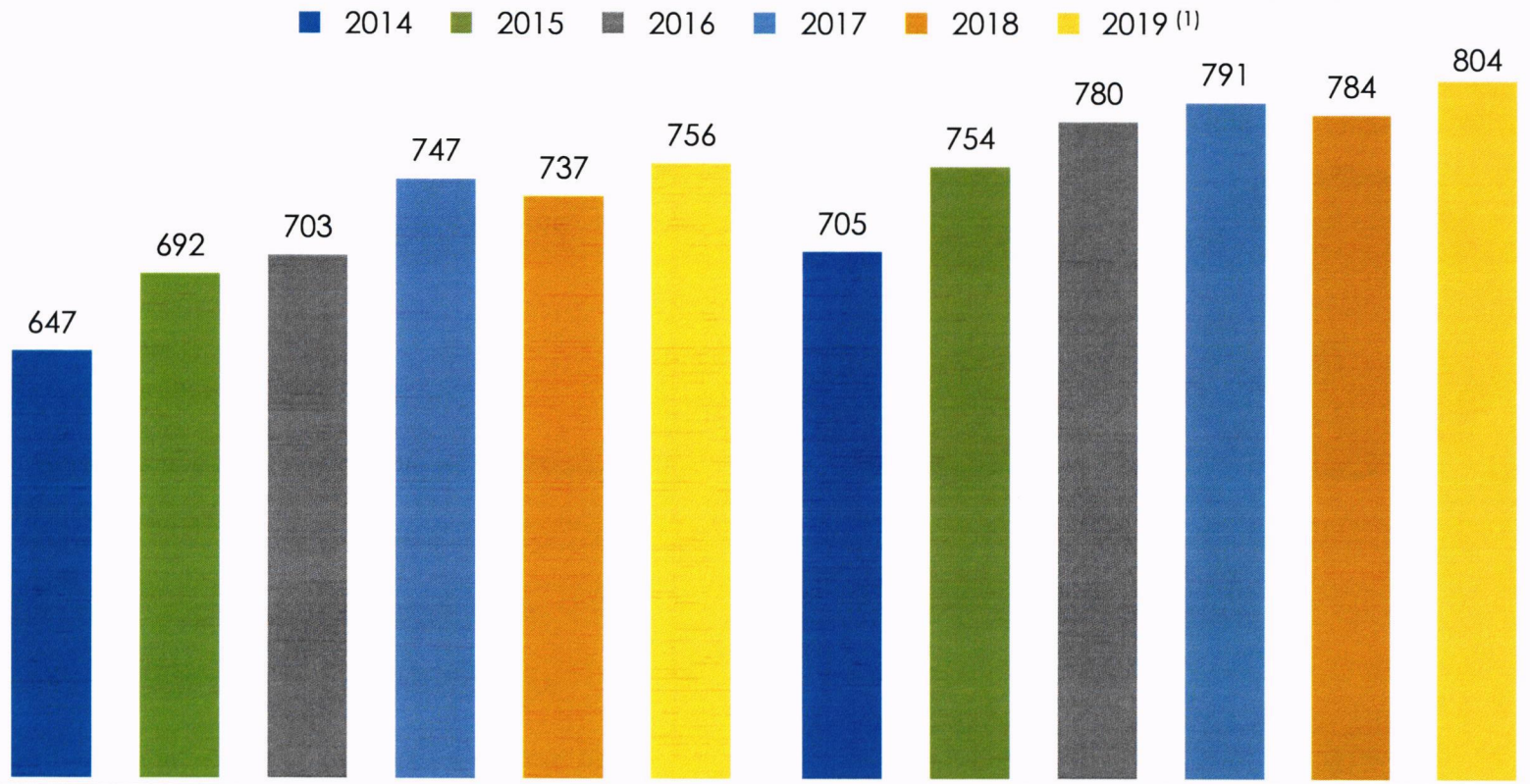




FY2019 Residential # of companies ranked: 142
FY2019 Business # of companies ranked: 87

1Q = 1st quartile 2Q = 2nd quartile 3Q = 3rd quartile 4Q = 4th quartile

Customer Satisfaction Index



JEA Quartile Industry	3	1	2	1	2	1	1	1	1	1	1	1
JEA Rank Industry	75/138	30/140	37/137	21/138	44/138	29/142	14/87	1/86	12/86	13/86	14/88	20/87
JEA Rank Florida	7/11	5/11	6/11	5/11	6/11	4/12	2/6	1/6	3/6	2/5	2/5	2/5
	Residential						Business					

Note:
1. 2019 Residential W2 YTD

Subsection B

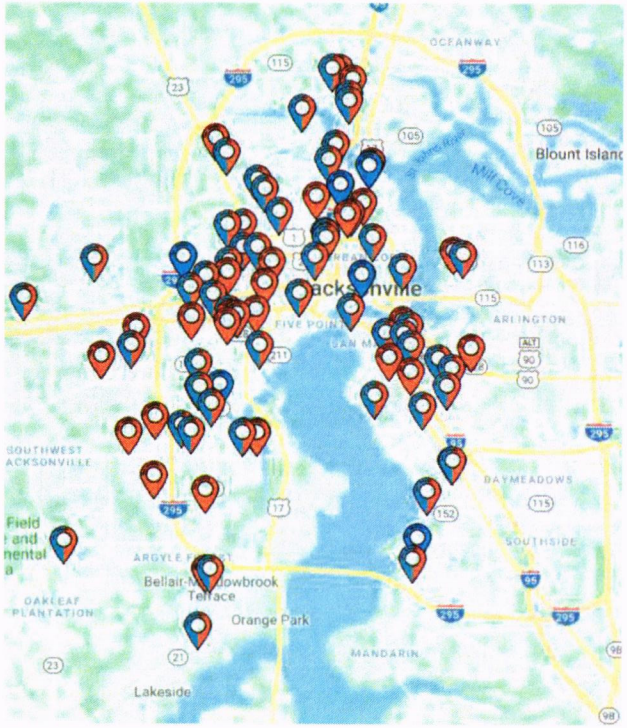
Current Operations and Management

Payment Methods & Programs

Payment Methods

JEA is adding more places and ways for our customers to make their payments close to home, work or school

- Payments can be made online at JEA.com or at any of the JEA authorized payment-only locations below



Convenient Customer Programs

We strive to create modern, intuitive, user-friendly experiences and provide utility programs to our customers through various billing and payment options

1. **JEA Auto Pay Program**
   An automatic bill payment method using the customer's checking or savings account
2. **JEA eBill Program**
   An electronic billing method that avoids the cost and resources associated with paper billing
3. **JEA Gift Card Program**
   A stored value gift card that can be used to pay JEA bills
4. **JEA MyBudget Program**
   A levelized billing program that takes the volatility out of seasonal billing by generating a customer's monthly payment using a rolling 12-month average
5. **JEA MyWay Program**
   A prepay service option that allows a customer to avoid deposit, reconnect and late fees
6. **JEA Customer Assistance Program**
   JEA's Customer Assistance Program partners with 45-60 non profit agencies located throughout Northeast Florida on behalf of low-income families and households to provide temporary utility bill assistance

Payment Methods & Programs

AutoPay

- The program grew organically by 331 net new Customers in October (0.7% over FY2019) resulting in a total enrollment of 45,323 Participants

eBill

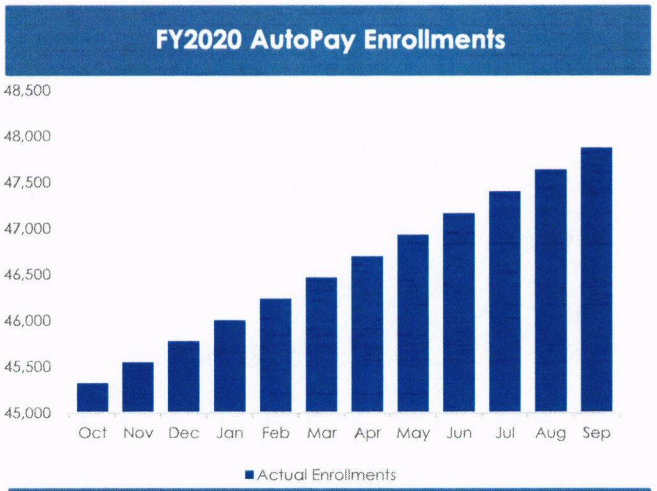
- The program grew organically by 1,313 net new Customers in October (1.0% over FY2019) resulting in a total enrollment of 133,629 Participants

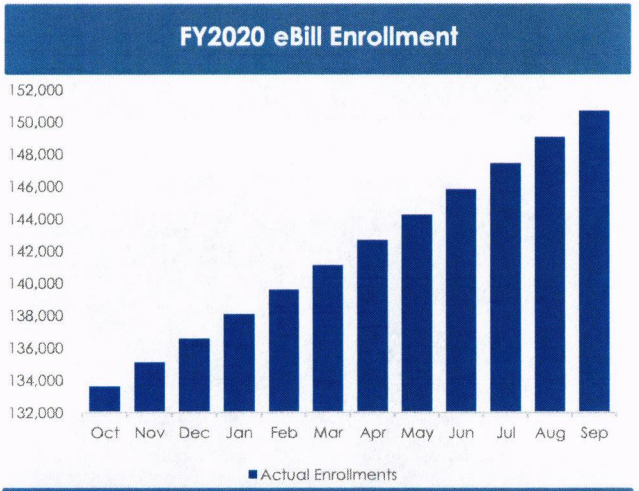
MyWay

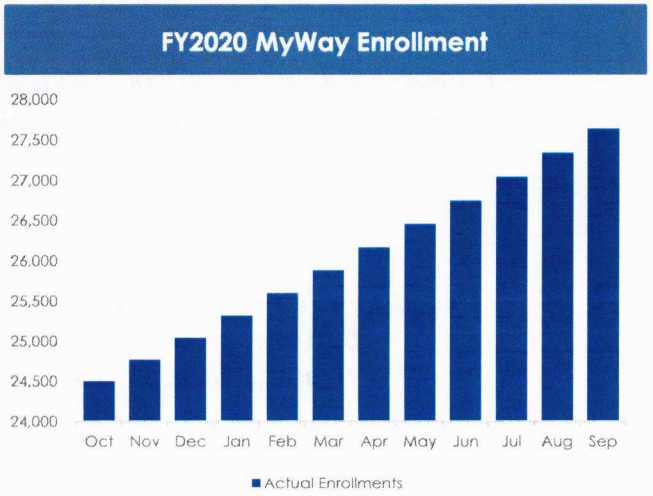
- The program grew organically by 430 net new Customers in October (1.8% over FY2019) resulting in a total enrollment of 24,502 Participants

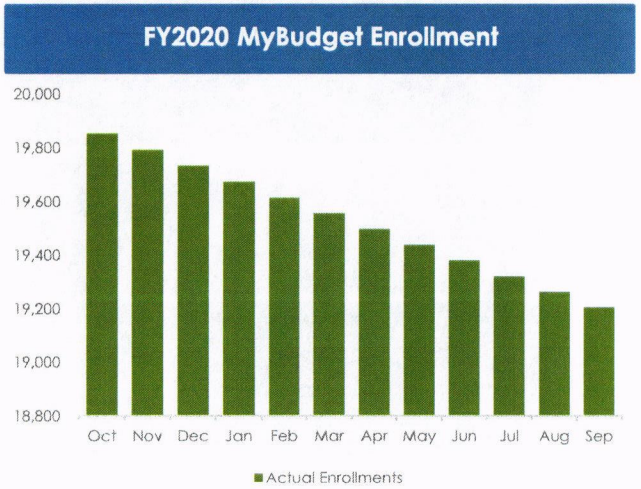
MyBudget

- The program shrunk organically by 80 net Customers in October (-0.4% over FY2019) resulting in a total enrollment of 19,851 Participants









JEA's Community Impact Initiatives

JEA has become an integral asset of the northeast Florida community, providing volunteer, educational and financial assistance to various charities and community partners to improve the lives of those we serve

Volunteer Program

More than 600 JEA employees volunteered 7,183 hours in FY2018/2019 to provide energy and time assisting more than 100 charitable organizations across our service territory

Ambassador Program

More than 300 JEA employees conducted or attended 724 activities over the course of FY2018/2019 to educate our customer base on programs, services and conservation

Educational Programs

Through various programs developed and implemented by JEA employees for Duval Public School System schools, students and teachers from 1st through 12th grade have access to a variety of educational resources, activities and classes throughout the school year

JEA Employee Giving Campaigns

More than $400,000 has been donated by JEA employees in FY2018/2019 towards the United Way and Community Health Charities

Becoming a Platform for Customer Choice | Residential Demand Rate Pilot

Pilot Overview

- Initial work began on the Residential Demand Rate Pilot in 2014 with 116 customer and employees
- Additional focus groups and testing confirmed that demand pricing is less impacted by weather and more stable than kWh
  - JEA also learned that customers perceive more and longer demand intervals to be fairer and enjoy the opportunity to save by avoiding peak periods and the choice it offers
- JEA's work in the field includes chairing a Residential Demand and Time of Use working group that includes 30 individuals representing 15 IOUs, municipal utilities and cooperative utilities to discuss lessons learned and benchmarking opportunities

Pilot Sample Design

	Rate Only	Technology	Low Income	Phase 2 [1]
Dual Flex Pricing Sample	828	225	700	1,000
Daily Flex Pricing Sample	827	225	700	1,000
Total Treatment Size		3,505		2,000
Control Size	10,000		10,000	TBD
Total Control Size		20,000		TBD

Pilot Design

<u>Dual</u> Flex Pricing – Two (2) Demand Charges [2]:

- Highest demand during peak hours for the month (Peak)
  - April - October (Summer): Monday - Friday, 12 p.m. - 7 p.m.
  - November - March (Winter): Monday - Friday, 6 a.m. - 9 a.m.
- Highest overall hourly demand for the month (Anytime Hours)

<u>Daily</u> Flex Pricing – One (1) Demand Charges [2]:

- Average of the highest hourly demands for each day for the month

Note:
1. Purpose is to backfill attrition, trial messaging and/or other Customer support offerings
2. Continue to charge a Fuel Cost, Environmental Charge and Basic Monthly Charge, as well as fees and taxes

2-Way Meters = Better Data

One to Two

Upgrading 1-way meters to current technology of 2-way meters allows JEA to improve visibility of outages on a customized, individual basis

Progress

We have converted approximately 78% of all electric meters and are on track to achieve 100% by the spring of 2020

Outcome

In addition to improved outage information, the new technology meters support:

- Pre-paid service
- Remote connect/disconnect
- Outage & abnormal voltage/tampering reporting
- Demand rate (future)

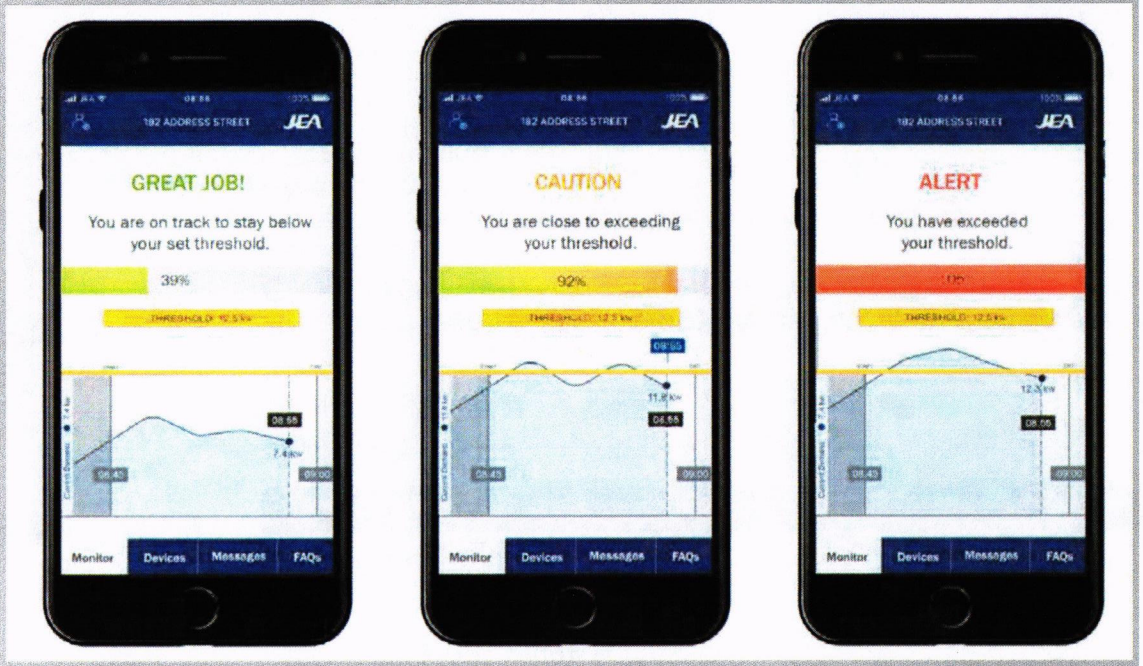
Source: JEA Board of Directors Meeting- May 28, 2019

Becoming a Platform for Customer Choice | Enabling Technology

Customer Home Energy Management Tool Pilot

- JEA is in the midst of conducting research and development into the enabling technology that would be necessary to support the customer in a demand pricing scenario

- A 250 customer and employee pilot is testing a state-of- the art Customer Home Energy Management ("HEM") tool
- The HEM technology tool includes:
  - Cellular gateway that provides 1 minute data off the meter
  - A JEA app that will monitor energy usage and provide threshold alerts
  - Appliance (HVAC and Water Heater) control
  - Fun gamification that encourages education thru entertainment



Becoming a Platform for Customer Choice | Electrification

What is electrification?
"Electrification is the shift from any non-electric source of energy to electricity at the point of final consumption."
-National Renewable Energy Lab

How is it beneficial?
Beneficial Electrification requires that it be cost-effective for JEA, good for all customers (whether they participate in the program or not), and good or neutral for the environment"
-ICF

JEA's Electrification Future
There exists an opportunity to increase the scale and scope of both the on-road and non-road program. By adding additional technologies, program design elements, and budget, JEA may be able to:

- Significantly increase the revenue and values from the programs
- Put downward pressure on rates
- Provide a more flexible and efficient JEA load shape
- Significantly reduce JEA's (and its customers') environmental footprint

On-Road Program: Incentives On New Electric Vehicles

Objectives
- Strategic partnership with Transportation Planning Organization (TPO) and Drive Electric Florida
- EV Educational Forums
- Charging Infrastructures Support
- Trusted Advisor
- Promotional outreach

New Electric Vehicle	JEA Incentive
Battery size less than 15kWh	$500
Battery size of 15kWh or higher	$1,500

Non-Road Electro-Technology (NRE) Program: Conversion of Commercial and Industrial Diesel/Propane Equipment to Electric

Objectives
- Direct business to business customer analysis and sales
- Marketing
- Vendor training
- Consultation with JEA customers
- Technical support
- Financial analysis
- QA/QC inspections

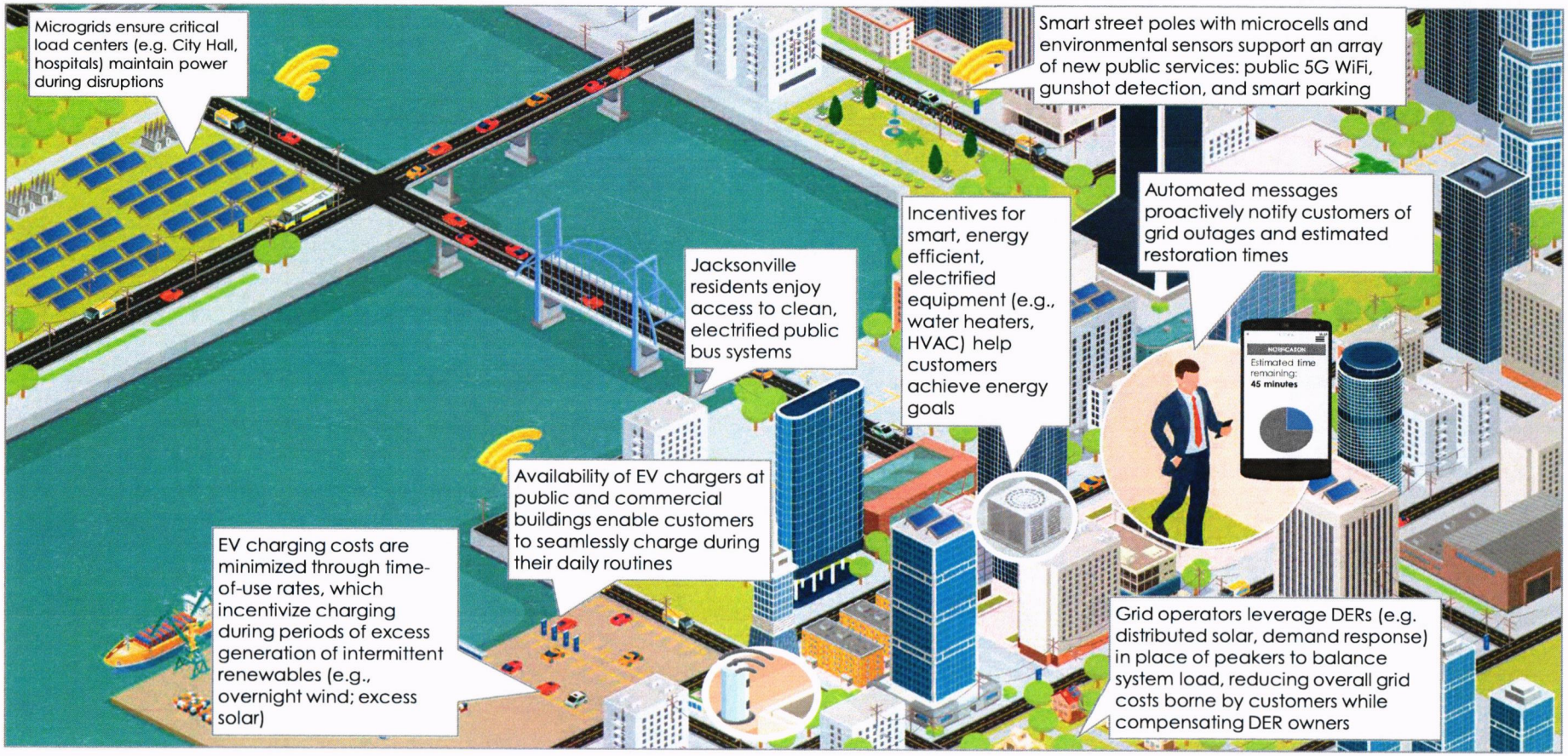
Electro-technology	JEA Incentive
Forklifts	$300
Airport Ground Support Equipment	$100-$600
Truck Refrigeration Units	$200
Heavy-Duty Truck Stop	$200
Cranes	$15,000-$75,000
Golf Carts	$50
Welders	$500

JEA

Subsection C

Strategic Capital and Core Growth Opportunities

Community Benefits From ITN | Enabling Innovative Development and Improved Public Services



Section 7

IT and Compliance

Subsection A

IT Overview

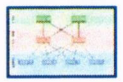
JEA Information Technology

Where JEA is Today?

- JEA IT is responsible for IT Infrastructure, Databases, Middle-tier, Compliance Assurance, Applications and Information Security
- JEA follows IT Service Management (ITSM) processes focused on aligning IT services with JEA's strategy, delivering customer value, financial value, environmental value and community impact value
- These values provide clarity and purpose for which JEA measures the importance of the services that it provide
- JEA has also adopted the COBIT framework to enhance the metrics that it uses for operational purposes to better align with the business and establish meaningful measurements that can both serve as a baseline and show value
- Furthermore, these practices are used to demonstrate compliance and to measure improvement

Strategic Breakthrough Objectives

- Modernize Customer and Employee Experience
- Stabilize and Protect Business Operations
- Instill a Digital Culture to Accelerate Innovation and Growth
- Transform Information into Insights
- Strengthen Organization Vitality

Network & Server		
	Exchange	• Exchange 2013 (moving to O365) • 4600+ Active Mailboxes • Native Journal
	Storage & Eng	• HP 3PAR (2600+ TB) • HP StoreOnce • Oracle Exalogic & Exadata • HPE SimpliVity
	Data Center	• Primary (3670 sq ft) • Colo – Cat 5 Rated (w/3245 sq ft) • Office Space Backup (1310 sq ft)
	Workspace	• Citrix Virtual Apps & Desktops • Citrix EdgeSight • Citrix StoreFront • VMware Site Recovery Manager • VMware VDI • VMware Workspace One
	Trans & Access	• 1337 VLANs • 490 Switches • 291 LAN Locations • 3800+ Active Network Ports • 284 Access Points
	Perimeter	• F5 Global & Local Traffic Manager • Palo Alto Firewall • Cisco ASA Firewall • Headend Cradle Point Wireless • NetMotion Mobility
	Servers	• Vmware vSphere & vCenter • OS MS & Linux (RHEL & Oracle) • 579 MS Server & 187 Linux (60%+ Virtualized) • Cisco UCS & HPE

JEA Communications Infrastructure

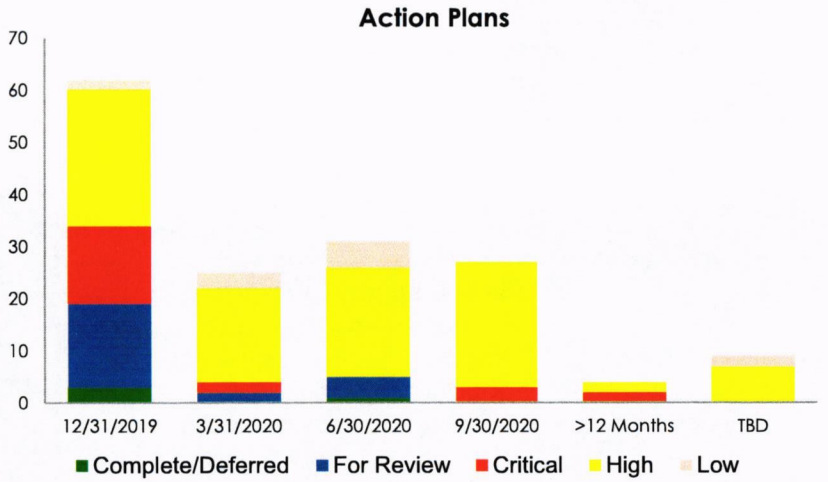
Overview

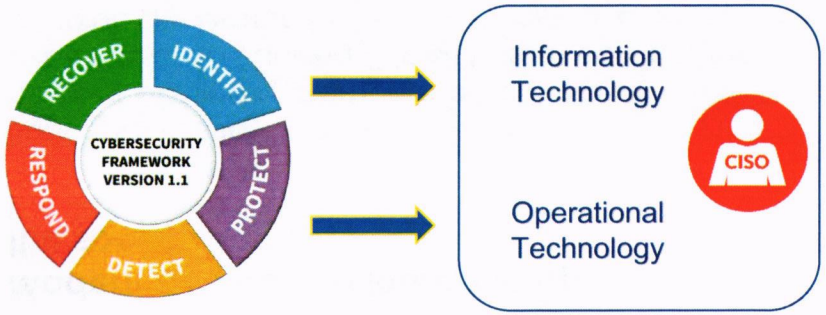
- JEA's dark fiber network is strategically located throughout the Jacksonville metropolitan area and is a fully operational leasing business with existing infrastructure
- System includes a direct connection between JEA's dark fiber network and international subsea fiber cables
- JEA owns and operates an ever-growing 675-mile fiber optic network of varied fiber strand counts in support of the Electric and Water/Wastewater utilities and also maintains 200 route miles of leased fiber, with ~130 total miles of revenue-generating routes and 8 revenue-generating fiber leases
- Portfolio of power transmission and telecommunication assets creates a platform for providing wireless co-location services
- Over 200,000 electric and street light poles can be leveraged for small cell, distributed antenna system, and/or other distributed telecommunication applications
- JEA currently has 40 standalone communication towers that could serve as macro sites
- JEA's small cell collocation consists of 3 small cell leases with a backlog of 60 new sites and an additional 150 potential sites expected in the near future
- Rapid acceleration of consumer demand for broadband services is driving an urgent need for expansion of existing fiber and wireless infrastructure
- JEA leases network dark fiber (spare unused and unlit fiber) to telecommunication companies and enterprises
- Continued development of JEA communications infrastructure will facilitate the acceleration of next generation broadband services and the increased competitive position of Jacksonville as a global hub for communications

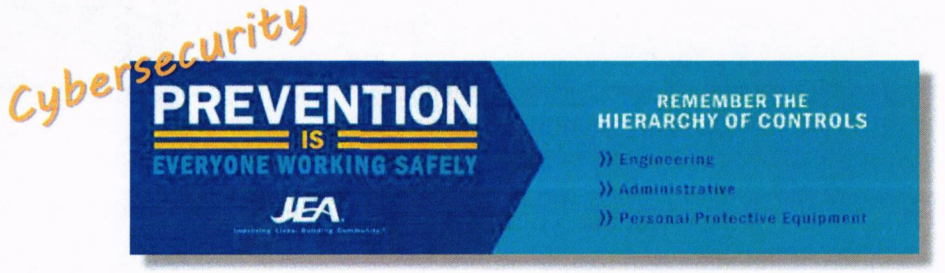
Network & Server	
Fiber	• 675+ Miles of Fiber • 450+ Electronics Equipment Devices • Transport for Corporate, AMI, Electric, Water/ Waste Water & Radio Networks • Lite and Dark Fiber Services
Phone	• 2800+ Devices • 6000+ Phone Numbers • Voicemail • 911 • Security Gates & Intercoms
Contact Center	• 250 Agents • Self Service Applications • Workforce Management • Quality & Call Recording • Speech Analytics
Collab	• WebEx / MS Teams • SharePoint • Informacast • Digital Signage • Electronic White Boards • Poll Everywhere
FAN	• Automated Meter Infrastructure • Cradle Point Wireless • Vehicle Area Network / GPS • IoT / IIoT • WIFI
Cellular	• 1288 Cellular Devices (phones, MiFis, tablets) • 1000+ Wireless Routers • 54 Satellite Phones • IoT Devices (FCIs, Meters) • Mobile Command Center
Radio	• 1700 Motorola Radios • 2000 SCADA Radios • 40 Towers • Microwave Links

Cybersecurity

A Decade of Continuous Improvement





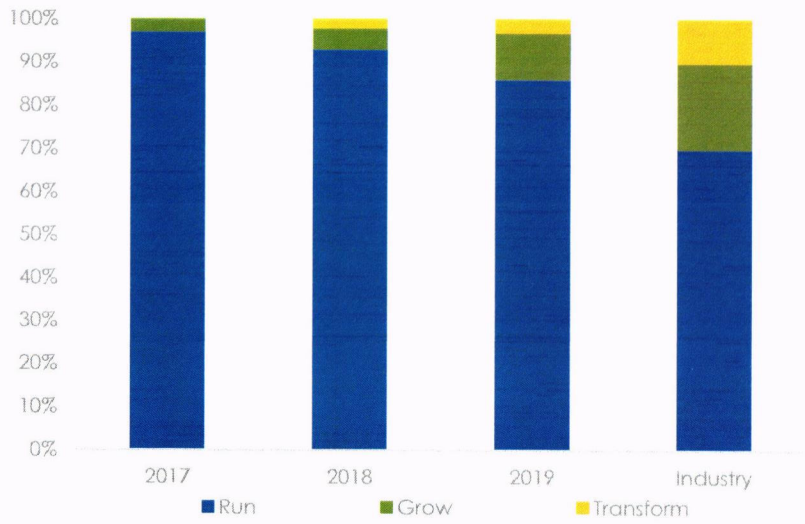


Service Delivery Transformation

Modernizing our workforce to operate at the speed of now

Business as usual is not an option. Digital age is the catalyst of rising customer and business expectations, requiring IT to shift from cost center to value generator. In the age of digital business, organizations must use a mix of IT and business cost optimization for increased business performance, to fund and prepare for digital futures

Spend Analysis



Organize & Analyze

- Gather baseline costs and benchmark
- Define clear metrics
- Identify optimization focus areas
- Identify optimization opportunities (quick wins)
- Identify opportunities to fund digital and innovation
- Identify business cost optimization opportunities
- Product and Service catalog

Strategize & Execute

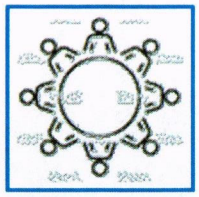
- Execute quick wins
- Explore focus areas and strategic sourcing opportunities
- Strategic project portfolio management
- Rationalize Portfolio
- Expose total cost of ownership
- Establish cost optimization governance
- Align people, process, skills and tools to business lines for service delivery

Continuous Next

- Transition and change management
- Vendor and service delivery management
- Measure success not by cost and schedule but by value delivered
- Digitalize assets, data and business processes
- Optimize through automation and innovation
- Ongoing cost optimization discipline (not a one time exercise else costs will return)

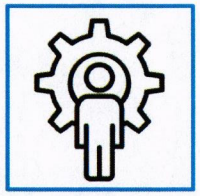
IT Innovation

Four Pillars of Digital Innovation Program



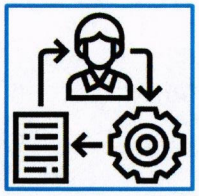
Innovative Culture

Create and promote a culture where employees are encouraged and empowered to innovate everyday. Create employee awareness and engagement to the opportunities, tools, processes and teams to facilitate employee-driven innovation and development of new products and services



Optimize Operations

Focused on exploring new technologies that benefit field operations and back office functions. Capturing opportunities to augment our core utility technologies with mobility solutions, augmented reality in GIS, enhanced IT/OT integration and cloud computing platforms to power transformation



Process Improvement

Improving performance by using data driven and disciplined approaches to problem solving – and educating the entire workforce on these methods. The JEA Blackbelt team utilizes tools, such as LEAN and Six Sigma, that result in measurable improvements in cost and other corporate values

New Products & Services

Finding new solutions that solve problems, create loyalty, and improve customer experience – this is the drive behind JEA innovation. Current focus areas include smart grid solutions, distributed energy ecosystems, home energy management, telecommunications and advanced analytics

Subsection B

Compliance Overview

Compliance Processes

Overview

- The mission of the Compliance Group is to assist JEA in achieving its financial, operational and strategic goals, while maintaining compliance with all associated laws and/or regulations
- The Compliance Group accomplishes this goal by identifying institutional risks, performing audits, reviews and investigations, augmenting institutional compliance through effective education and training programs, as well as, fostering the values of knowledge, honesty, integrity, respect, and professionalism
- The Compliance department is a very technical and complex department dealing with confidential and sensitive information

Compliance

Compliance Philosophy

Compliance not Defense

"It is the policy of JEA to proactively comply with all applicable FERC, FRCC [SERC], NERC and Florida PSC rules and regulations relating to electric system reliability, electric system transmission operations and electric market rules. The Board of JEA [has directed] the CEO to initiate and maintain a formal program which documents and ensures this compliance both in letter and in spirit"

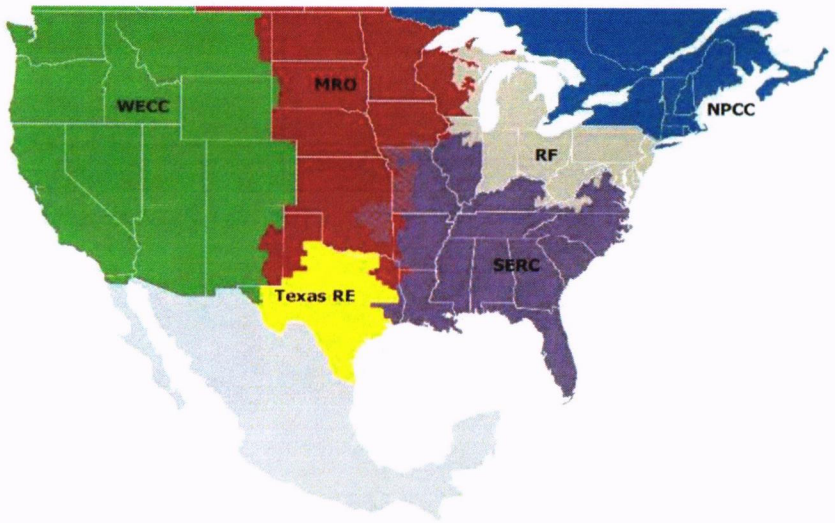
- Follow Rules
- Meet regulatory schedules/deadlines
- Volunteer- draft standards (so we agree and support)
- Regulator Relationships
- Encourage business to ask for help and ask questions

CIP Compliance

- CIP Compliance department is responsible for NERC CIP Regulatory standards which primarily focus on Cyber and Physical security of Bulk Electric System assets.
- CIP Compliance department supports the Compliance Oversight Committee activities which is responsible for many other federal and state regulations including FACTA (Red Flag), PCI, HIPAA

Electric Compliance

- Responsible for all NERC Operations and Planning Standards
- Registered as GO, GOP, DP, RP, PA, TO, TOP, BA



Audit History

- NERC Audits (2008, 2011, 2014 and 2017)
- CIP audits (2008, 2011, 2014 and 2017)
- O&P Audits (2008, 2011, 2014 and 2017)

Next Audits

- CIP March 2020
- O&P April 2020

Audit Services

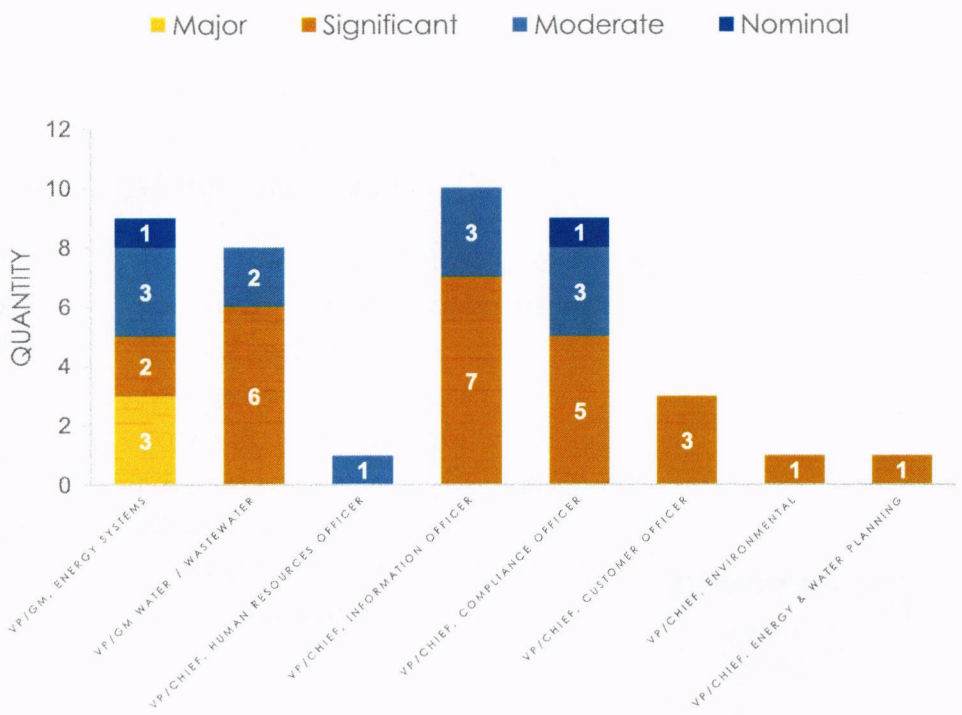
Audit Services

- Annual audit plan
- Action items list of findings/recommendation
- Generate "ad-hoc" reports, as needed using audit tools and systems (Auto-Audit, BI, ACL etc.)
- Audit Services identifies areas where improvement is needed, and helps make changes. This is done through:
  - Operations Audits
  - IT Audits
  - Work with the business units, as requested, to identify and report transactions and possible exceptions
- Identify and monitor recommendations/findings
- Fraud or abuse is sent to the Forensics team
- Helps business establish controls for compliance

Forensic Audit & Investigators

- Hotline & Fraud Investigations/Audit
- Work closely with Office of Inspector General
- Assisted by JSO detective (Security) assistance

Open Action Plans By Issue Rating & VP



2015 JEA Quality Assurance Review. Honkamp, Kreguer, & CO

"JEA's AS has demonstrated a commitment to quality, successful leadership practices, and maintaining an internal auditor's mindset for professionalism. Our assessment noted JEA's AS has developed and implemented a methodology, a set of policies & procedures, and built a team of experienced auditors based upon achieving the department's mandate. Evaluation of the internal audit processes and related audit work papers evidenced that JEA's AS takes this role seriously and provides value to the organization in accordance with what is being requested of them."

Physical Security

Mission

Our mission is to provide a detailed, and robust, protection program for all personnel and assets employed by JEA. This program will incorporate the highest quality of security officer services, advanced security technologies, and fire protection systems. In addition, our department will continuously develop and enforce new policies and procedures to elevate the overall JEA security posture to meet ever-developing security threats and concerns while moderating impact to our core operations. JEA Security is dedicated to ensuring all individuals are provided a safe, and secure, working environment at JEA

Metrics	FY2016	FY2017	FY2018	FY2019
Arrests	29	30	21	9
Threats Against JEA or Employees	20	33	30	29
Tampering Cases	46	43	86	79
Fraud Identity Theft Investigations	128	90	48	46
Fraud Identity Verifications	211	208	112	84
Copper Theft Investigations	3	4	9	6
Firearm Incidents on JEA property	3	4	3	7
Employee Investigations	26	17	31	30
Employee Investigations - OIG	1	11	10	6
Misc. Investigations	190	187	98	115
Assisted Other Agencies	29	26	32	45

Primary Responsibilities

- Security Operations
  - Physical Security
  - Surveillance
  - Access Control Systems
  - Fire prevention & Protection
  - Visitor Control and Management
- Investigations
- Identity & Access Management (IAM)
  - Password Management
  - User Accounts
  - Access Requests
  - Security of the information systems
- Establish and maintain relationships with DHS, FBI, USCG, JSO etc.
- Records Compliance
  - Records retention
  - Public records requests

Scope

- 17 Security Professionals
- 125 Contract Security Personnel
- 680 physical structures (1,100 card readers)
  - All Substations have card entry/access control
- 2,500 surveillance cameras

Ethics

Overview

JEA's Code of Ethics is designed to help foster an ethical environment, deter unethical behavior and cope with problems and ethical dilemmas. The JEA Code of Ethics is defined as standards that are reasonably necessary to promote and establish a foundation upon which our organization can operate and thrive. This includes:

- Honest and ethical conduct, as well as the ethical handling of actual or apparent conflicts of interest between personal and professional relationships
- Full, fair, accurate, timely and understandable disclosure of ethics issues
- Compliance with applicable governmental rules and regulations
- Proper financial reporting

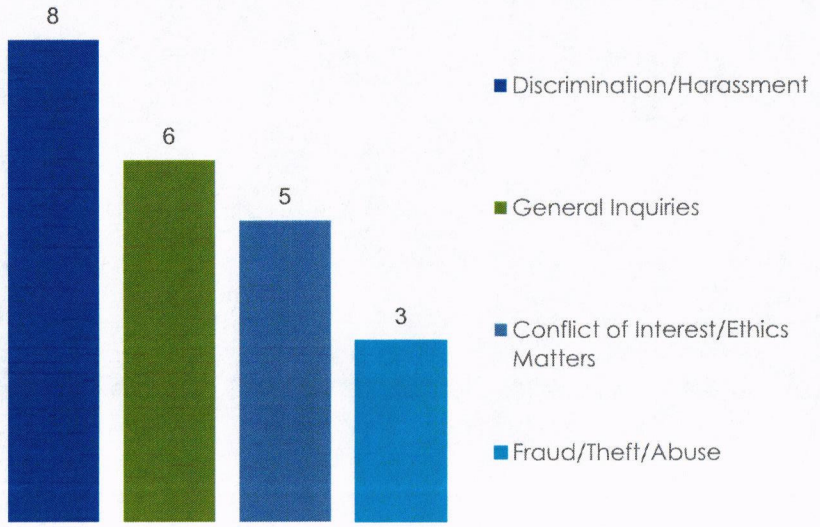
City of Jacksonville Ethics Code

In addition to JEA requirements and policy, all of its officers and employees are subject to both the City of Jacksonville's Ethics Code as set forth in Chapter 602,Ordinance Code, and the State of Florida's Ethics Code as set forth in Chapter 112, Part III, Florida Statutes

Management's Responsibility

Under most circumstances an employee's manager is the first point of contact with ethical concerns or questions

Ethics Hotline
FY2019 by Allegation Category



Subsection C

Enterprise Risk Management (ERM)

Enterprise Risk Management

Enterprise Risk Management

- JEA's ERM framework provides a conscious, systematic, holistic and effective approach to managing the compliance requirements, risks and opportunities inherent in a municipal electric, water and wastewater utility
- JEA's ERM program identifies, assesses, measures and actively manages risk, including mitigation strategies and actions
- The risk score is calculated as the risk impact x likelihood and is used to evaluate the criticality of the risks and the need for mitigation. The impact and likelihood criteria include additional variables, each of which aid in our ability to determine risk criticality
  - Financial impact now identifies the out-of-pocket /deductible financial impact after insurance coverage payment
  - Reputational impact of a risk event occurring is now considered
  - Velocity – Time frame of the risk event occurring is now considered
  - Influence – Our ability to influence the impact and/or likelihood
  - Preparedness – Assesses how prepared are we if the risk event occurs; by assessing the effectiveness of current mitigations that reduce the impact and/or likelihood

Likelihood							
	Almost Certain >90	5	5	10	15	20	25
	Likely 65-90%	4	4	8	12	16	20
	Possible 35-65%	3	3	6	9	12	15
	Unlikely 5-35%	2	2	4	6	8	10
	Rare <5%	1	1	2	3	4	5
			1	2	3	4	5
			Minor	Moderate	Significant	Major	Severe
			Impact				

Tier 1	10 - 14	15 - 25
Tier 2	7 - 9	
Tier 3	1 - 3	4 - 6

Enterprise Compliance & Risk Committee ("ECRC")

- JEA's ERM program is governed by the ECRC
- The purpose of the ECRC is to "oversee the incorporation of risk management into the major programs, corporate processes and functions of JEA"
- The ECRC consists of the Senior Leadership Team, the Director, Audit Services and the ERM Manager
- The ECRC is supported by various Subordinate Committees and Working Groups that coordinate mitigation efforts across the business functions. The Subordinate Committees also help define the risks, identify controls and required mitigations and provide recommendations to the ECRC on major risk management strategies/decisions

Our Current Top Risks

ERM - Risk Trends as of Current Quarter (Q4 FY2019)

Risk Title	Total Risk Score	Long Term Exposure Trend >5 Years
E01 - Carbon Emission Mitigation/Renewable Energy Standards	16.0	↑ Increasing
E10 - Nuclear Power Portfolio	15.0	↑ Increasing
C03 - Disruptive Technologies/Long-term Planning	13.6	↑ Increasing
C08 - Black Swan (High Impact - Low probability event)	11.2	↔ Stable
E05 - Cooling Water Intake Structures 316(b)	10.5	↔ Stable
H04 - Work Environment	9.6	↑ Increasing
C18 - Supply Chain Management	10.5	↔ Stable
C17 - Physical Security/Terrorism	10.5	↑ Increasing
W01 - Water Supply Management/Long Term Planning	9.9	↔ Stable
V16 - Weather & Climate Change Impact Resiliency Efforts	10.4	↑ Increasing

Risk Score – New risk score includes the enhanced scoring criteria: Insurance, reputation, velocity, influence and preparedness

Section 8
JEA
Supply Chain Management

Subsection A

Emergency Preparedness

Emergency Preparedness | Overview

State, County, & Agency Coordination

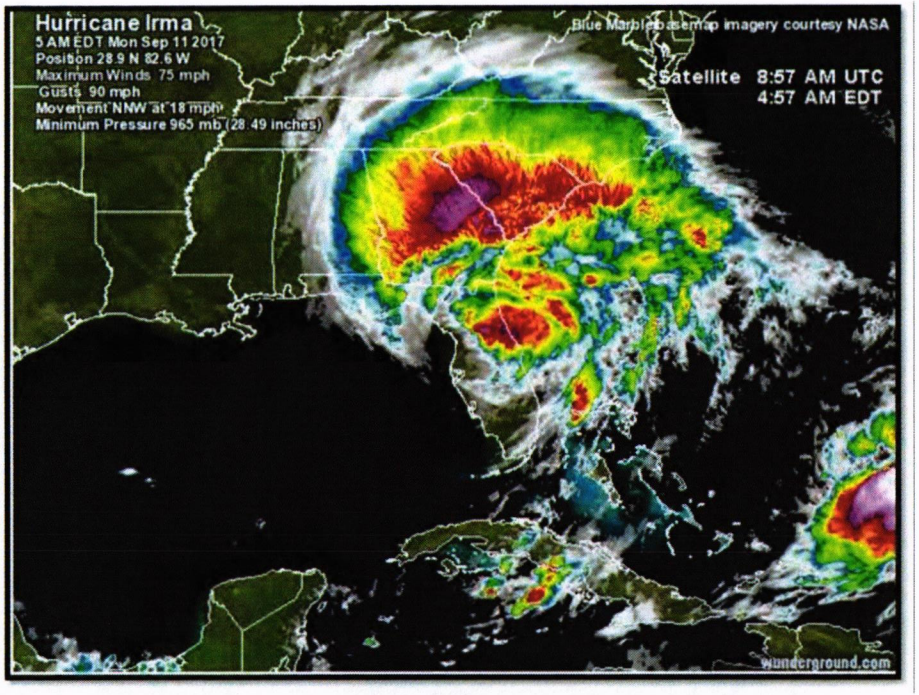
- The State of Florida's Division of Emergency Management prepares and implements a Statewide Comprehensive Emergency Management Plan ("CEMP")
- Duval County prepares and implements a Countywide CEMP
- JEA prepares and implements a Utility Wide CEMP
- JEA is the Lead Agency within the County Incident Command Structure ("ICS") for utility response and restoration

National Incident Management System ("NIMS")

- Establishes the National, State and Local framework to ensure response and recovery
- Utilizes the ICS for effective and efficient incident management

Proficient Response & Restoration

- Implements CEMP and NIMS/ICS for all hazards incident management
- Established Emergency Operations Center
- Electric, Water and Wastewater systems resiliency
- Storm material inventory
- Fleet reliability



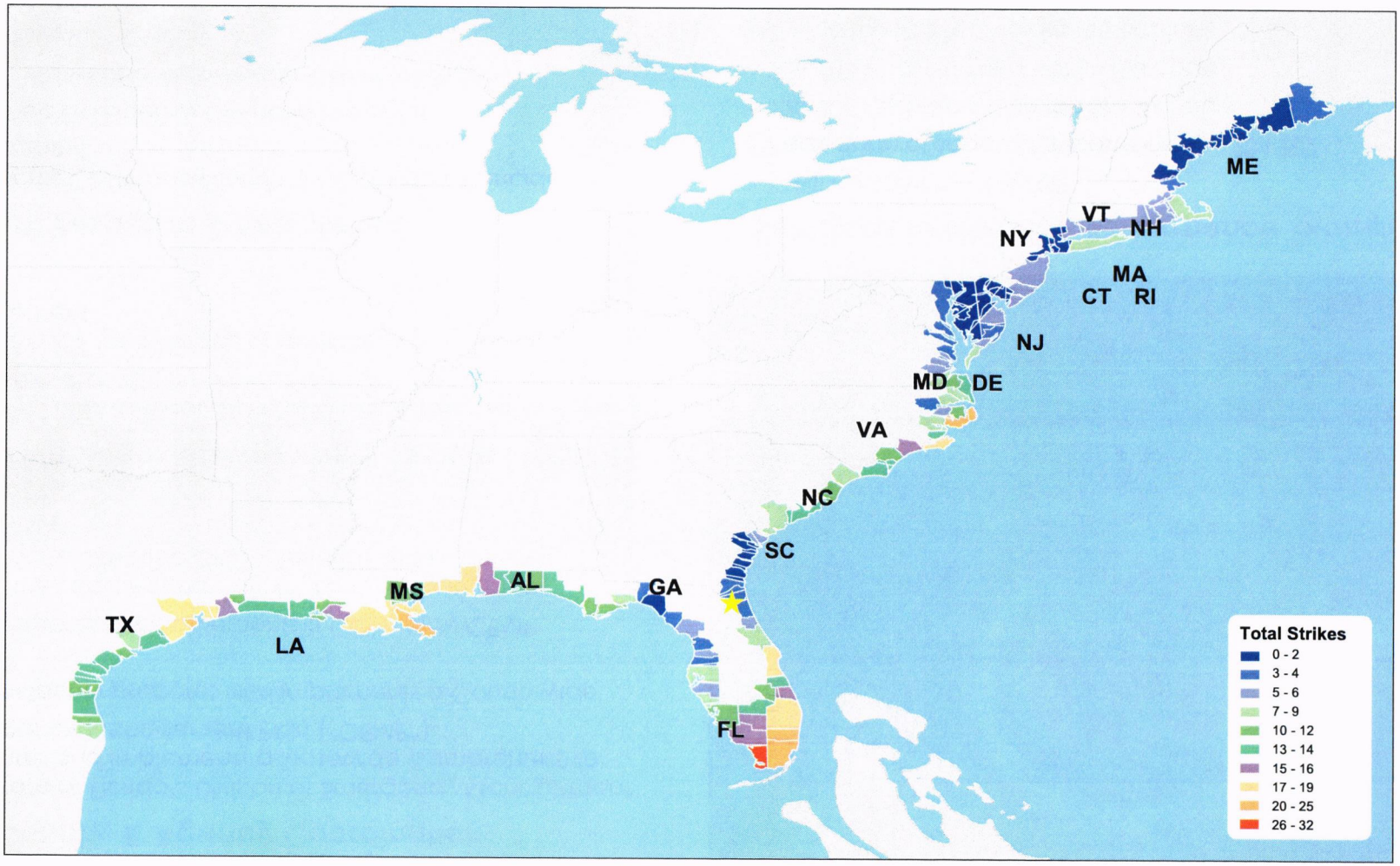
Hurricane Restoration Performance Example

- Total customers – 445,832
- Peak storm outages (Hurricane Irma) – 284,982
- 120,000 restored within the first 24 hours
- 256,483 total restored within 100 hours
- 7 days total for complete restoration

Common organizational structures optimize emergency preparedness and response collaboration and integration statewide

The History of Florida Hurricanes

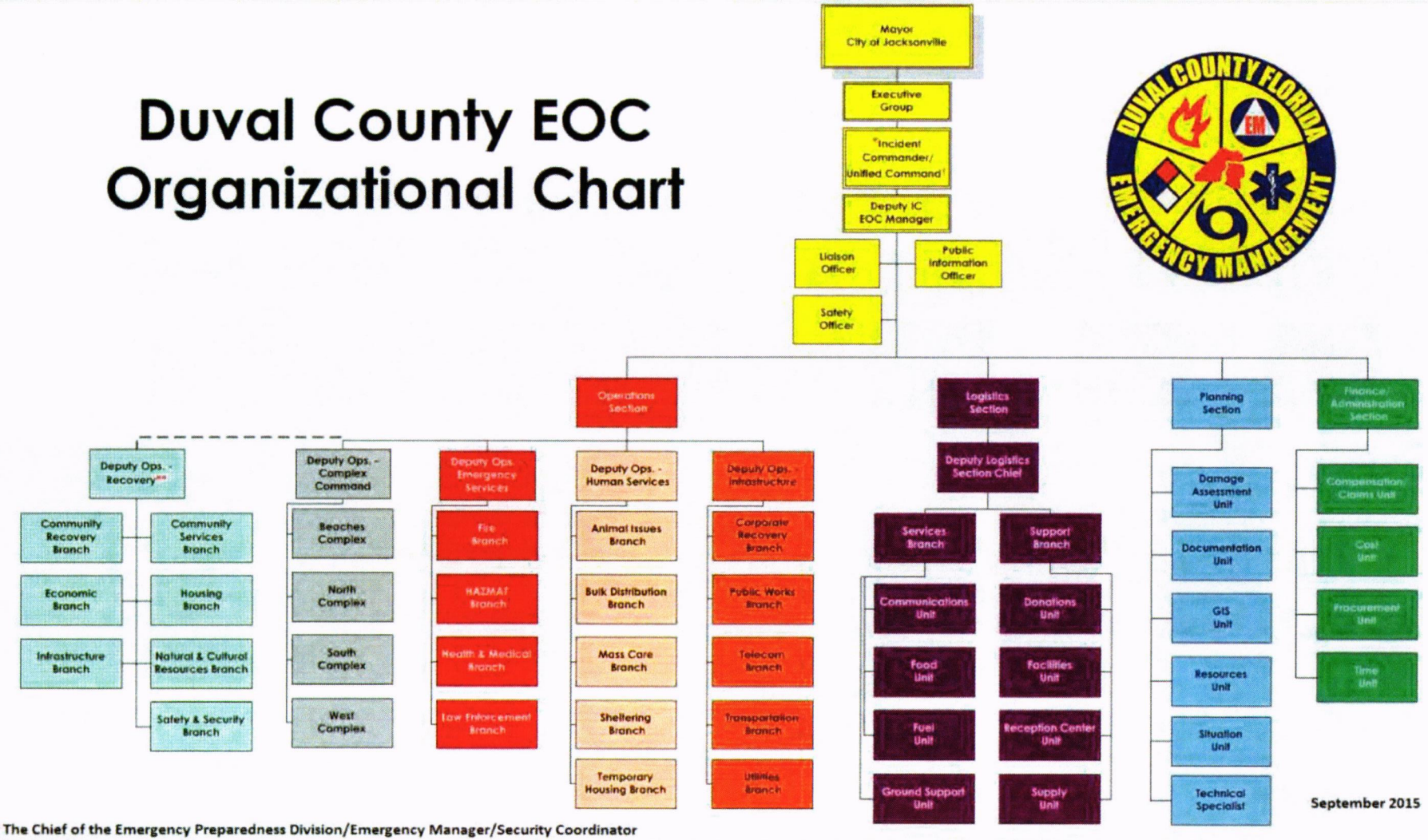
Total Number of Hurricane Strikes | 1900 – 2010



★ Jacksonville

Due to Jacksonville's geographic location in the northeast corner of the state, the number of hurricanes that have struck Jacksonville is lower than other cities in Florida

Duval County EOC Organizational Chart



* The Chief of the Emergency Preparedness Division/Emergency Manager/Security Coordinator

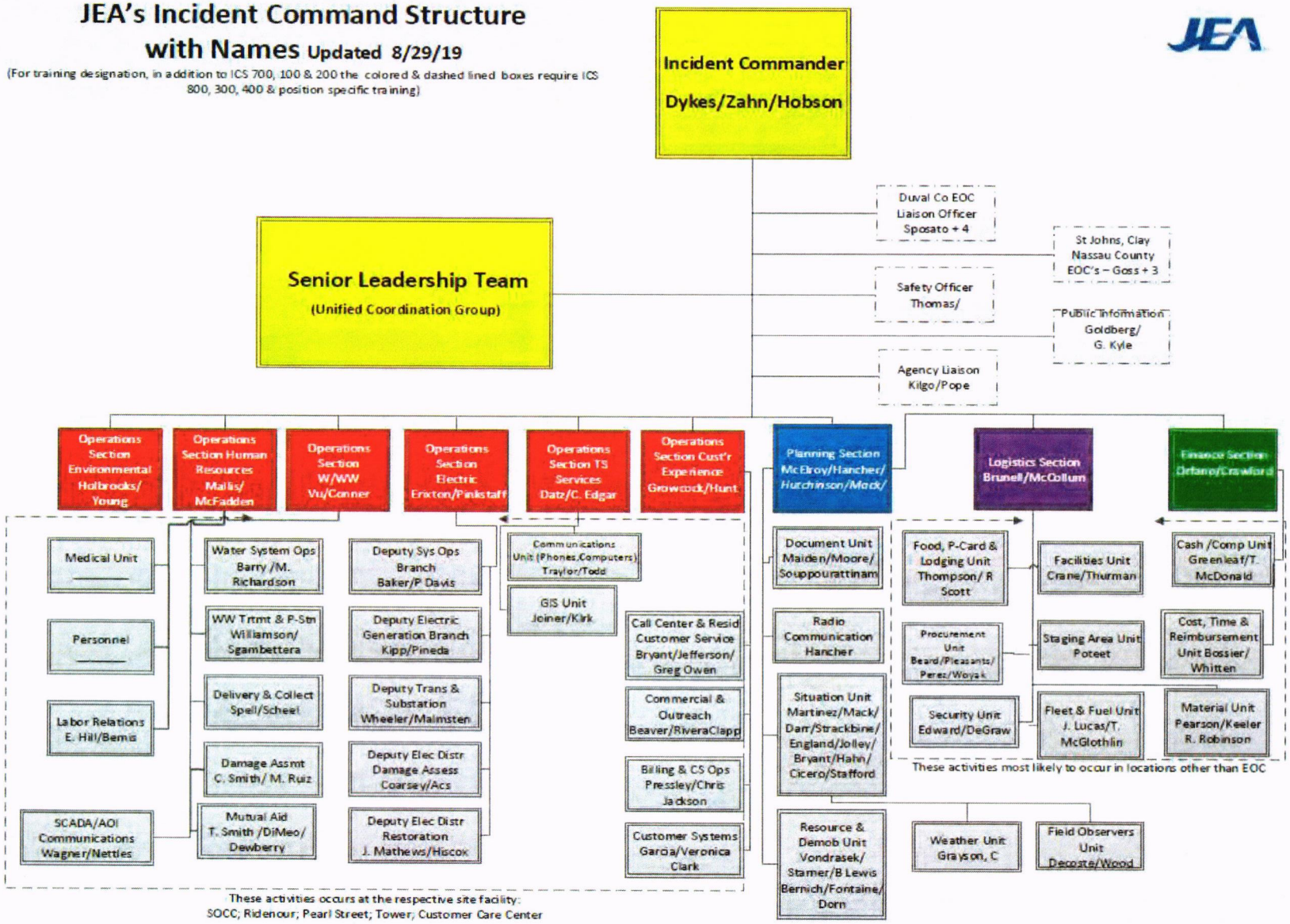
** Activated by the Incident Commander/Unified Command at the direction of the Mayor of the City of Jacksonville as the Commander-in-Chief, and head of the Recovery Task Force

† Based on the scenario or incident, the Incident Commander could be a unified, coordinated effort

Emergency Preparedness

JEA's Incident Command Structure with Names Updated 8/29/19

(For training designation, in addition to ICS 700, 100 & 200 the colored & dashed lined boxes require ICS 800, 300, 400 & position specific training)



Subsection B

Procurement Overview

Procurement

Public Purchasing Overview

- Fair and open competition is a basic tenet of public procurement. Such competition reduces the opportunity for favoritism and inspires public confidence that contracts are awarded equitably and economically
- Procurement policies and procedures that adhere to all applicable federal, state and local laws and ordinances
- No JEA employee may benefit from a JEA contract
- Ensure the fair and equitable treatment of all persons who deal with the JEA Procurement System

JEA Purchasing Departments

- Inventory
  - Planners and Buyers: Coded Items and Replenishes Inventory
- Services
  - Services Buyers: Engineering, Professional Services, Construction, IT, Power Generation, Transmission & Distribution, and Water / Waste Water
- Contracts – 5 year terms
- JSEB – Jacksonville Small & Emerging Businesses

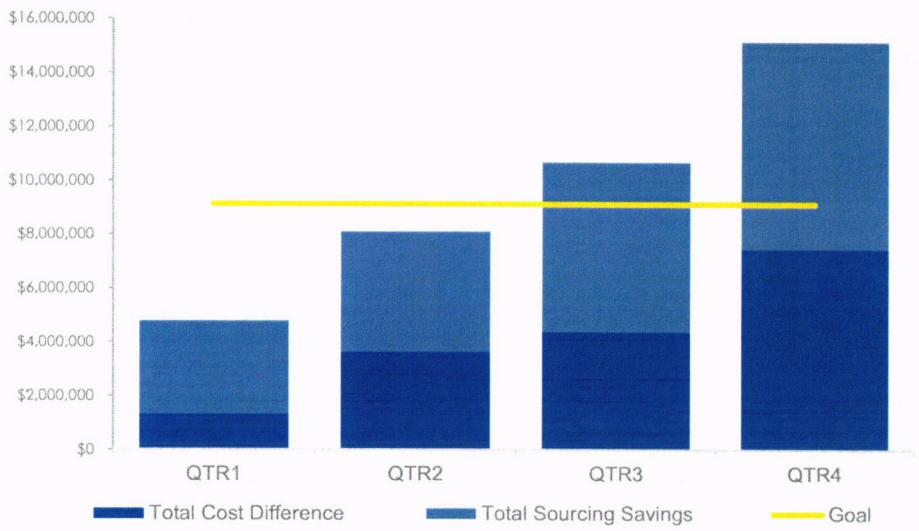
Procurement Savings

- Procurement tracks two different types of savings:
  - Total Cost Difference (Current Price vs. New Price +/-)
  - Total Sourcing Savings (Negotiations, Best and Final Offers & Procurement added value)

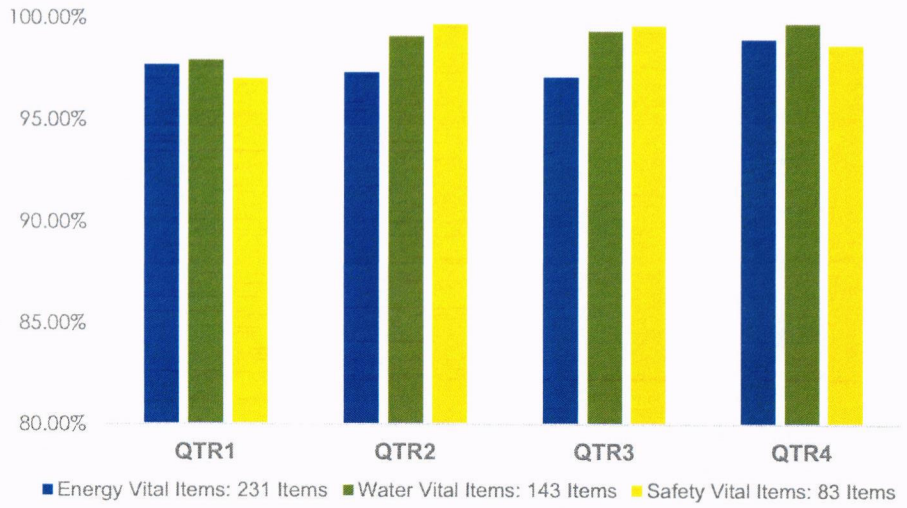
Procurement Inventory Planning

- Material availability for vital items
- Inventory investment
- Inventory accuracy

Total Procurement Savings



Vital Item Availability



Procurement | JSEB Program

What is JSEB?
Jacksonville Small and Emerging Business ("JSEB") program is a race and gender neutral, local small business program, which has been in existence since 2004 which allows: sheltered markets for JSEB companies, JSEB subcontracting goals in open market solicitations and RFP evaluation criteria favoring JSEB companies

City Ordinance 2004-602-E requires City Agencies to allocate 18% to 20% of their available spend with JSEB certified firms

COJ manages the application process for JSEB certification. There are currently 300 certified JSEB Vendors

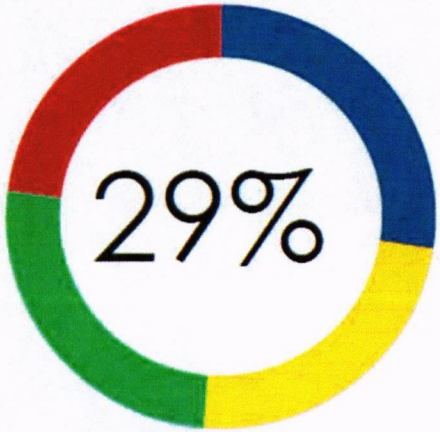
JSEB Requirements
- Owner must either be a resident in Duval County for a minimum twelve (12) consecutive month period immediately preceding the JSEB application date OR have an established business headquartered in Duval County for a minimum of 3 years, and be a resident in Duval, St. Johns, Nassau, Baker or Clay County for at least one year
- Personal net worth of $1,325,000 or less, excluding personal residence
- 3 year average gross receipts do not exceed $12M
- Own and control more than 51% of business
- Be a for-profit and small business

JSEB Sheltered Markets

Available Project Spend FY2019

AVAILABLE SPEND
$65,000,000

GOAL = 23%
$15,000,000



JSEB ACTUAL SPEND
$18,772,933

QTR1 JSEB SPEND	$5,154,836
QTR2 JSEB SPEND	$4,468,138
QTR3 JSEB SPEND	$4,825,048
QTR4 JSEB SPEND	$4,324,912

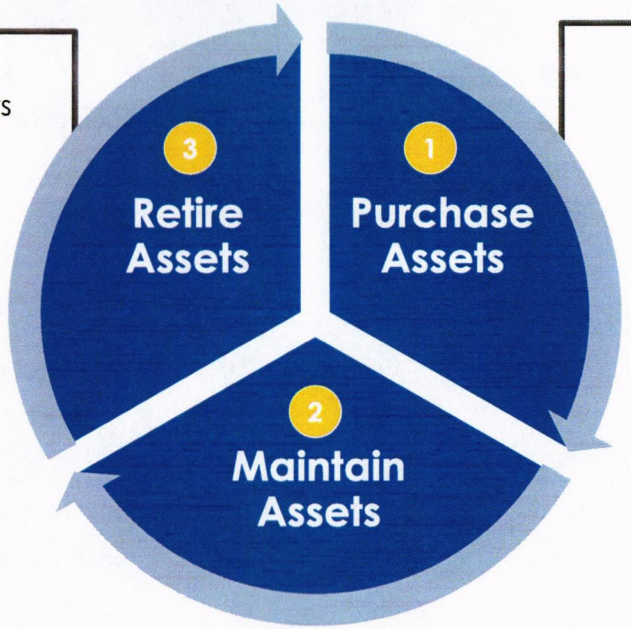
Subsection C

Fleet and Facilities Overview

Fleet

Fleet Lifecycle

- De-commissioning
- Returning Replaced Assets
- Transfer to Investment Recovery



- Establish Replacement List & Additions
- User Meetings
- Specifications & Standardization
- Bid & Order Assets
- Receiving and In-processing
- Deploying New Units

- Utilization
- After Hours Support
- Fueling
- Modifications

- Preventative Maintenance
- Accidents/Damage/Misuse
- Corrective Maintenance
- Vendor Performance Monitoring

Heavy Duty Vehicles	Medium Duty Vehicles	Light Duty Vehicles	Equipment and Trailers
267	483	396	486

JEA currently owns and operates approximately 1,600 assets in its fleet, worth about $111MM. The entire fleet lifecycle is managed by a staff of thirteen people and 100% of the repairs and maintenance are outsourced to local vendors

Facilities | Major Manned Facilities

Type	No	System	Name	# of Buildings	SF of BLDG	Date Built	Age (Years)	Capital Improvements	Date of last (or planned) Capital Improvement
LAB	1	Water	Springfield Lab	2	25,487	1870	149	$1,200,000	FY18-FY20
GEN	2	Electric	Kennedy Generation Station	7	62,371	1910	109	$300,000	FY23
WWTP	3	Water	Buckman	30	83,213	1961	58	$4,250,000	FY18-FY20
HQ	4	Water	Plaza I	1	181,500	1962	57		New Headquarters
HQ	5	Water	Plaza II	1	144,000	1962	57		New Headquarters
HQ	6	Electric	Plaza III	1	20,000	1962	57		New Headquarters
SC	7	Electric	South Side Service Center	10	43,675	1965	54	$2,000,000	FY21-FY22
GEN	8	Electric	Northside Generation Station	79	464,805	1966	53	$300,000	FY20-FY22
SC	9	Electric	Commonwealth Service Center	1	33,313	1969	50	$2,500,000	FY19-FY22
WWTP	10	Water	District II	17	7,231	1969	50	$300,000	FY19-FY20
SC	11	Electric	Westside Service Center	12	39,933	1970	49	$4,800,000	FY19-FY20
WWTP	12	Water	Southwest	14	9,570	1977	41	$5,000,000	FY21-FY23
WWTP	13	Water	Arlington East	16	21,635	1980	39	$2,000,000	FY22-FY23
WWTP	14	Water	Mandarin	12	12,556	1980	39	$1,600,000	FY21-FY24
GEN	15	Electric	SJRPP	4	3,600	1983	36		Decommissioned
CC	16	Electric	SOCC	1	55,453	1988	31	$350,000	FY21-FY22
SC	17	Water	Pearl Street Service Center	4	40,356	1989	30	$4,200,000	FY17-FY19
CC	18	Water	Ridenour	3	12,908	1998	21	$500,000	FY17, FY19
GEN	19	Electric	Brandy Branch Generation Station	20	21,966	1999	20	$100,000	FY19-FY20
WWTP	20	Water	Blacksford	8	11,200	2007	12	$80,000	FY19-FY20
GEN	21	Electric	Greenland Energy Center	1	2,000	2010	9	$150,000	FY21

Subsection D

Strategic Capital Improvements

Facilities | Downtown Headquarters

JEA Embarked on a New Headquarters Project to address Remaining Risks to Current Downtown Campus (Unmitigated)

Remaining Risks Include:

- Tower Basement Flooding – air handlers, generator, electrical switchgear in basement for entire building systems
- Water Intrusion – window and wall leaks from blowing, heavy rains, and risks to First Coast Radio Center equipment currently housed on T-18
- Elevator Malfunctioning – water intrusion, controls, electrical, high wind shut down
- EOC operation – requires off-site back-up, current option has limited space remote location farther from COJ EOC
- Call Center Back Up Location – limited space likely limits ability to provide similar service levels following a future storm
- Ongoing hurricane/grey sky risk
- General employee safety considerations
- Aging building conditions- current campus is in need of significant restoration and rebuilding with major building systems reaching the end of their useful lives

JEA Board Approves Adams Street Proposal

- On April 2, 2019 a special Board Meeting was held to score short-listed firms
- Evaluation criteria was divided into three sections: presentation score, quantitative scores, and board scores

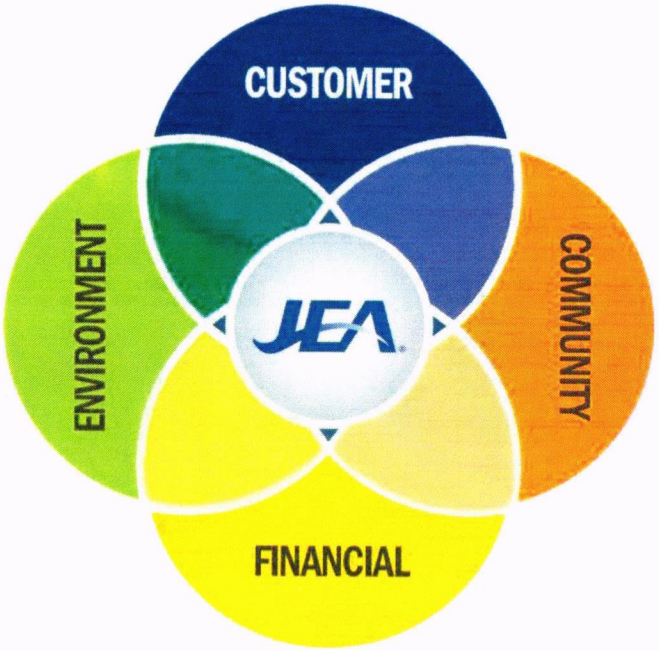
	Current JEA Campus	Adams Street
Location	21 West Church Street	325 West Adams Street
Location Description	Downtown Core, North Bank	Downtown Core, North Bank
Site Type	City Block	City Block
Height/Layout	19 Floor Tower, 6 Floor Office	9 Floor Tower
Employee Count	760	984 (includes contract employees)
Parking Type	2 Basements & Adjacent garages (dedicated)	Adjacent Garage (dedicated)
Parking Count	513 spaces	850 spaces
Schedule	N/A	1st Qtr 2022
Sustainability	N/A	LEED Gold (proposed)

Section 9

People / Culture

JEA's Guiding Principles | Accelerating Utility Innovation

GUIDING PRINCIPLES WERE DEVELOPED BY BOARD AND ALL 2,000 EMPLOYEES IN 2018 (FORMAL APPROVAL IN JANUARY 2019)



JEA Vision

Improve lives by accelerating innovation

Mission

Our mission is to provide the best service by becoming the center of our customers' energy and water experience

Corporate Measures

Our mission will be guided by and evaluated against how we as employees drive these four Corporate Measures of JEA's Value

Our Cultural Values

Safety

Service

Growth^2

Accountability

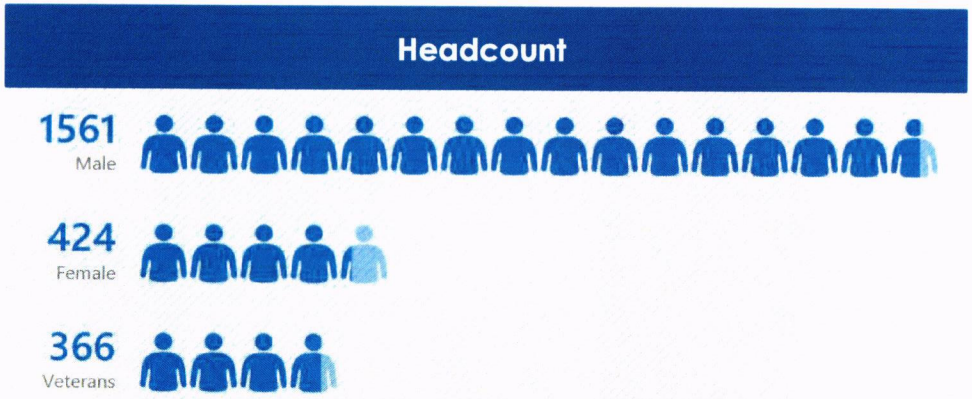
Integrity

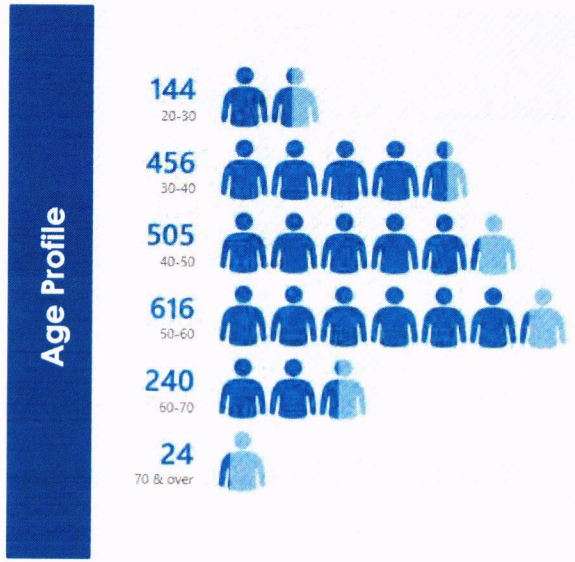
Ideas

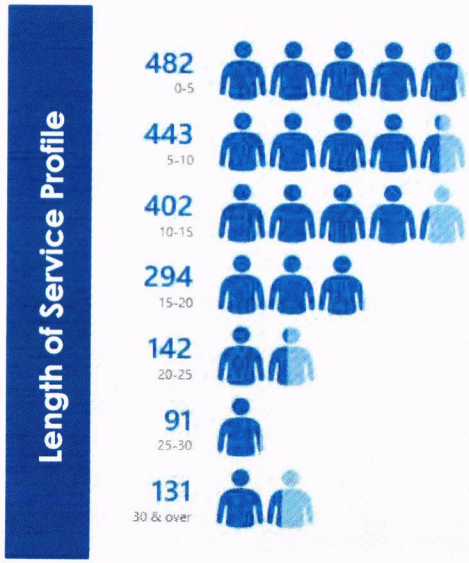
JEA Workforce | The JEA Employee

The JEA Employee

- JEA's workforce is primarily comprised of highly technical, highly trained individuals, which requires innovative recruitment initiatives and efforts
  - STEM (Science, Technology, Engineering and Math) positions make up 18% of the JEA workforce
  - Skilled & Semi-Skilled Craft and Technician positions make up 51% of the JEA workforce
- In FY2019, JEA had 2,158 budgeted employee positions of which 1,527 were budgeted to the Electric System, 625 were budgeted to the Water and Wastewater System and six were budgeted to the District Energy System
- 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







JEA Workforce | Employment Categories

Employment Categories

JEA employees fall into the following three categories:

1. Appointed employees

- Appointed employees are exempt from the COJ Civil Service System and are appointed by, and serve at the pleasure of, the Managing Director/CEO. Appointed employees comprise the leadership of JEA and make up 21% of JEA's employee population

2. Managerial and Confidential (M&C) employees

- Managerial and Confidential (M&C) employees perform jobs that are not of a routine, clerical, or ministerial nature and require the exercise of independent judgement in the performance of the job. JEA has less than ten M&C employees and they serve in Human Resources

3. Civil Service employees

- Civil Service employees are members of five bargaining units and comprise 79% of JEA's employee population. The bargaining units are:
  - American Federation of State, County, and Municipal Employees (AFSCME) – composed primarily of customer service, office support and laboratory personnel. National organization
  - International Brotherhood of Electrical Workers (IBEW) – composed of employees in the Energy Department (generation, distribution, etc.). National organization
  - JEA Supervisors Association (JSA) – composed of supervisors across the organization primarily in Energy and Water/Wastewater. Local organization
  - Laborers' International Union of North America (LIUNA) – composed of employees in the Water/Wastewater Department. National organization
  - Professional Employees Association (PEA) – composed of professional individual contributors across departments (Engineers, Accountants, IT professionals, etc.)

JEA Workforce | Overview of Collective Bargaining Agreements

JSA

2019-726 (JEA Supervisor's Association – JSA)

Preamble:

This Agreement is entered into on this first day of October, 2019 by and between JEA and its successors, and the JEA Supervisors Association, hereinafter referred to as the "Association". It is the intent and purpose of the parties hereto: to promote and improve the efficient administration of JEA and the wellbeing of employees within the meaning of collective bargaining laws and regulations; to establish a basic understanding relative to discussion and adjustment of matters of mutual interest; and to implement mutually agreed upon rates of pay, wages, hours of employment, and other terms and conditions of employment; to provide a procedure for the adjustment of grievances so as to promote orderly and peaceful relations between JEA, its employees, and the Association

Significant Agreement Changes:

- Estimated increased cost of 3-year contract - $3.5MM
- General annual wage increases of 3.5% for Fiscal Years 2020, 2021 and 2022
- Increase in standby pay from flat dollar amount to 1.5 times hourly rate of employee
- Increase of $25 in safety shoe voucher
- Paid parental leave program allowing up to 6 weeks of paid leave effective January 1, 2020

Recognition and Unit Determination:

In the event that JEA's operation is sold, leased, transferred or taken by sale, transfer, lease or assignment, whether by a public or privately owned entity, JEA shall make it a condition of any such transfer that the successor shall be bound by the terms of this Agreement

AFSCME

2019-727 (American Federation of State, County, and Municipal Employees – AFSCME)

Significant Agreement Changes:

- Estimated increased cost of 3-year contract - $1.8MM
- General annual wage increases of 3.5% for Fiscal Years 2020, 2021 and 2022
- One-time 1.5% lump sum ratification incentive
- Paid parental leave program allowing up to 6 weeks of paid leave effective January 1, 2020

Successorship:

- This Collective Bargaining Agreement shall be binding upon the Employer, the Union, their successors and assigns and shall continue in full force and effect in the event of the recapitalization, sale, merger, acquisition or other transfer of the business covered by this Agreement. As a condition of the sale or other transfer of the business covered by this Agreement, JEA shall require the transferee to assume and adopt the terms and conditions of this Agreement and continue to recognize the Union as the sole bargaining agent for the employees covered by this Agreement
- The successor employer shall:
  - Recognize the Union as the exclusive representative of such employees
  - Assume this agreement

JEA Workforce | Overview of Collective Bargaining Agreements

2019-728 (Professional Employees Association – PEA)

Preamble:

During the term of this Collective Bargaining Agreement, it shall be binding upon the Union and JEA, their successors and assigns, and shall continue in full force and effect in the event of the sale or other transfer of the business covered by this Agreement. During the term of this Collective Bargaining Agreement, JEA shall require the transferee to assume and adopt the terms and conditions of this Agreement and to recognize the Union as the sole bargaining agent for the employees covered by this Agreement. JEA agrees to make this a condition of the sale or other transfer of the business covered by this Collective Bargaining Agreement

Significant Agreement Changes:

- Estimated increased cost of 3-year contract - $5.9MM
- General annual wage increases of 2% for Fiscal Years 2020, 2021 and 2022
- Performance Pay increases ranging from 0% to 4% each fiscal year
- One-time 1.5% lump sum ratification incentive
- Increases in pay range minimums (2%) and maximums (3.5%) each fiscal year
- Paid parental leave program allowing up to 6 weeks of paid leave effective January 1, 2020

2019-729 (Laborers' International Union of North America – LIUNA)

Preamble:

This Agreement is entered into as of October 1, 2019 between JEA and/or any other co-op, partner, affiliate as a result of any Recapitalization Event (Employer) and the Northeast Florida Public Employees' Local 630, Laborers' International Union of North America, AFL-CIO-CLC (Union). It is the intent and purpose of this Agreement to assure a sound and mutually beneficial working and economic relationship between the parties hereto, to provide an orderly and peaceful means of resolving any misunderstandings or differences which may arise, and to set forth herein basic and full Agreement between the parties concerning the rates of pay, wages, hours, and other terms and conditions of employment. There are, and shall be, no individual arrangements contrary to the terms herein provided. Either party hereto shall be entitled to require specific performance of the provisions of this Agreement. It is understood that the Employer is engaged in furnishing essential public services which vitally affect the health, safety, comfort, and general wellbeing of the public; and both parties hereto recognize the need for continuous and reliable service to the public

Significant Agreement Changes:

- Estimated increased cost of 3-year contract - $4.1MM
- General annual wage increases of 3.5% for Fiscal Years 2020, 2021 and 2022
- Increase in standby pay from flat dollar amount to 1.5 times hourly rate of employee
- Increase of $25 in safety shoe voucher
- Paid parental leave program allowing up to 6 weeks of paid leave effective January 1, 2020

2019-730 (International Brotherhood of Electrical Workers – IBEW)

Preamble:

This Agreement is entered into on this First Day of October, 2019, by and between JEA and Local #2358, International Brotherhood of Electrical Workers, hereinafter referred to as the "Union". It is the intent and purpose of the parties hereto to promote and improve the efficient administration of JEA and the wellbeing of employees within the meaning of collective bargaining laws and regulations; to establish a basic understanding relative to matters affecting working conditions; to provide means for amicable discussion and adjustment of matters of mutual interest; and to implement mutually agreed upon rates of pay, wages, hours of employment and other terms and conditions of employment; to provide a procedure for the adjustment of grievances so as to promote orderly and peaceful relations between the JEA, its employees, and the Union.

During the term of this Collective Bargaining Agreement, it shall be binding upon the Union and JEA, their successors and assigns, and shall continue in full force and effect in the event of the sale or other transfer of the business covered by this Agreement. During the term of this Collective Bargaining Agreement JEA shall require the transferee to assume and adopt the terms and conditions of this Agreement and to recognize the Union as the sole bargaining agent for the employees covered by this Agreement. JEA agrees to make this a condition of the sale or other transfer of the business covered by this Collective Bargaining Agreement.

The parties agree that this Agreement shall be applied impartially to all employees in the Unit. Days- referenced in this Agreement shall be calendar days unless specifically stated otherwise. Gender- In applying the meaning of this Agreement, the masculine includes the feminine and neutral, and vice versa

Significant Agreement Changes:

- Estimated increased cost of 3-year contract - $7.7MM
- General annual wage increases of 3.5% for Fiscal Years 2020, 2021 and 2022
- Increase in standby pay from flat dollar amount to 1.5 times hourly rate of employee
- Paid parental leave program allowing up to 6 weeks of paid leave effective January 1, 2020

JEA Workforce | Pension

JEA Pension Liability

- 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
- For the five Fiscal Years ended September 30, 2015, 2016, 2017, 2018 and 2019, JEA contributed $40,179,000, $43,156,000, $48,942,000, $35,459,523 and $33,855,607 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
  - 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
  - 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
- JEA also provides a medical benefits plan that it makes available to its retirees

SJRPP Pension Liability

- The SJRPP Plan is a single-employer contributory defined benefit plan covering former employees of the Power Park. As of October 1, 2019, 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
  - Interest credits for Tier 2 participants are assumed to continue after the plant shutdown until the benefit distribution at age 55

JEA Workforce | Learning & Development

JEA Academy Mission

- JEA's Academy is committed to providing a creative and innovative environment
- The JEA Academy team is committed to:
  - Modeling the values of the organization by identifying, targeting and exceeding the needs of our customers
  - Dedicating and providing the educational and training resources that will enable our employees to grow and succeed
  - Continuously seeking and implementing innovative ideas, methods, and materials to create a stimulating learning experience that is both effective and rewarding

JEA Academy Benefits to Employees

- Employee development is a key resource to building skills and competencies to achieve business results
- At JEA, we expect employees to take charge of their development relying on leaders to coach and guide employees through the process. L&D supports the organization's learning and development needs with tools, programs, processes and resources to allow employees to DEVELOP FOR LIFE
- It is vital for all employees to continue to grow and learn in ways that align with the changing organization and customer's needs. As you enhance your job skills, realize your potential and grow your career, you ensure JEA is well positioned to stay ahead of the game in a fast paced environment

JEA Builds Future Talent

- JEA partners with local organizations to grow and develop talent, such as Duval County Public School – Early College Program
- JEA currently has 5 state certified apprenticeship and 4 trainee programs in various business units around the company
  - Programs are typically 2-4 years which include classroom and hands-on field work
  - These positions typically work in adverse weather, in potentially dangerous situations, such as working with high voltage or hazardous waste

Safety Programs

Pro-Actively Seeking Safety (PASS)

The purpose of JEA's Quarterly Safety Recognition Program is to provide appreciation for significant performance and/or process improvement in the area of safety. By raising awareness on a regular basis, this program supports JEA's Vision, Mission and Principles for safety and fosters a proactive culture where safety is recognized both on and off the job

Eligibility: Any JEA individual or team

- Recognition Criteria: Qualifying achievements may include:
  - Process improvement that resulted in safer work practice or environment- better tool, more efficient procedure
  - A significant proactive act or exceptional effort that exemplifies our Safety Principles

Rewards: A cross-functional JEA Safety Recognition Program committee will evaluate all nominations and select winners using established guidelines. This committee will determine rewards based upon the merit of the achievement and input from the winning individual(s) or team. Maximum reward not to exceed $50 per person

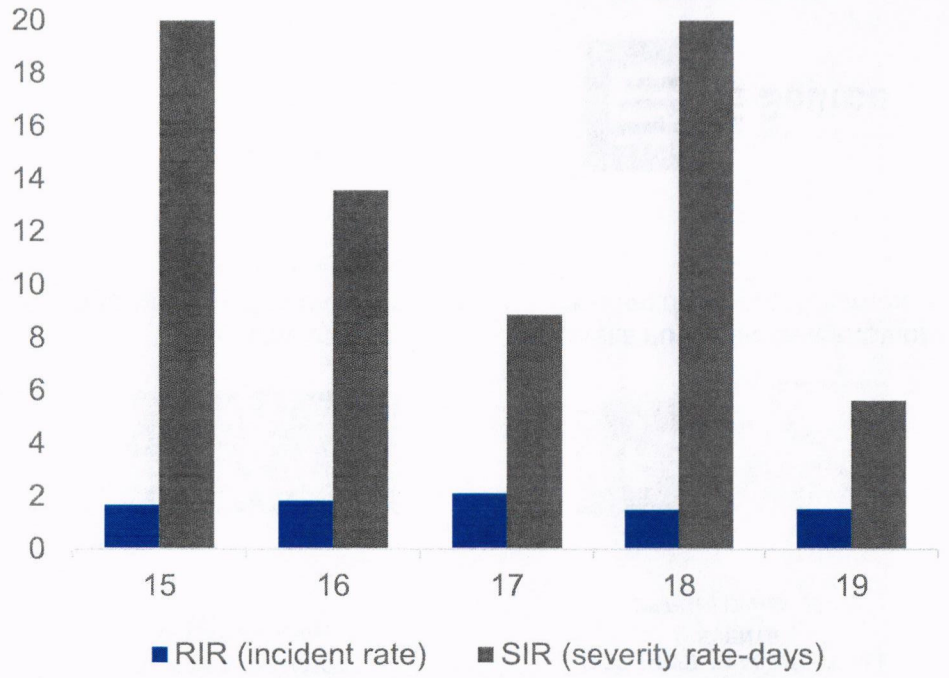
PASSPORT to Safety Program

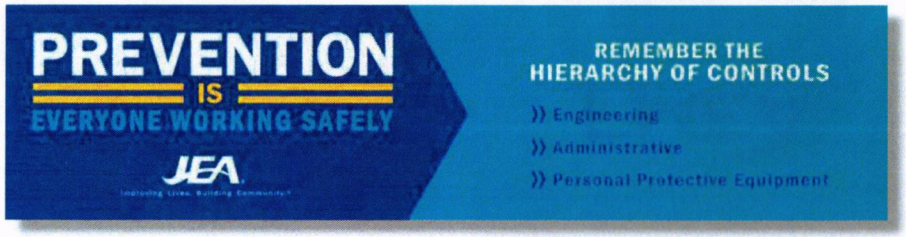
The Program was designed to focus on increasing participation in activities proven to improve safety performance and to efficiently collect leading indicator data for analysis and follow-up. Each activity earns a point, two points are needed to earn one hour. An employee can earn a maximum of 4 hours per quarter

Industrial Performance Program

Innovative solution to address employee health and injury prevention related primarily to minor sprains and strains. Nutrition and exercise advice is also available. Programs are personalized, provide coaching and increases health awareness

Safety Program Effectiveness





JEA embraces a ZERO Incidents vision where preventive safety is a way of life, both on and off the job

Recent JEA Awards

J.D. POWER
ELECTRIC RESIDENTIAL CUSTOMER SATISFACTION
First Quartile, 2019

FIRST COAST WORKSITE WELLNESS COUNCIL
2019 HEALTHIEST COMPANIES
Platinum Level

CHARTWELL
BEST PRACTICES IN OUTAGE COMMUNICATIONS
2019 Silver Award

FLORIDA MUNICIPAL ELECTRIC ASSOCIATION
TOP THREE PLACEMENT, ALL EVENTS
2nd Place Overall, 2019

FLORIDA WATER ENVIRONMENT ASSOCIATION
2019 EARL B. PHELPS AWARD
2019 EXCELLENCE IN BENCHMARKING
2018 SAFETY AWARD

INTERNATIONAL LINEMAN MUSEUM & HALL OF FAME
2019 INDUCTEE

TREE LINE USA
TREE LINE USA DESIGNATION AWARD
8-time Recipient

RELIABLE PUBLIC POWER PROVIDER
2019 RP3 DIAMOND DESIGNATION

PUBLIC RELATIONS SOCIETY OF AMERICA
THE FATBERG INVASION
2019 RADIANCE AWARD, BEST SOCIAL MEDIA PROGRAM
2019 BEST OF SUNSHINE AWARD, TOP OVERALL CAMPAIGN

FORBES
2019 AMERICA'S BEST EMPLOYERS LIST

811
811 LOCATOR EXCELLENCE AWARD

E SOURCE FORUM
THE FATBERG INVASION
2019 TOP HONORS
SAFETY AND EMERGENCY AD DIVISION

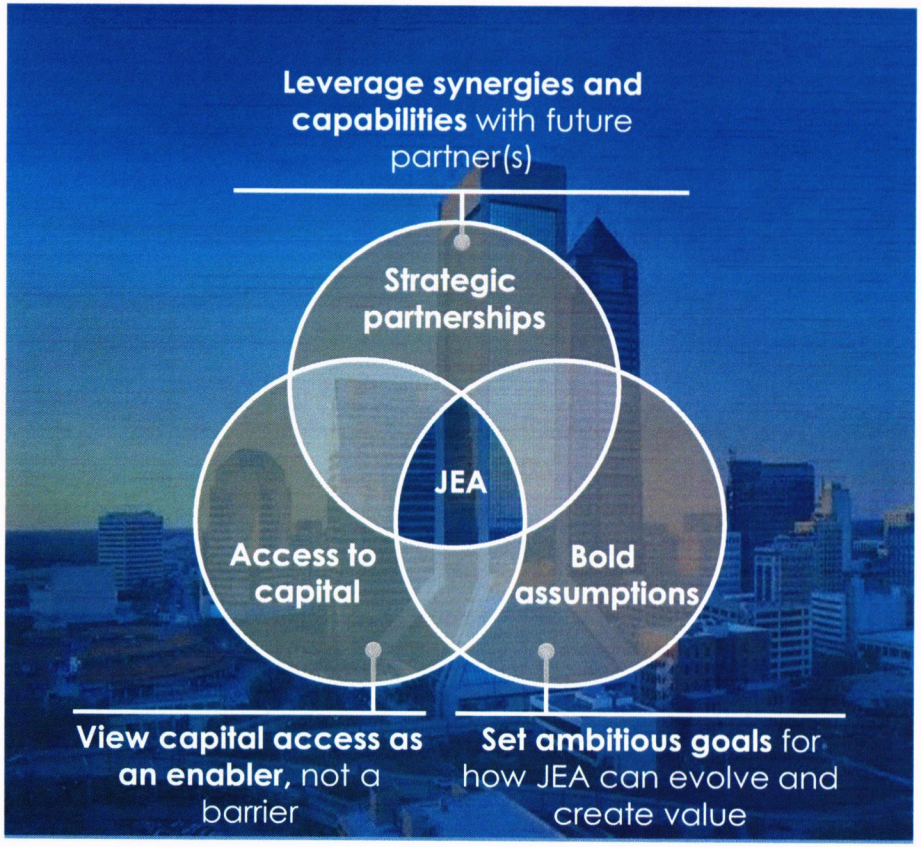
Section 10

Additional Growth Opportunities

Upside Not Reflected in the Respondent Financial Model: Additional Growth Opportunities Harness Market Trends to Build Ambitious Businesses at a Larger Geographic and Commercial Scale, Driving Significant Value Creation

Additional Growth Opportunities are outside of the core utility construct…

…and involve building a well-balanced set of dynamic, high value businesses operating beyond JEA's service territory



A **Increase JEA's water footprint via acquisition**, using its top quartile operational performance and capabilities to provide more efficient, affordable services across Florida

B Substantially **grow JEA's customer base for the District Energy System** by executing the Lot J development and the larger master plan, with over 4 million of concentrated development

C **Increase dark fiber leasing** as JEA invests in its digital communications network to ensure it can provide the speed and capacity needed by new, distributed smart assets at the grid edge

D **Monetize SJRPP and other owned land parcels** for new development projects, such as a liquefied natural gas facility, dedicated port or rail facility, large data center with back-up generation, or new generation facility (already permitted)

E Become the premier **future solutions homes supplier** in Florida, providing resource efficient, optimized ecosystems of products and services for homes and communities

Additional Growth Opportunities Not Reflected in Respondent Financial Model

Additional Growth Opportunities:

A Water System Opportunities

- Financial projections do not consider the potential upside from expansion of the Water and Wastewater System through local water utility system acquisitions, similar to the near-term opportunity presented by the current Mayport Naval Station RFP contemplating transfer of ownership and management of its of the wastewater utility system

B District Energy Expansion Opportunities

- Financial projections do not reflect the potential to add additional customers as a part of the Lot J development and the larger master plan that encompasses over 4 million square feet of concentrated development

C Dark Fiber Growth Opportunities

- Financial projections do not include further monetization of excess capacity of JEA's fiber-optic network through 3rd party leases
- Proliferation of smart, distributed devices will likely require increases in network capacity and speed, supporting expansion of the fiber-optic network

D Owned Land Opportunities

- Financial projections do not capture potential to monetize JEA's land and other owned land parcels for the following potential uses:
  - Liquefied Natural Gas Facility
  - Large Wholesale Data Center with dedicated generation
  - Dedicated Port and/or Rail Facility
  - New Generation Facility (Currently Permitted)

E Emerging Future Homes Opportunities

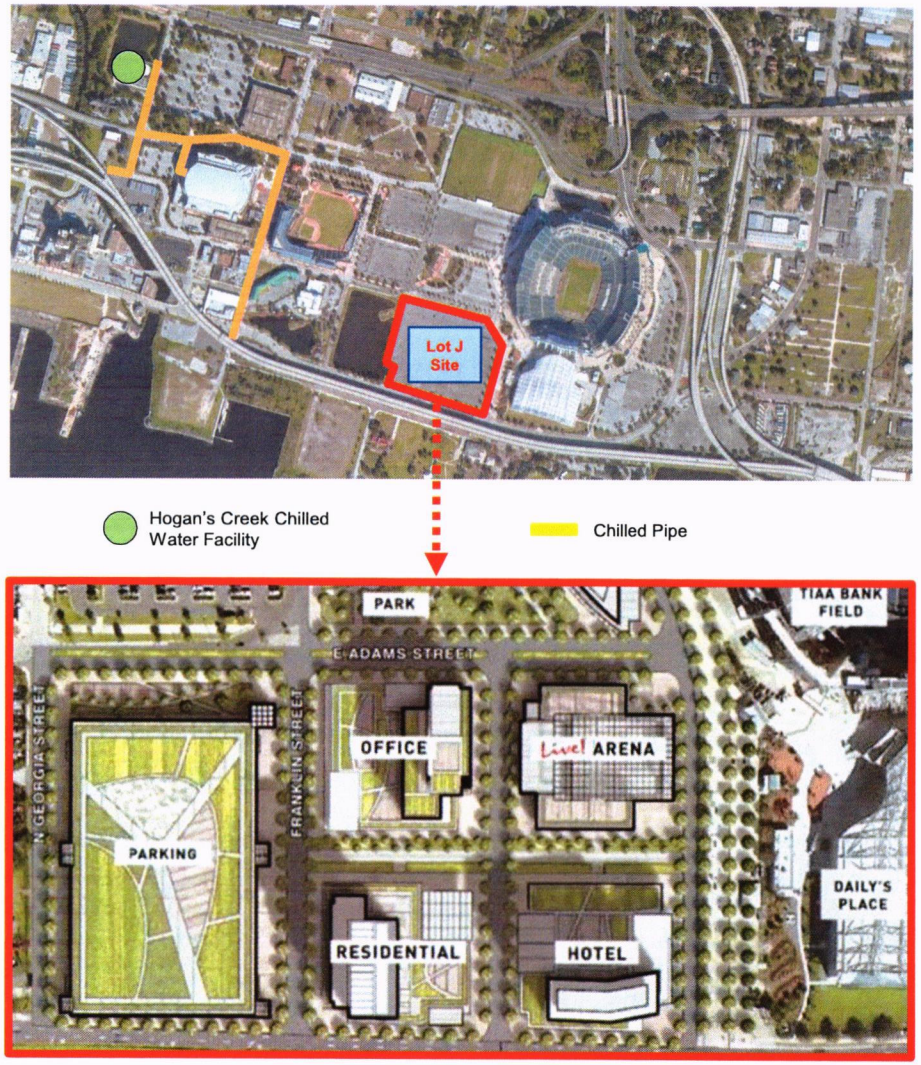
- Financial projections do not include opportunities to participate in the emerging Future Homes market
- JEA's deep expertise in the engineering, management, and maintenance of energy and water systems would be valuable to many potential partners seeking to develop integrated home solutions for resilience, resource efficiency and automation/control

Financial projections do not account for numerous tangible sources of potential upside

District Energy Expansion Opportunities | Lot J Development

Lot J Development Overview

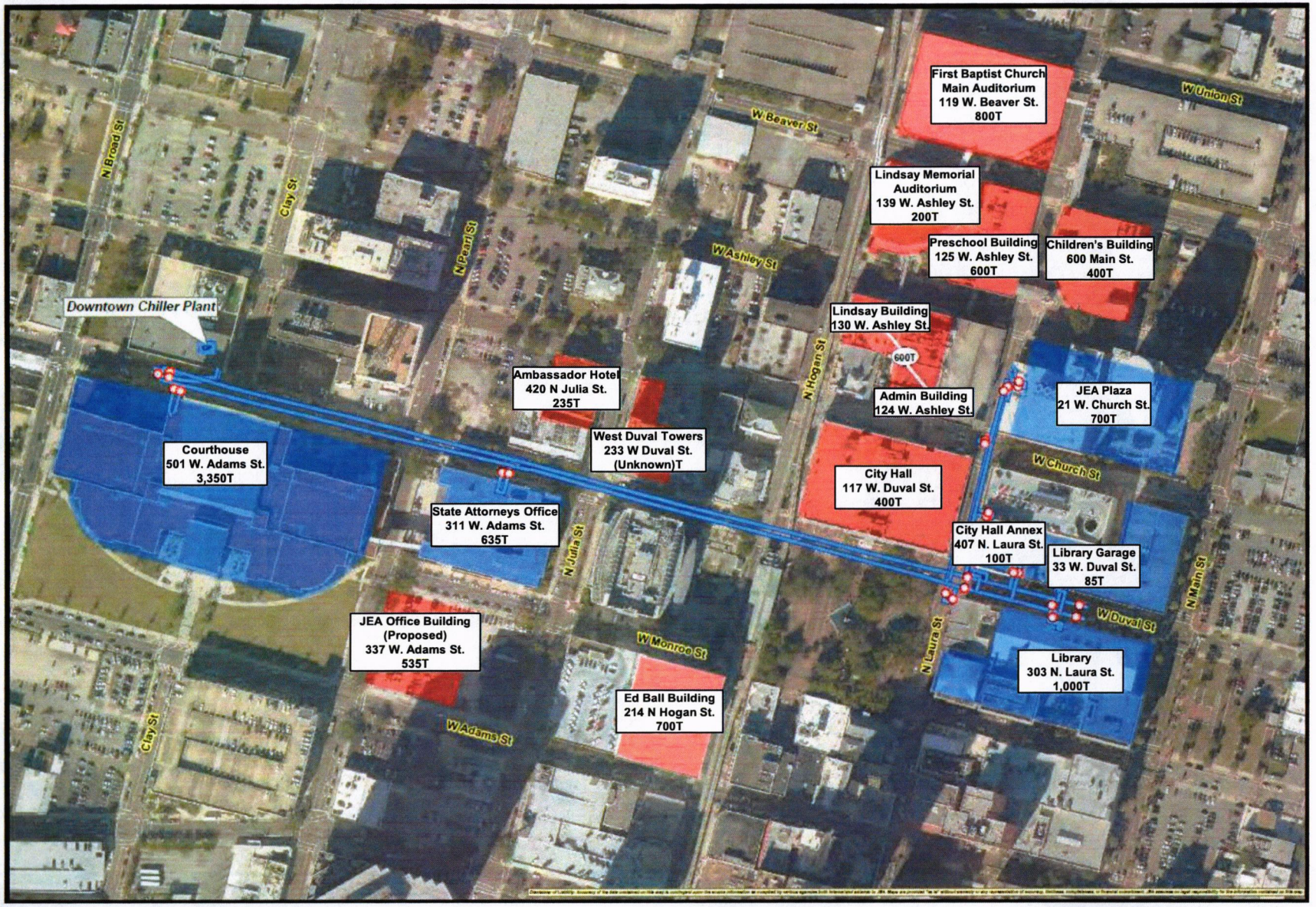
- On July 31, 2019, the City of Jacksonville announced an agreement with the Jacksonville Jaguars to invest and redevelop land, known as "Lot J", located adjacent to TIAA Bank Field
  - Development plans for Lot J include a high-rise apartment building, a boutique hotel, office space, a live entertainment venue, and 13,000 parking spaces
  - As part of the agreement, the City would provide more than $230MM in grants and infrastructure improvements
  - The remaining $220MM of investment will be provided by the Jacksonville Jaguars
- Under the Lot J agreement, the City would give developers the land for the Lot J high-rise tower(s), the boutique hotel, the office tower and a mid-rise residential building or buildings
- The City has pledged $92.8MM in infrastructure improvements in the area including necessary utility upgrades
- Development is expected to begin in 2Q2020
- The Lot J project is part of a larger overall master plan that could reach $2.5Bn and extend to the nearby shipyards, encompassing over 4MM square feet



JEA District Energy System Growth Opportunity

- Given the close proximity of Lot J to JEA's Hogan's Creek chilled water facility and existing JEA District Energy System infrastructure, the Lot J development is a tangible opportunity for expansion of the system
  - Concentrated development provides ability to acquire customers at scale at a lower infrastructure investment cost
- Potential for additional development outside of Lot J as part of the larger master plan offers incremental opportunities for customer acquisition

Downtown Expansion Opportunities



Dark Fiber Growth Opportunities

Overview

- Proliferation of smart, distributed devices will likely require increases in network capacity and speed, supporting expansion of the fiber-optic network
- Increase dark fiber leasing as JEA invests in its digital communications network to ensure it can provide the speed and capacity needed by new, distributed smart assets at the grid edge
- By investing in telecommunications infrastructure, JEA can enable improved operations and community development while enhancing returns

IoT/IIoT Subscription Services

- Leverages JEA field network resources
- Monetizes investments with recurring revenue

Public Facing WiFi

- Extend JEA messaging and commitment to community services
- Leverages underlying network for JEA/public use
- Advertising revenue

Downtown Fiber Network

- Unique opportunity to leverage infrastructure to connect
- JaxNAP located downtown

SmartCity Opportunities

- Innovation corridor launched on Bay St downtown
- Opportunity for further community advancement through utility investment

Fixed Wireless

- Utilize JEA towers and fiber network to provide core wireless network
- Sub-core network on JEA street lights and other vertical infrastructure

Broadband Services

- Existing infrastructure provides competitive advantage for entry
- High-margin proposition

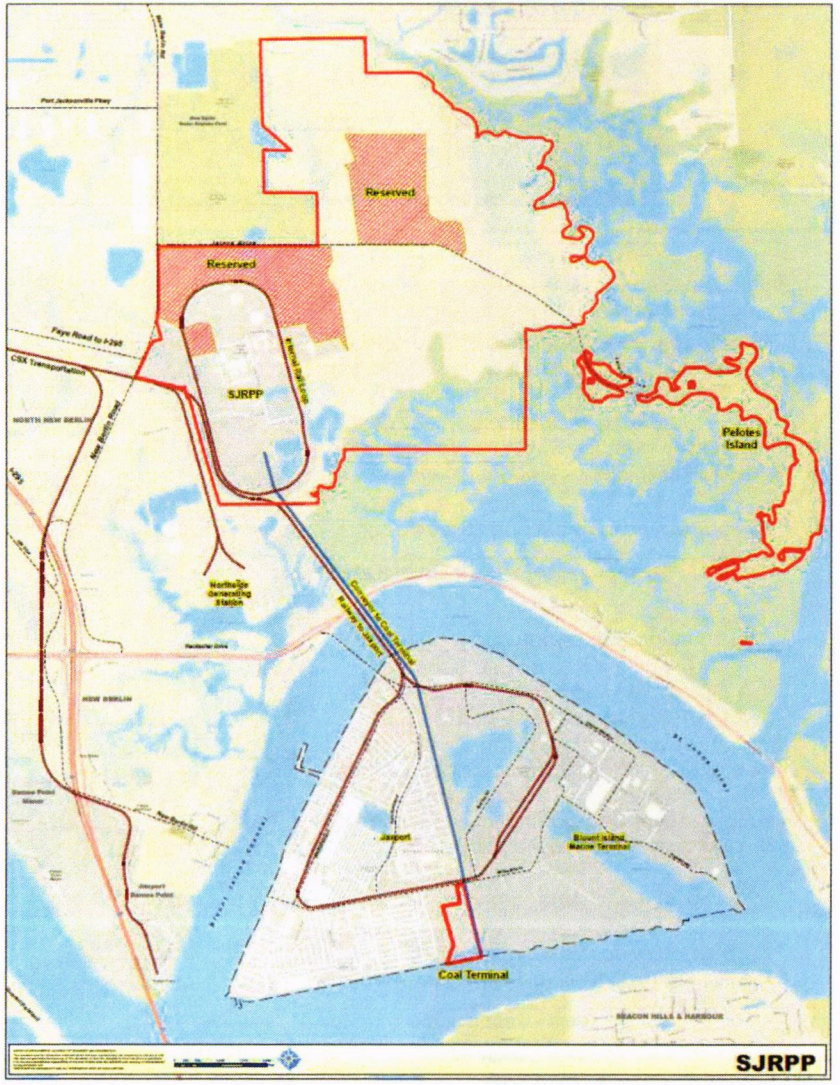
Owned Land Opportunities | St. Johns River Power Park

History

- Until it was closed in January 2018, SJRPP was a large coal-fired electric generating plant, featuring two turbine/generators that each supplied 632 MW to the transmission grid
- When the plant was constructed in the early 1980s, it was the largest construction project in Jacksonville's history, taking six years to build, at a cost of $1.45Bn
- Facility is jointly owned by JEA – 80% share, and Florida Power and Light – 20% portion
- After nearly 30 years in service, SJRPP closed on January 5, 2018. Catalytic reactors, cooling towers and smokestacks were imploded
  - Demolition and site remediation will continue until mid-2020
- Decommissioned plant is located on a 1,600 acre site in Northeast Jacksonville
- JEA will retain 100% of site ownership at the completion of remediation; therefore, site is included as part of the generation portfolio

The Future of SJRPP

- Decommissioning of the generation site creates an extremely unique opportunity for JEA, freeing up a large, unencumbered parcel of land that is accessible by water for a variety of import/export uses
- Other potential uses of the asset include:
  - Dedicated port facility
  - New generation facility (currently permitted)
  - Large wholesale data center w/ dedicated generation
  - Property sales for redevelopment reflected in "Management Sales Initiatives" HoldCo revenue in Respondent Financial Model



Closing the Power Park reduces JEA carbon emissions by 30% and saves $50MM in operating expenses per year

Source: JEA internal data

Emerging Future Homes Opportunities

Overview

JEA has or could build this capability internally

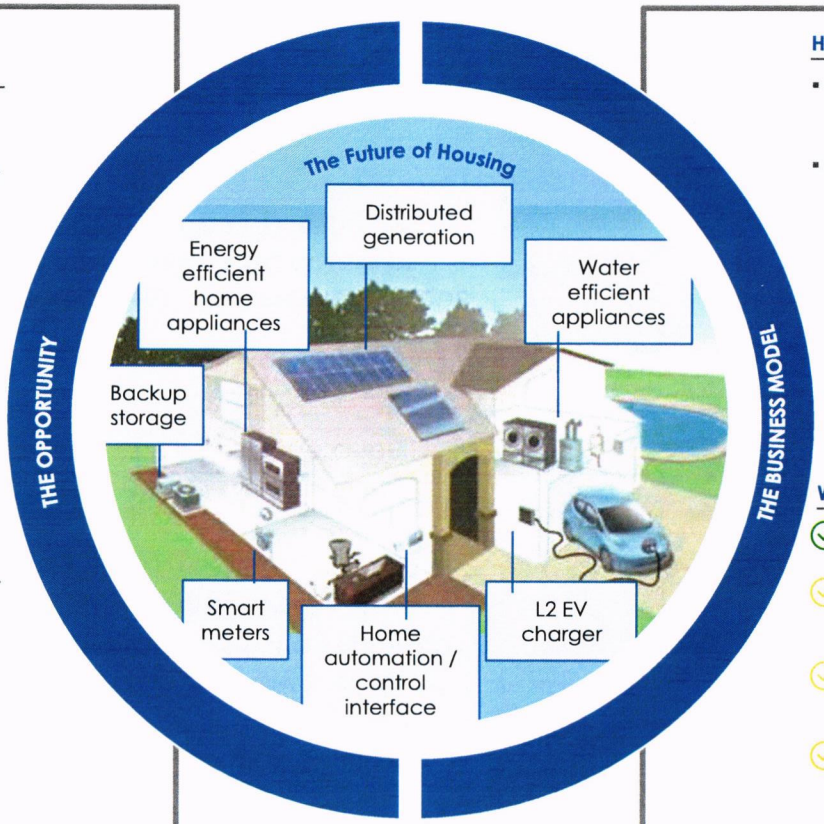
JEA would likely need to partner to build this capability

The Home of the Future will be fully automated, efficient, and resilient…

- The confluence of automation and energy / water efficiency is revolutionizing homes
  - The home control/ automation market is fast growing, with over 30% growth projected through 2022 and $39Bn worth of system sales in the US in 2019
  - Energy efficiency is becoming mainstream – ACEEE estimates that emerging EE technologies can reduce consumption an additional 40-60% by 2050
- As Florida storms become more frequent and intense, customers are increasingly interested in resiliency products

…but there is not yet a clear "winner" in the Future Homes solutions space

- Recent market growth is fragmented across appliance contracting, energy services, and technology, stalling further adoption
- Utilities sit at the nexus of these industries, and have the relationships (e.g., with customers, contractors) and capabilities to tap into the nascent Future Homes market



How JEA can capture value

- JEA will provide a packaged set of Future Homes solutions to revolutionize housing in Florida
- This business could "play" in the following spaces:
  - Provide engineering, design, and installation services of Future Homes packages for new build developers
  - Offer flexible financing (e.g., "rent to own", tariff financing) to incentivize adoption
  - Maintain and optimize resource use for ecosystems of home devices, using the home as a grid asset
  - Retrofit existing homes and communities

What it takes for JEA to be successful

- Deep energy and water expertise, including system optimization
- A partner with operational capabilities to install and maintain cutting edge home appliances in the crowded contractor market
- A sophisticated marketing and sales organization that can acquire and educate customers outside JEA's current geography
- A financial partner that can underwrite / support flexible financing of customers' end systems

By the numbers – market potential	**2MM** new build homes in FL projected between 2020-30, requiring require nearly **$20Bn** worth of appliances	Over **1 in 3** 2030 homes could be fully efficient, using recent growth in the home automation market as a proxy [1]	At this trajectory, Homes of the Future can make up a **$1.3Bn** market in Florida in 2030

JEA has an opportunity to become the premier, smart, efficient homes solutions supplier for Florida developers and communities, providing solutions for resilience, resource efficiency, and automation/control

Source: U.S. Census Bureau (BOC): New Residential Construction (C20, C22); Moody's Analytics Estimated and Forecasted, Alternative Fuels Data Center

Note:

1. The smart thermostat and HVAC market grew 36% p.a. between 2014-18 - whole home systems could follow the same trajectory

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Appendix 1
Operational Incentives

Subsection A

Generation Initiatives

Generation Initiatives

Initiative	Description	Key Activities Completed	Key Activities to Execute
Improve generation efficiency to reduce use of fuels, other consumables	• **Institute performance tracking** of heat rate to reduce variability and controllable losses • **Improve technical performance** (e.g., clean HRSG, install better air inlet filter) • **Reduce limestone usage** by installing new crush and burn system	• Completed Brand Branch U2 and U3 AGP 7.05 upgrades. This reduced heat rate/fuel consumption by ~167 BTU/kW or ~$11MM/yr of fuel cost, while adding ~100 MW of summer capacity • Completed NGS U1 Lime Utilization project for an annual lime consumption savings of ~$3.7MM/yr • Increased SDA reuse ash/lime slurry density from 18% to 20% with no identified operational issues. Goal is to continue to increase until reaching peak system capability. Increasing reuse material utilization decreases the cost of raw lime requirements	• Implement heat rate monitoring tools (e.g., etaPRO) and include heat rate as a day-to-day performance KPI • Identify controllable parameters (e.g., boiler temps, backpressure) deviating from design and problem-solve operational solutions (e.g., adjusting tilts) or technical solutions (e.g., filter replacements) to address • Coach plant operators on identified interventions to reduce heat rate • Review utilization of consumables (e.g., limestone) to ensure excess materials are not used
Frontline operational excellence	• **Increase crew productivity** by improving core work processes (e.g., planning and scheduling) and increasing "wrench time" for core workflows, e.g.: – Break-ins (e.g., bearing failures) – PMs (e.g., oil replacement) • **Optimize resourcing and schedules of craft** across shifts to match volume of work with resources	• Reorganized facility Operations and Maintenance organizations to focus on streamlining work processes and organizational hierarchy levels • Developed and initiated Plant level KPI's designed to monitor and measure work flow efficiencies • Expanded Operations and Maintenance Training programs to increase worker skill level knowledge. This includes the purchase and utilization of unit specific simulator capabilities	• Perform site observations and ride-alongs of workflows (e.g., valve replacements) to develop a fact base • Identify opportunities to increase productivity by collaboratively engaging the frontline (i.e., idea generation sessions) and/or leveraging industry best practices • Develop action plans to implement new best practices (e.g., pre-kitting CMs) and coach front-line on implementation • Pilot and test new practices • Refine and scale, monitoring KPIs to validate impact
Lower fuel expenses	• **Outsource fuel handling services where appropriate** to cost-competitive third-party providers	• Conducting test and modifying operational parameters to capitalize on current fuel price trends, by adjusting fuel blend capabilities on NGS U1 and U2 from existing 60/40 up to 80/20 pet coke to coal blends	• Negotiate with 3rd party contractors to manage fuel handling activities • Redeploy internal labor to other functions as needed

Generation Initiatives (cont'd)

Initiative	Description	Key Activities Completed	Key Activities to Execute
Spend management	• **Reduce demand for third-party materials and services** by applying stricter purchasing controls and standardizing material request submissions, e.g.: – Reducing frequency of use – Revising specifications – Insourcing work when possible	• Reduced contractor support labor cost associated with planned outages by reallocating internal "sunk" labor resources for critical and expanded work assignments. Estimated contractor savings during U1 2019 Fall Scheduled Outage at ~$1MM • Implemented a "Control Tower" purchasing review process associated with P-card purchases in July 2019. YOY, July thru Oct spend reduction is ~$398k	• Aggregate purchasing system data into a centralized database that enables management to review ending POs for the upcoming weeks • Build on newly established weekly meeting to review all pending spend items to determine whether the spend is necessary, or if cheaper solutions are available
Strategic sourcing	• **Negotiate lower commercial rates for materials and services** by: – Introducing new providers to increase competition – Expanding supplier performance management systems and methodologies – Leveraging additional flexibility as a non-governmental entity	• Develop supplier "scorecards" to measure performance against key KPIs	• Embed a TCO (total cost of ownership) approach within the procurement organization • Align category managers with BUs to identify opportunities to create value through sourcing events • Develop "should-cost" or clean-sheet models to support supplier negotiations

Subsection B

Transmission & Distribution Initiatives

T&D Initiatives

Initiative	Description	Key Activities Completed	Key Activities to Execute
Frontline operational excellence	• **Increase crew productivity** by improving core work processes (e.g., planning and scheduling) and increasing "wrench time", e.g.: – All jobs are work ready – Morning kickoffs start on-time – Daily debriefs and feedback on opportunities	• Redesigned Southside Service Center yard to improve traffic flow and material laydown to increase safety and productivity • Developed leadership observation expectations to increase safety and productivity	• Develop action plans to implement new best practices (e.g., pre-kitting jobs) and coach front-line on implementation • Pilot and test new practices within one yard • Refine and scale to remaining yards, monitoring KPIs to validate impact
Digitalize frontline operations	• Further optimize processes, building off the improvements from frontline operational excellence by **applying a series of digital tools that further increase productivity**, improve customer experience, and maintain safety, e.g.: – Improve planning and scheduling by accounting for site conditions, real-time crew locations – Automate clerical tasks (e.g., dig requests, time sheets) – Enable digital collection of asset condition data	• Workshops help to identify digital tool gaps and create the requirements for a new work management system	• Stand up agile development teams that collaborate with the end users to develop MVPs (minimum viable products) to test with the frontline (e.g., automated scheduling based on job specs, geographic location, and available crews) • Pilot with individual crews • Refine and scale by expanding across the fleet, monitoring KPIs to validate impact
Spend management	• **Reduce demand for third-party materials** by applying stricter purchasing controls and standardizing material request submissions: – Reducing amount or frequency of use – Revising specifications		• Aggregate purchasing system data into a centralized database that enables management to review POs pending for the upcoming weeks • Establish a weekly meeting to review all pending spend items to determine whether the spend is necessary or if there are cheaper solutions available

T&D Initiatives (cont'd)

Initiative	Description	Key Activities Completed	Key Activities to Execute
Vegetation management	• **Improve procurement process,** bid packages and bidding practices; implement performance management (e.g., miles trimmed by crew per day) • **Optimize long-term cycle planning** and work management through machine learning that identifies highest areas of need relative to system priority and risk • **Improve quality assurance process** and in-the-field forester audits	• Utilize a mixture of time and material rates as well as unit rates (cost/mile) to minimize cost exposure	• Launch strategic sourcing event for vegetation management; expand universe of potential suppliers and review contract structures • Implement performance management to track productivity • Investigate feasibility of vegetation analytics that uses external data to improve vegetation management practices and lower costs
Strategic sourcing	• **Negotiate lower commercial rates for materials and services** by: – Introducing new providers to increase competition – Expanding supplier performance management systems and methodologies – Leveraging additional flexibility as a non-governmental entity		• Embed a TCO (total cost of ownership) approach within the procurement organization • Align category managers with BUs to identify opportunities to create value through sourcing events • Develop "should-cost" or clean-sheet models to support supplier negotiations • Develop supplier "scorecards" to measure performance against key KPIs

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Subsection C

Water & Wastewater System Initiatives

Water & Wastewater Initiatives

Initiative	Description	Key Activities Completed	Key Activities to Execute
Frontline operational excellence	• **Optimized water plant production** and pumping will extend equipment life and reduce operating costs while providing consistent water pressures • **Intelligent operation of sewage pumps and use of wet well storage to operate pumps during optimal timing** on the hydraulic manifold system. This will reduce pump operating costs, pump wear and needless pump oversizing	• Actively negotiating with two proposers for a 20 year sludge cake deal • Getting out of the pellet fertilizer business saving about $1MM/year in avoided natural gas purchase and gas produced in our digesters will can be sold on the RNG market	• Install additional water pressure sensors strategically throughout water service areas • Feed real time water pressure to water hydraulic model • Review pumping histories to identify inefficiencies • Develop new rules/logic for managing pump schedules to minimize inefficient operation for water and sewage collection pumping • Install on-site AI computing equipment at master sewage pump stations • Install force main pressure sensors at contributing pump stations
Digitalize frontline operations (wastewater treatment)	• Further optimize processes, building off the improvements from frontline operational excellence by **applying a series of digital tools that further increase productivity**, improve customer experience, and maintain safety, e.g.: – Leverage equipment sensors to reduce the need for manual inspection – Use machine learning algorithms to drive predictive and condition-based maintenance – Improve planning and scheduling by accounting for job type, crew locations, etc.	• Virtual pump station operational and in testing, additional equipment sensors installed at master pump station including: vibration monitors, infra-red cameras, high definition cameras, thermal imaging cameras, etc., to allow for remote visual inspection and monitoring as well as event driven notifications. Gravity flow sensors for I&I tracking and gravity system cleaning optimization have been tested and implemented. Machine learning from the sensor data will drive predictive and condition based maintenance • Tablet devices initial configuration being tested to allow real time data collection and data dissemination to field forces • Identified opportunities to digitalize elements of core workflows • Created agile development teams that collaborate with the end users to develop MVPs	• Identify opportunities to digitalize elements of core workflows by applying design thinking and leveraging best practices from across the industry • Stand up agile development teams that collaborate with the end users to develop MVPs (minimum viable products) to test with the frontline (e.g., automated scheduling based on job specs, geographic location, and available crews) • Pilot with individual crews • Refine and scale by expanding across the fleet, monitoring KPIs to validate impact

Water & Wastewater Initiatives (cont'd)

Initiative	Description	Key Activities Completed	Key Activities to Execute
Reduce auxiliary load	• **Reduce pumping costs** by optimizing pumping cycles to ensure pump stations do not work against each other (i.e., reduce electricity consumption)	• Artificial intelligence program in development for water system pressure and pumping optimization. Eighty water pressure sensors in the water treatment test grid have been installed and are transmitting data into pi and are being used for the AI development • Intelligence from this program will aid in a similar initiative in the sewage pumping systems. Fiber optics communication has been installed at 40 master stations	• Install additional water pressure sensors strategically throughout water service areas • Feed real time water pressure to water hydraulic model • Review pumping histories to identify inefficiencies • Develop new rules/logic for managing pump schedules to minimize inefficient operation for water and sewage collection pumping • Install on-site AI computing equipment at master sewage pump stations
Spend management	• **Reduce demand for third-party materials** by applying stricter purchasing controls and standardizing material request submissions, e.g.: • Revising material specifications • Purchasing through wholesale channels	• Closely monitor and report to business managers expenses at a micro level. Also alerting them when expenses are trending to exceed budgets	• Aggregate purchasing system data into a centralized database that enables management to review POs pending for the upcoming weeks • Establish a weekly meeting to review all pending spend items to determine whether the spend is necessary or if there are cheaper solutions available
Strategic sourcing	• **Negotiate lower commercial rates for materials and services** by: – Introducing new providers to increase competition – Expanding supplier performance management systems and methodologies – Leveraging additional flexibility as a non-governmental entity		• Embed a TCO (total cost of ownership) approach within the procurement organization • Align category managers with BUs to identify opportunities to create value through sourcing events • Develop "should-cost" or clean-sheet models to support supplier negotiations • Develop supplier "scorecards" to measure performance against key KPIs

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Subsection D

Customer Initiatives

Customer Initiatives

Initiative	Description	Context for Management Case
Frontline operational excellence	• Increase frontline (e.g., call center agents, meter team) productivity by: – **Optimizing capacity** and **skill-based routing**, **cross-skilling of agents**, and improved scheduling that matches call volumes – **Conducting people analytics**, leveraging data to unlock further improvements to availability, average handle time, and first call resolution through directed coaching and real-time speaking guidance	• Benchmarking indicated call centers are performing in the top quartile relative to other utilities • Perspective of the Customer team is that there is limited non-digital opportunity
Digitize customer journeys	• **Shift customers to digital self-service** by creating simple, intuitive web and app-based solutions for key journeys, e.g.: – Bill payment – Sign-up-and-move – Experience an outage	• Significant opportunity to shift customers to digital self-service with high potential for success • Established business models and approaches from within and beyond the utility industry • Limited progress to-date capturing the opportunity
Deploy automation	• **Contain IVR calls** by analyzing reasons for leakage and adjusting IVR flow and logic • **Utilize Robotic Process Automation** to eliminate repetitive tasks (e.g., complex, manual billing) and **natural language processing** to standardize data extraction (e.g., from recorded IVR calls)	• Conservative assessment of activities that could be rapidly automated within the Revenue group. Considerable upside potential over the 10-year window

Customer Initiatives (cont'd)

Initiative	Description	Context for Management Case
Spend management	• Reduce need for meter reads through digital smart meters and billing quality control • Enhance routing based on crew location and skillsets	• Leverage same digital field force tools developed for water and T&D • Significant share of truck rolls due to billing errors that can be reduced through automated solutions • Additional impact from further penetration of smart meters
Strategic sourcing	• **Negotiate lower commercial rates for materials and services by:** – Introducing new providers to increase competition (e.g., staff augmentation labor during outages) – Expanding supplier performance management systems and methodologies (e.g., on-time delivery, measuring time to complete jobs) – Leveraging additional flexibility as a non-governmental entity (e.g., outsource engineering, flexibility to discontinue vendors without multiple notices)	• Assumes JEA's small purchasing power will limit some of the opportunity created by removing current procurement requirements

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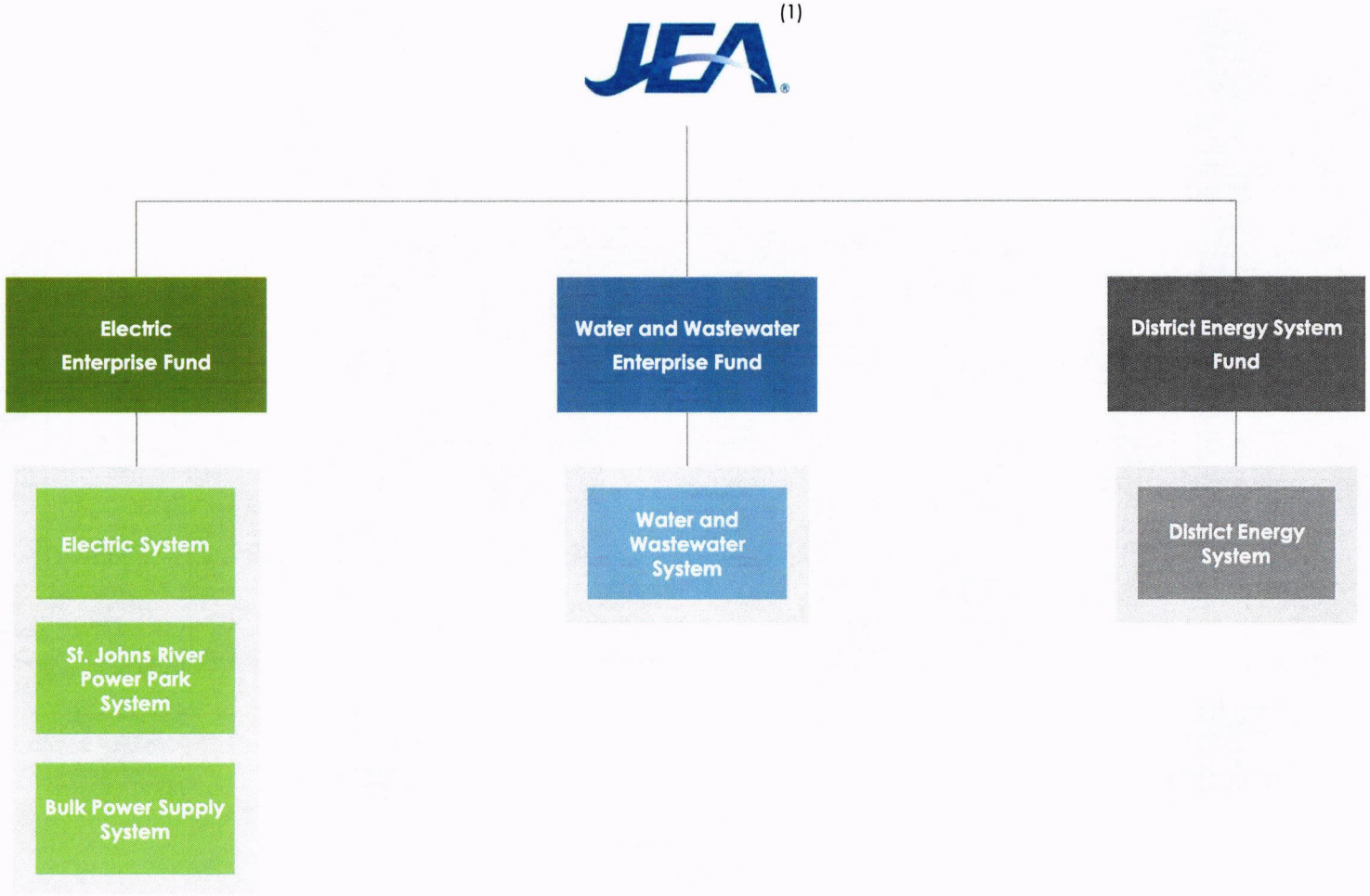
Appendix 2
Organizational Detail

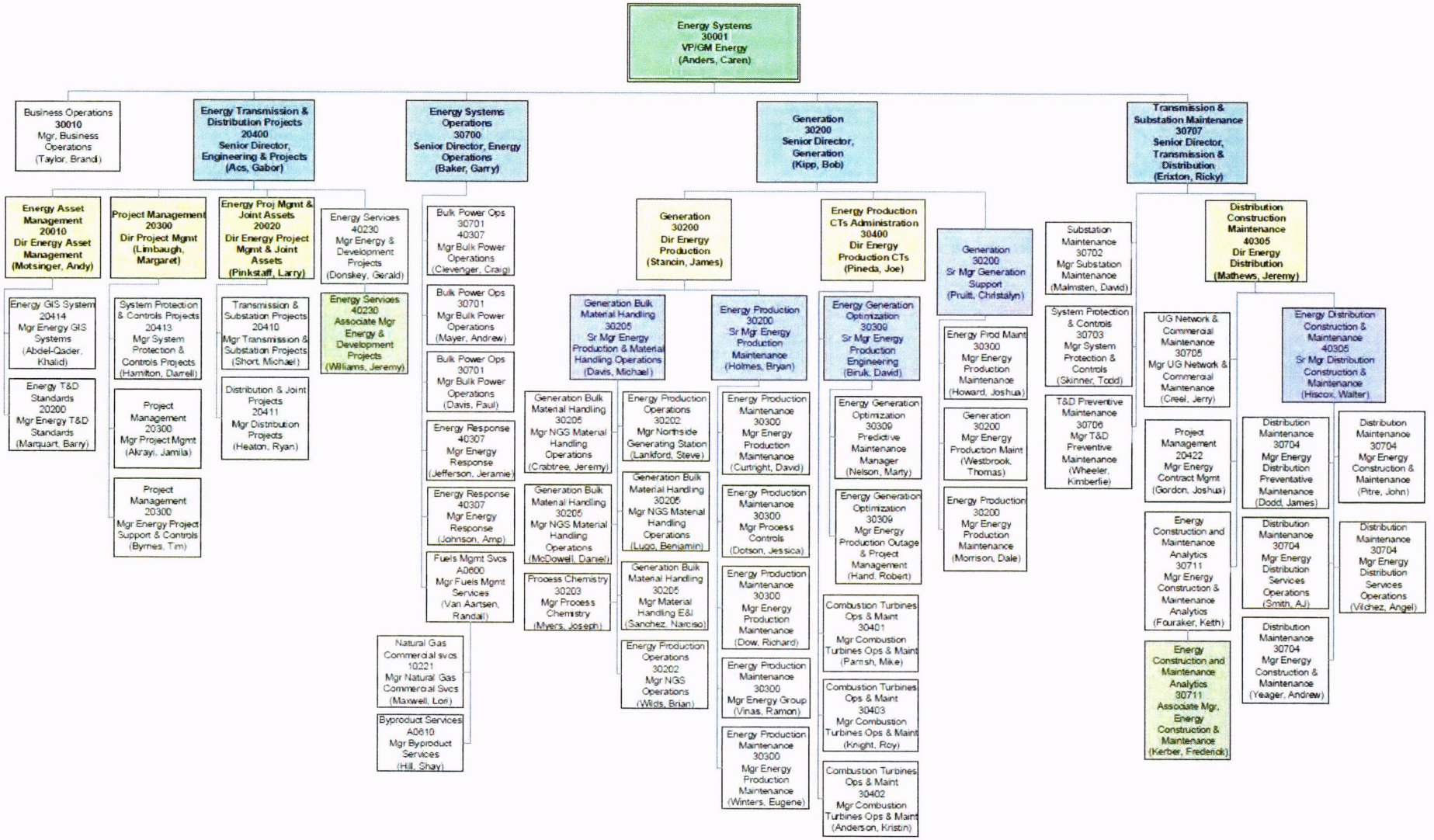
Corporate Organizational Chart



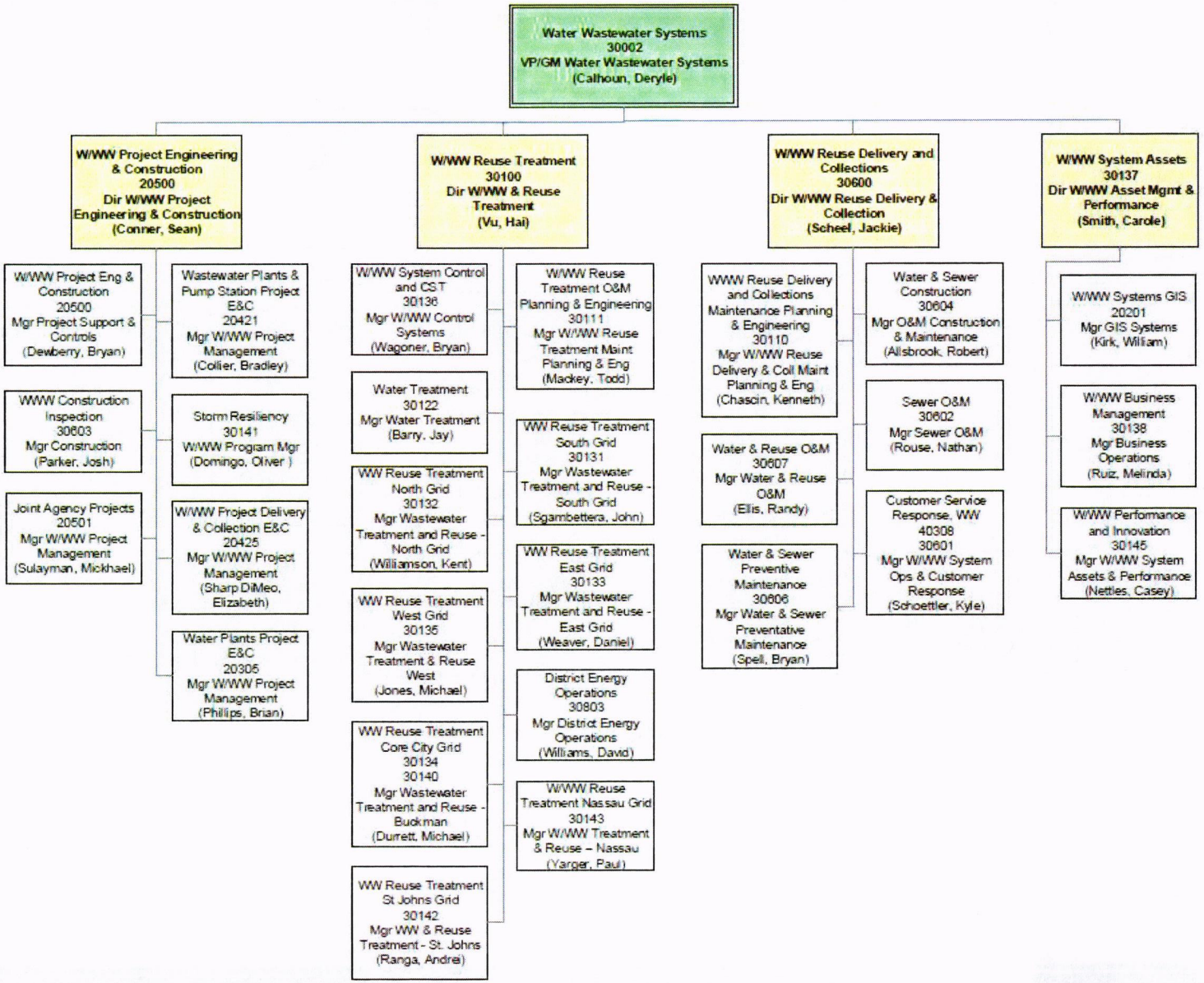
Note:

1. The JEA Fiber Optic network is a diverse network traversing the majority of Jacksonville. The network connects JEA's electric substations, electric generation facilities, water plants, wastewater facilities, lift stations, and all JEA's Operations facilities. The fiber strand count varies throughout the fiber network with approximately 70% of the assets located overhead on Electric Distribution and Transmission structures and 30% underground in conduits. The fiber located on Electric Transmission structures may have limited use due to property easement restrictions.

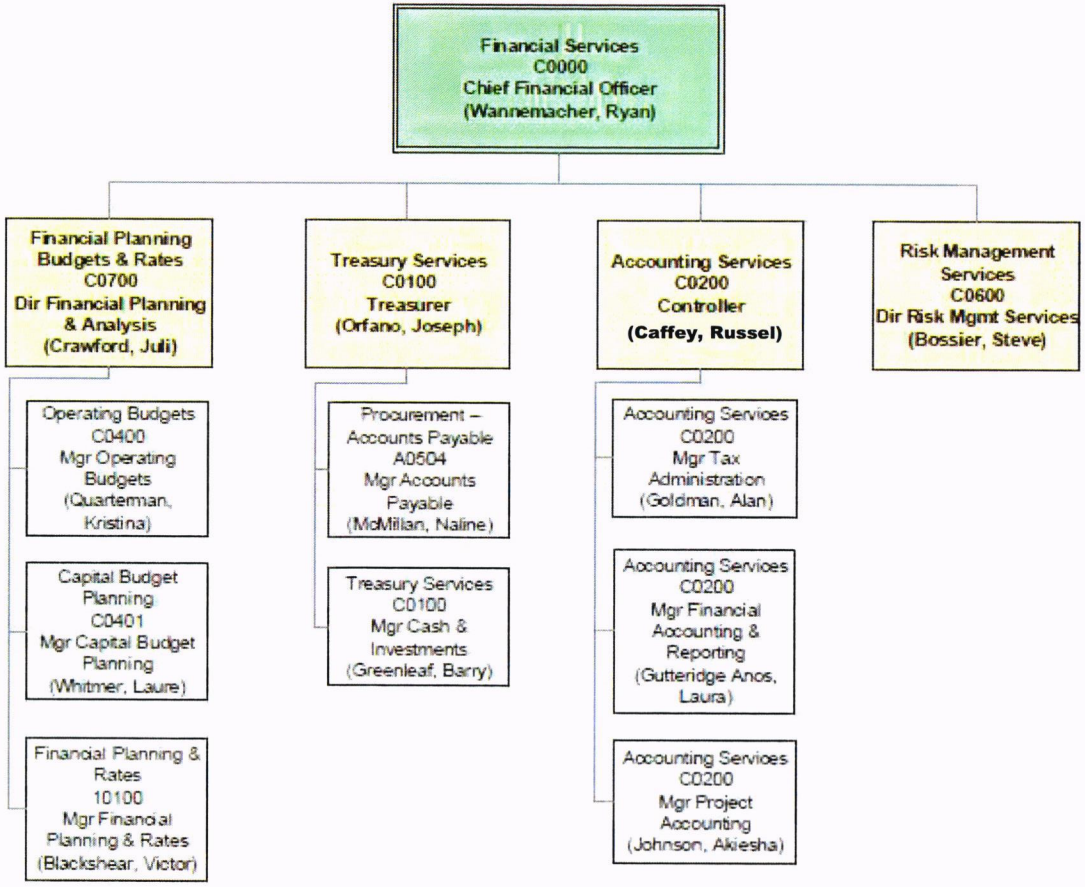
Organizational Chart | Energy System Leadership Team



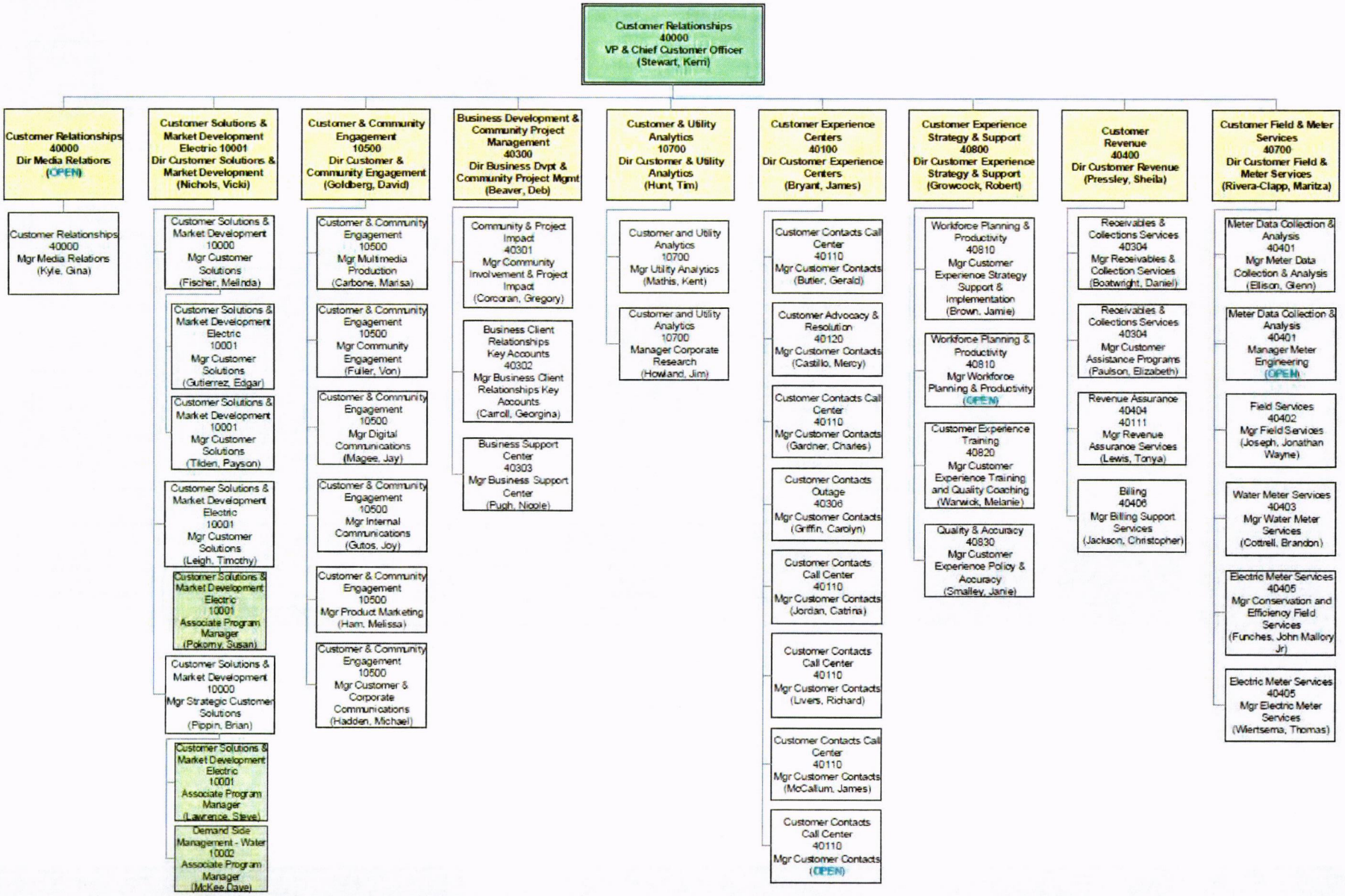
Organizational Chart | Water & Wastewater System Leadership Team



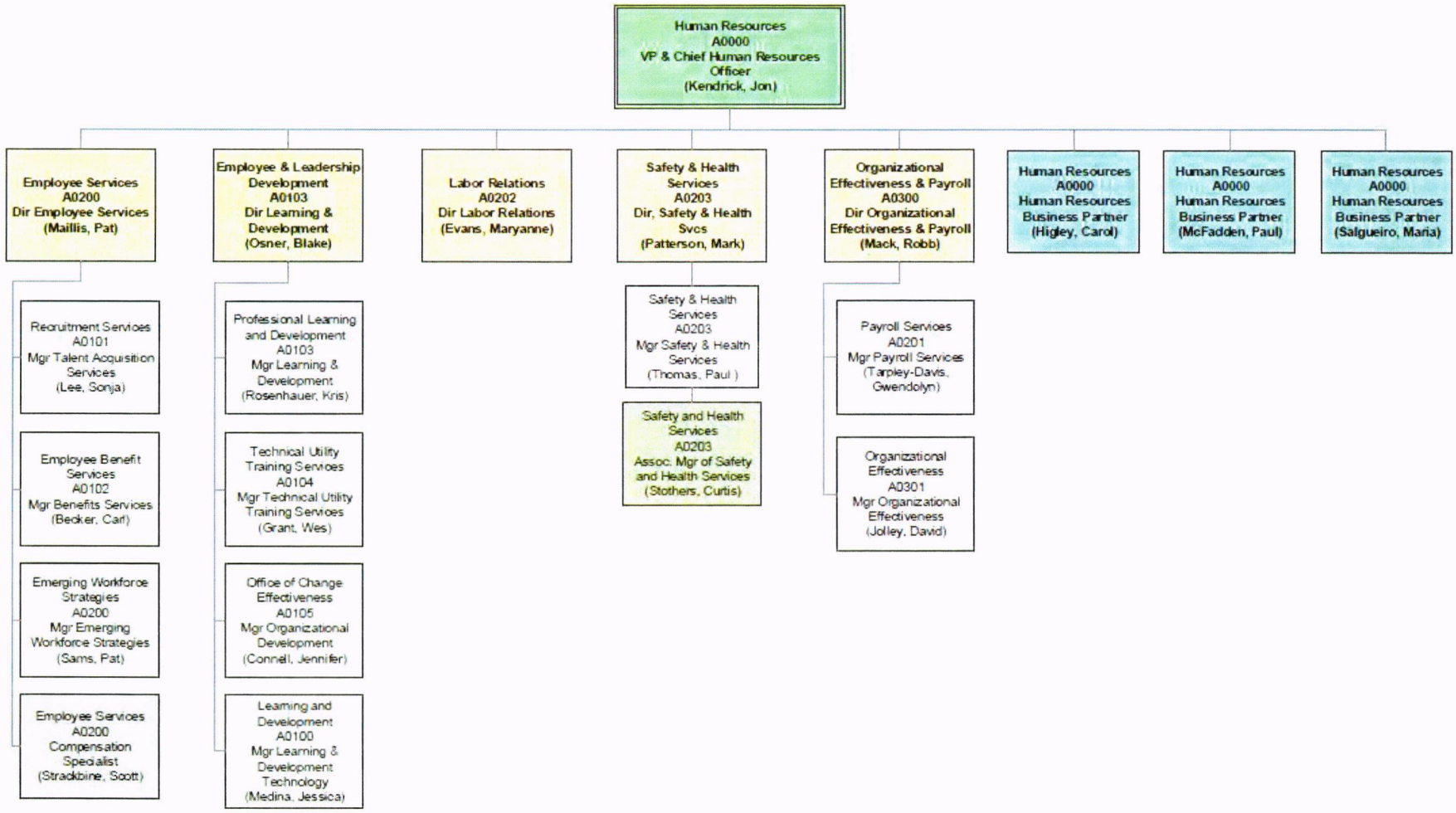
Organizational Chart | Financial Services Leadership Team



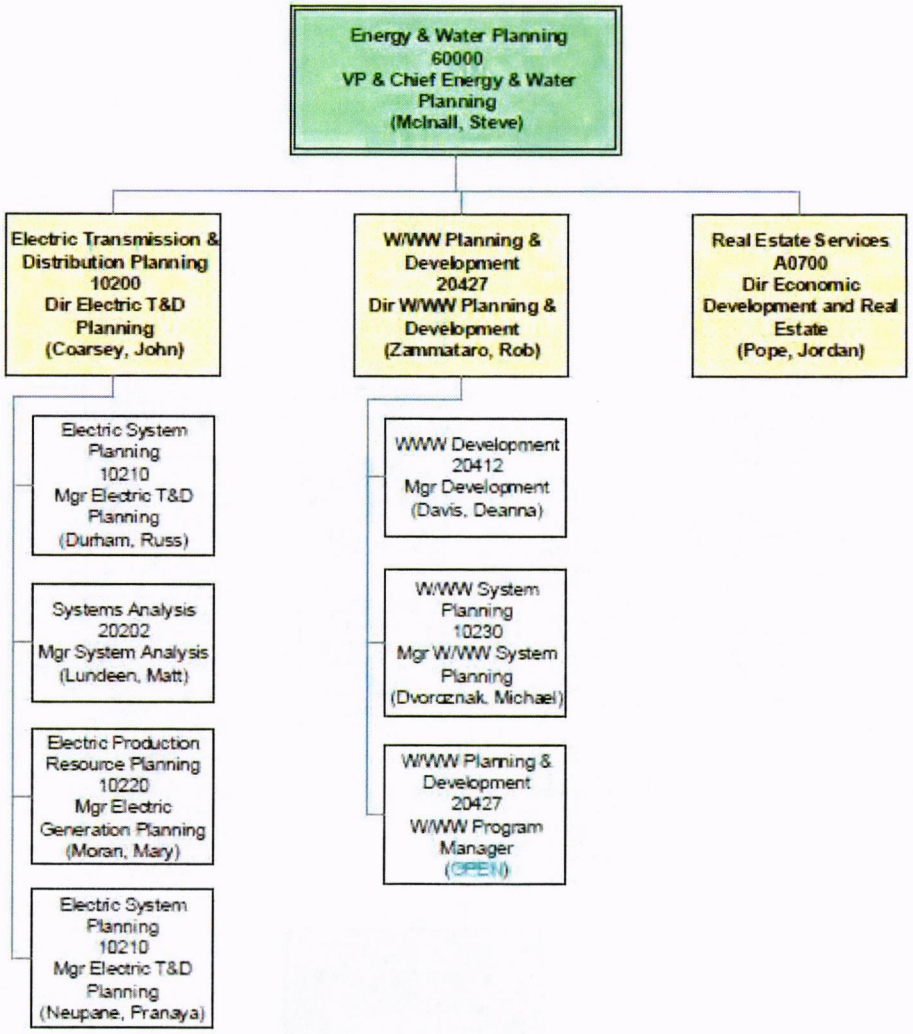
JEA Workforce | Customer Engagement Leadership Team



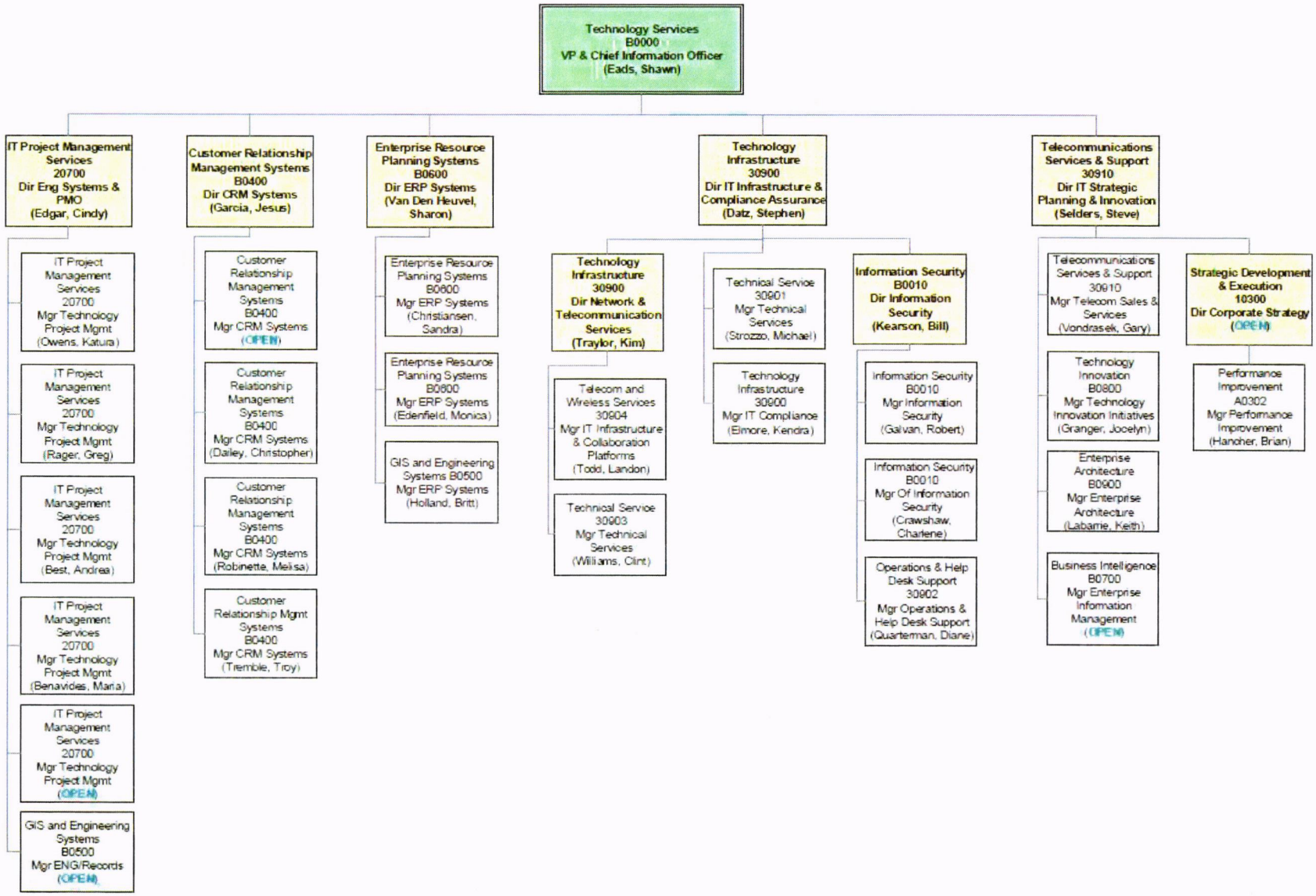
Organizational Chart | Human Resources Leadership Team



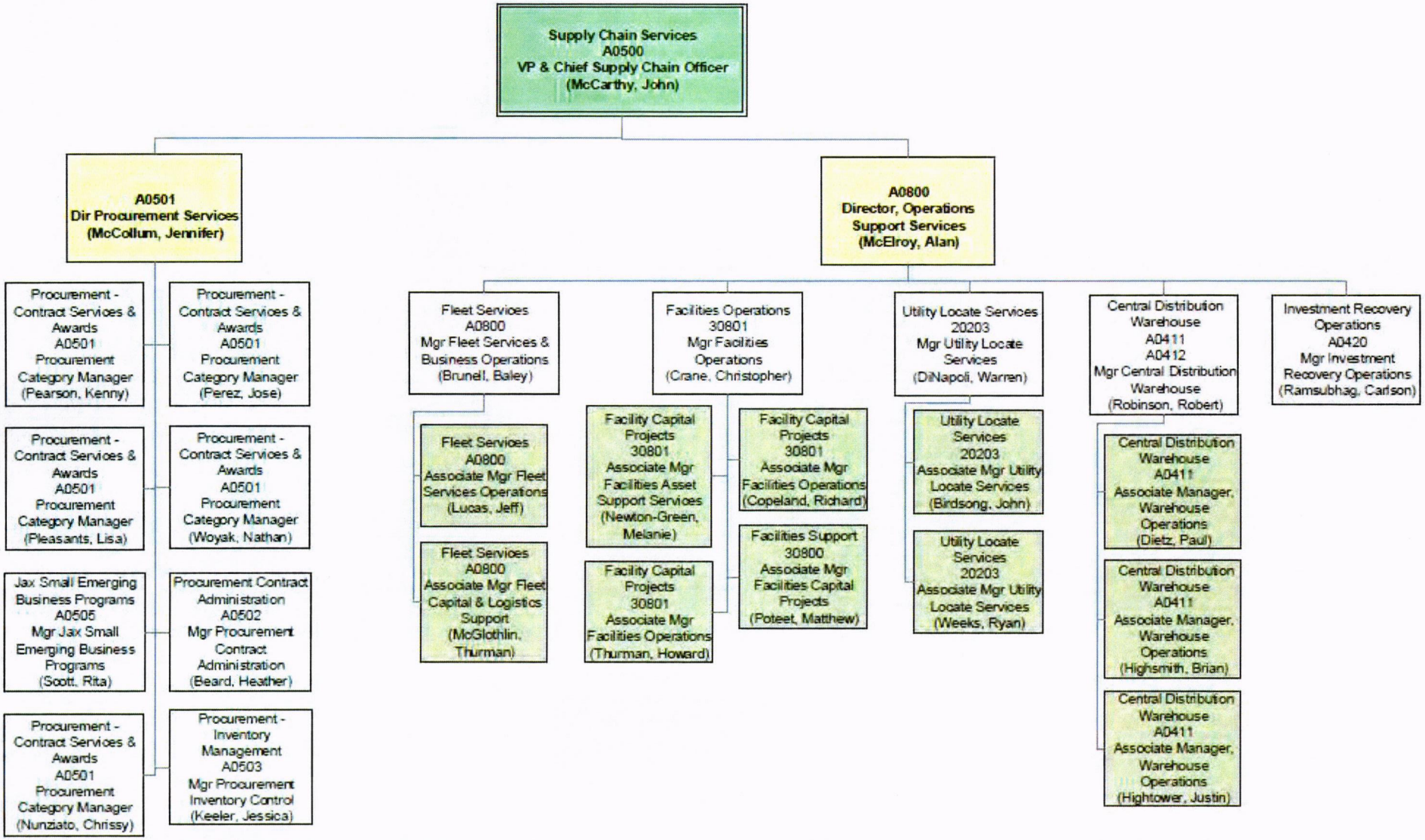
Organizational Chart | Planning Leadership Team



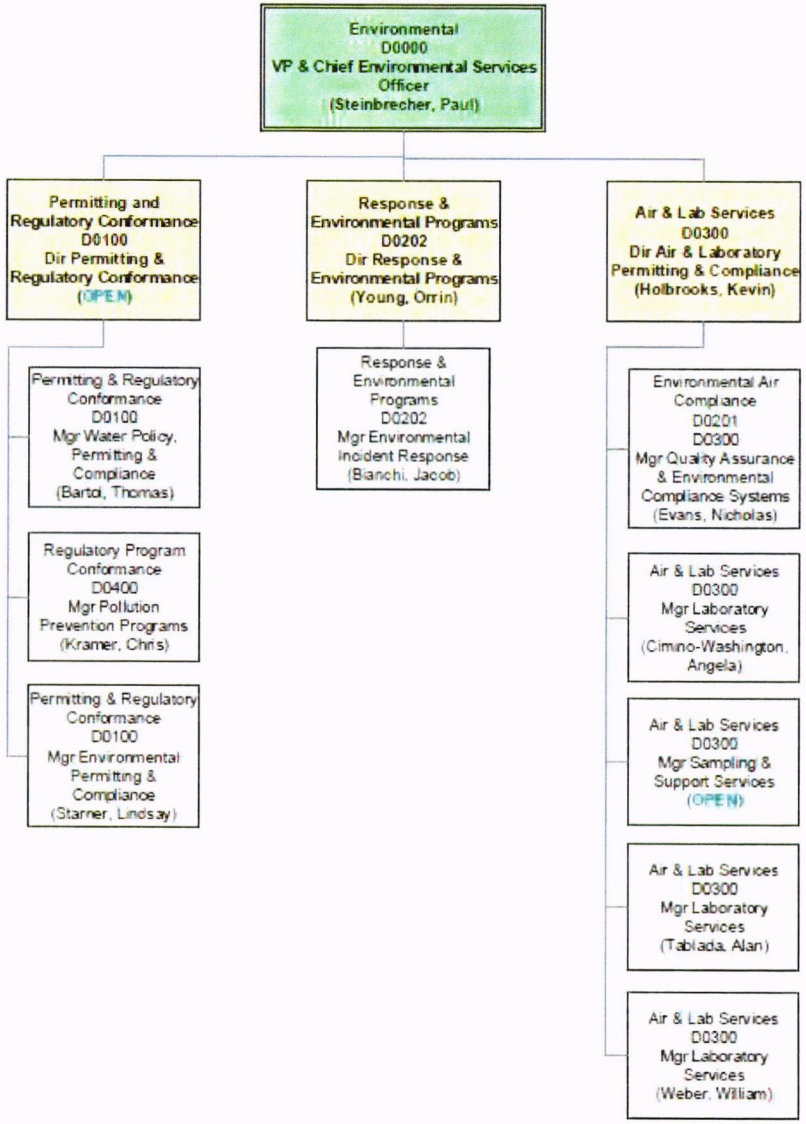
Organizational Chart | Technology Services & Innovation Leadership Team



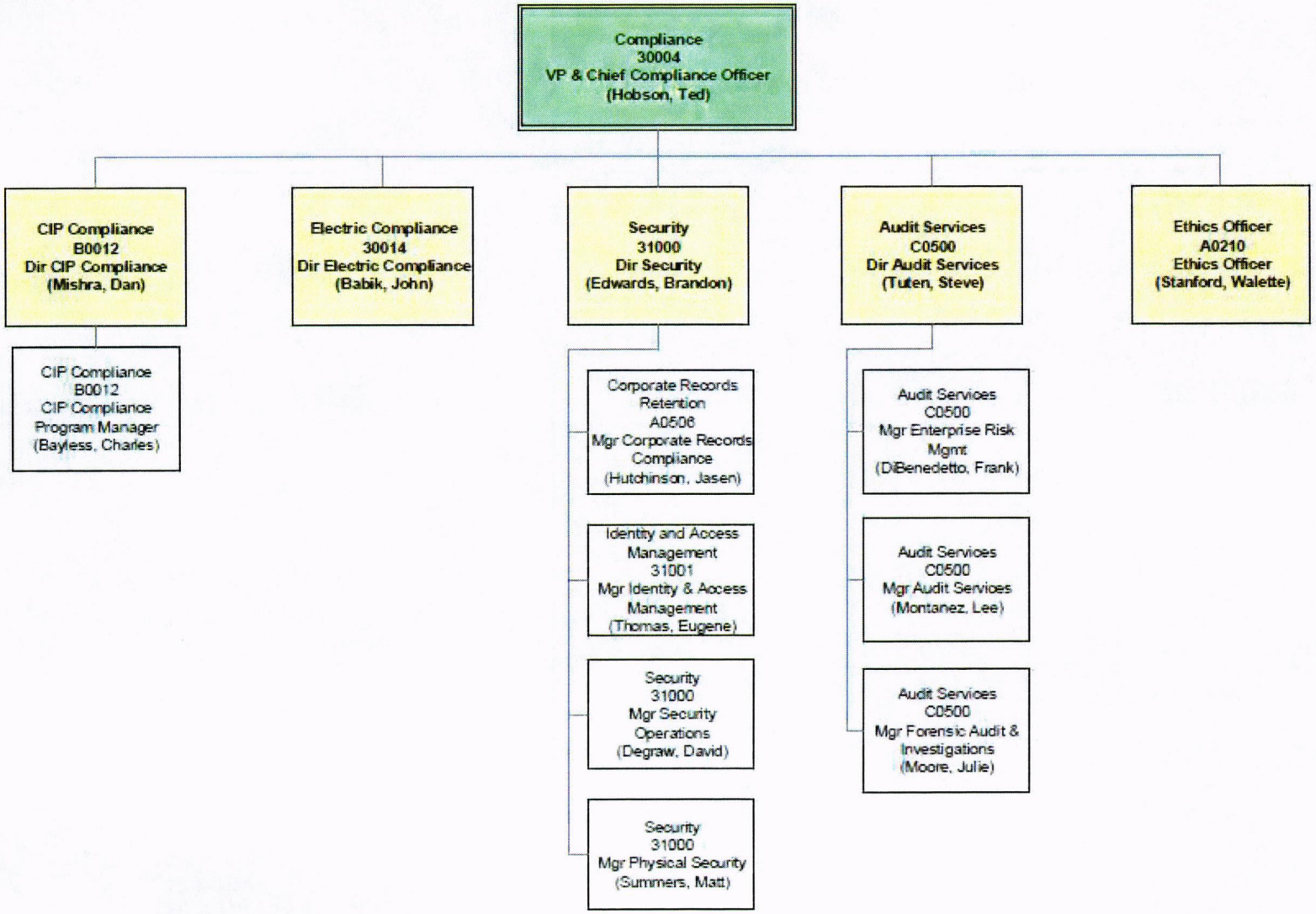
Organizational Chart | Supply Chain Management Leadership Team



Organizational Chart | Environmental Services Leadership Team



Organizational Chart | Compliance Leadership Team



JEA
Appendix 3
Accounts & Sales

Accounts & Sales | Electric System

Customer & Sales

In the Fiscal Year ended September 30, 2019, the Electric System served an average of 475,786 customer accounts

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, 2020. Actual uncollectible accounts were 0.13 percent of gross Electric System revenues for the Fiscal Year ended September 30, 2019

	Fiscal Year Ended September 30				
	2019	2018	2017	2016	2015
Electric Revenues:					
Residential	$ 629,355	$ 618,171	$ 584,663	$ 599,009	$ 619,897
Commercial and industrial	590,473	594,395	587,972	596,802	627,547
Public street lighting	13,176	12,873	13,069	13,488	11,982
Sales for resale	3,914	5,474	21,813	32,204	32,424
FPL saleback	1,664	30,767	128,737	130,053	128,475
TOTAL	$1,238,582	$1,261,680	$1,336,254	$1,371,556	$1,420,325
Sales (MWh):					
Residential	5,515,428	5,414,721	5,108,945	5,328,245	5,243,002
Commercial and industrial	6,793,557	6,851,803	6,725,201	6,834,601	6,767,836
Public street lighting	57,410	59,176	65,721	80,108	89,376
Sales for resale:					
Off-system	99,563	74,069	300,903	487,334	417,361
FPL saleback	0	332,467	1,693,082	1,856,198	1,862,122
TOTAL	12,465,958	12,732,236	13,893,852	14,586,486	14,379,697
Average Number of Accounts:					
Residential	418,728	410,060	403,164	396,664	389,287
Commercial and industrial	53,204	52,573	52,060	51,472	50,867
Public street lighting	3,854	3,777	3,727	3,649	3,549
Sales for resale[1]	0	1	2	3	2
TOTAL	475,786	466,411	458,953	451,788	443,705

Accounts & Sales | Water & Wastewater System

Customer & Sales

Water System

During the Fiscal Year ended September 30, 2019, the Water System served an average of 355,635 customer accounts and 14,267 reuse water customers, respectively.

Wastewater System

During the Fiscal Year ended September 30, 2019, the Wastewater System served an average of 277,815 customer accounts

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 0.12 percent of estimated gross Water and Wastewater System revenues for the Fiscal Year ending September 30, 2020. Actual uncollectible accounts were 0.12 percent of gross Water and Wastewater System revenues for the Fiscal Year ended September 30, 2019

	Fiscal Year Ended September 30				
	2019	2018	2017	2016	2015
Water Revenues					
Residential	$ 96,699	$ 91,954	$ 96,615	$ 89,946	$ 86,215
Commercial and Industrial	47,619	47,494	47,969	46,212	45,078
Irrigation	34,800	32,004	36,836	34,846	32,681
Subtotal	$179,118	$171,452	$181,420	$171,004	$163,974
Reuse Water	17,909	13,659	13,216	10,267	7,378
TOTAL	$197,027	$185,111	$194,636	$181,271	$171,352
Water Sales (kgals):					
Residential	17,921,588	16,932,812	17,624,952	17,086,586	16,271,698
Commercial and Industrial	13,958,000	14,023,130	13,402,094	13,343,376	12,870,984
Irrigation	5,816,484	5,230,617	6,218,142	5,927,957	5,415,602
Subtotal	37,696,072	36,186,559	37,245,188	36,357,919	34,558,284
Reuse Water	3,884,210	3,119,739	3,290,311	2,644,046	1,783,730
TOTAL	41,580,282	39,306,298	40,535,499	39,001,965	36,342,014
Average Number of Accounts:					
Residential	292,460	285,404	278,838	272,157	265,373
Commercial and Industrial	25,963	25,702	25,423	24,698	23,951
Irrigation	37,212	37,053	36,755	36,284	36,028
Subtotal	355,635	348,159	341,016	333,139	325,352
Reuse Water	14,267	11,498	9,391	7,498	5,891
TOTAL	**369,902**	**359,657**	**350,407**	**340,637**	**331,243**

	Fiscal Year Ended September 30				
	2019	2018	2017	2016	2015
Wastewater Revenues					
Residential	$146,186	$139,174	$143,967	$135,288	$129,976
Commercial and Industrial	110,724	108,126	107,446	103,731	101,910
TOTAL	$256,910	$247,300	$251,413	$239,019	$231,886
Volume (kgals):					
Residential	15,717,129	14,623,682	15,225,124	14,614,026	13,935,981
Commercial and Industrial	12,009,667	11,716,940	11,487,646	11,203,632	10,987,160
TOTAL	27,726,796	26,340,622	26,712,770	25,817,658	24,923,141
Average Number of Accounts:					
Residential	259,308	252,531	246,187	239,738	233,203
Commercial and Industrial	18,507	18,340	18,149	17,981	17,771
TOTAL	**277,815**	**270,871**	**264,336**	**257,719**	**250,974**

JEA
Appendix 4
Risks

Risks

Risk	Business Area	Description
Carbon Emission Mitigation/Renewable Energy Standards	• Electric System • Environmental	• JEA's current power generation fleet, fuel mix, and dispatching strategies may not meet expected new regulatory requirements such as mandated by a State or Federal Plan possibly resulting in increased costs for purchased power, more expensive generation, and/or the purchase of allowances
Nuclear Power Portfolio	• Electric System • Financial Services	• Plant Vogtle 3 & 4 are the first new nuclear units to be licensed since 1978. With these units still under construction and already greatly behind schedule and over budget, the potential for further cost and schedule overruns are a concern
Disruptive Technologies/Long-term Planning	• Planning • Electric System • Water System • Financial Services	• Emerging new technologies are providing some customers with an increasing number of options for reducing energy and water usage, and/or using alternative energy sources (e.g., natural gas). If this leads to decreased revenues from these customers, it could increase costs to the customers who are not participating in these new technologies. In addition, the cost of investing in new technologies and maintaining the existing infrastructure while in a period of declining revenues may have a significant negative impact on JEA's financials, and our ability to meet our debt obligations
Black Swan (High Impact - Low probability event)	• All	• JEA would be negatively impacted if certain major catastrophic events occur which would result in the inability to maintain Electric and/or Water/Sewer service for an extended period of time. This would result in significant cost to rebuild our infrastructure, as well as negatively impacting our reputations

Risks

Risk	Business Area	Description
Cooling Water Intake Structures 316(b)	• Electric System	• The EPA promulgated a revised rule for cooling water systems at power plants. The rule is intended to reduce the environmental impact of cooling systems on aquatic life. The new rule may require a modified water intake structure and/or cooling tower upgrades at significant cost to JEA. Regulations impact NGS and Plant Scherer
Spend Management	• Spend Management	• Ineffective Supply Chain Risk Management (SCRM) can result in the potential disruption of services/supplies that would have a significant negative impact to our operations/reliability – including sole sources services, as well as increased regulatory, fiscal or reputational risk. Disruptive events like natural disasters, cyber-attacks and data breaches are often out of the organization's control and are becoming more frequent. SCRM has become even more important as JEA is increasingly entrusting some of their workflows to third parties, thus losing control of those workflows and have to trust the third party to do their job well. An effective vendor management process ensures that the use of third-party products, IT suppliers and service providers does not result in a potential business disruption, or in any negative impact on business performance. Effective vendor risk management process includes adequate screening, data collection, documentation and monitoring of critical suppliers
Physical Security/Terrorism	• Compliance	• JEA may be a primary target for an act of terrorism based upon its designation as critical infrastructure for the City of Jacksonville. The potential types of terrorism include, but are not limited to, suicide bomber, vehicle borne explosive device, improvised explosive device, sabotage, or a mass killing event. This risk may result in the loss/damage to JEA property, injury/death to employees/civilians, and lawsuits • While JEA has an inherent risk of an act of terrorism occurring that involves its personnel and property, the numeric financial/reputational risk values are based upon a terrorist event that caused significant damage to JEA operations

Risks

Risk	Business Area	Description
Water Supply Management/Long Term Planning	• Water System • Environmental • Planning	• Accurate long term planning is becoming increasingly complex due to the inherent difficulty in predicting the impact of changing variables (e.g., regulatory compliance, demand/growth, capital requirements, revenues), sustaining current water/reclaimed infrastructure, and meeting certain provisions of the Consumptive Use Permit (CUP). Specifically, the CUP provisions may require a significant increase in reclaimed water usage and/or place new, more stringent limits on JEA's aquifer withdrawals • CUP restrictions, most notably the South Grid allocation restrictions which came in effect beginning Sept 2014, may result in the inability to meet current and future water needs
Weather & Climate Change Impact Resiliency Efforts	• Electric System • Water System • Environmental • Planning • Financial Services	• Weather patterns and/or short-term or seasonal extreme weather may negatively impact long term planning and JEA's financial and reliability performance., as well as negative reputational impact and decreased customer satisfaction. Impact may include: • Short Term - unforeseen revenue and budget need fluctuations; increased debt and subsequent changes to credit ratings ; rate increases; the inability to meet peak demands; decreased reliability, difficulty meeting seasonal or annual environmental limits, and increased expenses from severe storms • *Long Term - longer-term outages and reliability issues; increased difficulty in load forecasting and planning; as well as the need to protect our infrastructure from the potential impact of severe climate change (e.g. encroachment from rising river water levels, rising shallow groundwater, severe storms; temperature variances). • * The timeframe for significant impact from climate change may be in excess of 20+years
Revenues and Expenses Management	• Financial Services • Planning	• External economic factors and/or weather conditions may significantly reduce revenues, or JEA may not properly manage/control expenses. This could require increased reliance on debt to fund capital projects. Insufficient revenues and inadequately controlled expenses may result in a reduced credit rating, increased cost of debt, deterioration of the financial and structural health of the organization, inability to adequately serve our customers, and loss of reputation
Work Environment	• All	• JEA's organizational health scores in the bottom quartile compared to the OHI global database. When compared to other groups with lower scores, JEA still scores low – including against other utilities