FPL

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March 12, 2021

VIA ELECTRONIC FILING
Adam Teitzman, Commission Clerk
Division of the Commission Clerk and Administrative Services
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, FL 32399-0850

Re: Docket No. 20210015-EI
Petition by FPL for Base Rate Increase and Rate Unification

Dear Mr. Teitzman:

Attached for filing on behalf of Florida Power & Light Company ("FPL") in the above-referenced docket are the Direct Testimony and Exhibits of FPL witness Robert Coffey.

Please let me know if you should have any questions regarding this submission.

(Document 10 of 69)

Sincerely,

R. Wade Litchfield
Vice President & General Counsel
Florida Power & Light Company

RWL:ec

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

FLORIDA POWER & LIGHT COMPANY

DIRECT TESTIMONY OF ROBERT COFFEY

DOCKET NO. 20210015-EI

MARCH 12, 2021

TABLE OF CONTENTS

I. INTRODUCTION

Q. Please state your name and business address.

A. My name is Robert Coffey. My work address is 15430 Endeavor Dr. Jupiter, Florida 33478.

Q. By whom are you employed and what is your position?

A. I am employed by Florida Power & Light Company ("FPL" or the "Company") as Vice President, Nuclear.

Q. Please describe your duties and responsibilities in that position.

A. I am responsible for the Nuclear fleet functional areas of Engineering, Operations, Maintenance, Chemistry, Radiation Protection, Regulatory Affairs, Security, Training, Outages and Projects.

Q. Please describe your educational background and professional experience.

A. I hold a Doctorate of Management in Organizational Leadership from the University of Phoenix, Masters of Business Administration degree from Regis University, and a Bachelor of Science degree in Nuclear Engineering Technology from Thomas Edison State College. I also earned a Senior Reactor Operator Management Certification at the Turkey Point Nuclear Power Plant.

I have spent over 38 years in the nuclear industry, beginning in the United States Navy Nuclear Submarine Force where I served more than 20 years. I joined FPL in 2003 and held numerous positions of increasing responsibility including Maintenance Director and Work Control Manager at Turkey Point and Plant

General Manager at St. Lucie. I was also the Site Vice President of NextEra Energy's Point Beach Nuclear Plant and Vice President of the Southern Region for St. Lucie and Turkey Point before serving in my current role as Vice President, Nuclear.

Q. Are you sponsoring any exhibits in this case?

A. Yes. I am sponsoring the following exhibits:

- RC-1 Consolidated MFRs Sponsored or Co-sponsored by Robert Coffey
- RC-2 Supplemental FPL and Gulf Standalone Information in MFR Format Sponsored or Co-Sponsored by Robert Coffey
- RC-3 NRC Performance Indicators
- RC-4 NRC Inspection Findings
- RC-5 NRC Regulatory Status
- RC-6 Nuclear Performance Metrics

Q. Are you sponsoring or co-sponsoring any consolidated Minimum Filing Requirements ("MFRs") in this case?

A. Yes. Exhibit RC-1 lists the consolidated MFRs that I am sponsoring or co-sponsoring.

Q. Are you sponsoring or co-sponsoring any schedules in "Supplement 1 – FPL Standalone Information in MFR Format" and "Supplement 2 – Gulf Standalone Information in MFR Format"?

A. Yes. Exhibit RC-2 lists the supplemental FPL and Gulf standalone information in MFR format that I am sponsoring and co-sponsoring.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to: (1) provide an overview of FPL's nuclear operations; (2) describe how FPL's nuclear fleet performance has yielded significant benefits to FPL customers; (3) discuss FPL's changes made to improve performance since the 2016 rate case; and (4) discuss the O&M expenses for the 2022 Test Year and the 2023 Subsequent Year and the capital expenditures from 2019 through 2023 for FPL's nuclear operations.

Q. Please summarize your testimony.

A. FPL's nuclear power plants are a source of safe, reliable, clean and cost-effective base-load energy for FPL's customers. These plants are a key component of FPL's energy mix that provide significant value to FPL's customers in terms of fuel savings, reliability, enhanced system fuel diversity and minimization of greenhouse gas ("GHG") emissions. My testimony summarizes FPL's efforts to help ensure the continued safe, reliable, clean and cost-effective operation of FPL's nuclear power plants to meet the significant operational and regulatory requirements for these plants.

II. BACKGROUND ON FPL'S NUCLEAR ENERGY OPERATIONS

Q. Please summarize the benefits to FPL's customers of FPL's nuclear generation.

A. FPL's nuclear generating assets are critical in maintaining electric system reliability, achieving fuel cost savings, and enhancing system fuel diversity.

Nuclear energy has the highest capacity factor of any other energy source as reported by the U.S. Energy Information Administration. FPL's Unit Capacity Factor for 2020 was 90. FPL's nuclear generating assets are a critical component in achieving reductions in FPL's system emissions of greenhouse gases, sulfur dioxide, nitrogen oxides and particulate matter. FPL's four operating units avoid more than 15 million tons of carbon dioxide emissions each year, which is equivalent to removing more than 3 million cars from the road annually.

Q. Please describe the reliability benefits FPL's nuclear units provide.

A. FPL's nuclear units function as base-load generators, which means they operate continuously to supply power to the grid. In addition to providing safe, clean, and reliable power to Floridians, the nuclear fleet also provides greater flexibility in responding to spikes in demand on FPL's system. The constant supply of base-load power from the nuclear units allows FPL to quickly and efficiently dispatch its other generating units to meet demand during system peaks. This flexibility is especially important when system peaks are caused by unanticipated events, such as extreme weather.

Q. Please describe the fuel cost savings nuclear generation provides to FPL's customers.

A. FPL's nuclear generation has resulted in over $20 billion in fuel savings versus natural gas/fuel oil cost equivalent from January 2000 through 2020. These cost savings are passed directly to FPL customers through lower Fuel and Purchased Power Cost Recovery Clause charges.

Q. Please describe FPL's nuclear plants.

A. FPL's long and successful involvement with nuclear power started in the mid-1960s with the first order for nuclear generation in the south. FPL's plans to build nuclear units at Turkey Point were announced in 1965, and the first nuclear unit achieved commercial operation in 1972. FPL is currently licensed by the Nuclear Regulatory Commission ("NRC") to operate the St. Lucie Nuclear Plant, Units 1 and 2, and the Turkey Point Nuclear Plant, Units 3 and 4. Turkey Point Units 3 and 4 are pressurized water reactors designed by Westinghouse. Unit 3 commenced commercial operation in 1972, and Unit 4 did so in 1973. St. Lucie Units 1 and 2 are pressurized water reactors designed by Combustion Engineering (now owned by Westinghouse). Unit 1 went into commercial operation in 1976, and Unit 2 did so in 1983. The investment to build these units in the 1960s, 1970s, and 1980s has yielded significant value to FPL's customers in terms of safe, reliable, clean and cost-effective, base-load energy.

Q. Describe the ownership structure for FPL's nuclear units.

A. FPL owns 100 percent of Turkey Point Units 3 and 4 and St. Lucie Unit 1. FPL owns 85.10449 percent of St. Lucie Unit 2. The balance of St. Lucie Unit 2 is owned by the Florida Municipal Power Agency, which owns 8.806 percent, and the Orlando Utilities Commission, which owns 6.08951 percent.

Q. How long are FPL's Turkey Point nuclear units currently licensed to operate?

A. In the late 1990s, FPL had the foresight to begin the process to renew the operating licenses so that the benefits of those nuclear units could continue well into the 21st century. In June 2002, FPL received renewed operating licenses from the NRC for

Turkey Point Units 3 and 4. The renewed licenses gave FPL the authority to operate each unit for 20 years past the original license expiration date. In December 2019, FPL received subsequent license renewals ("SLRs") for an additional 20 years of operation for Turkey Point Units 3 and 4, making Turkey Point the first nuclear facility in the U.S. to receive SLR approval from the NRC. Accordingly, the current license expiration dates for FPL's Turkey Point Units 3 and 4 are 2052 and 2053, respectively.

Q. How long are FPL's St. Lucie nuclear units currently licensed to operate?

A. In October 2003, FPL received renewed operating licenses from the NRC for St. Lucie Units 1 and 2, which provided FPL the authority to operate those units for 20 years past the original license expiration date. Accordingly, the current license expiration dates for FPL's St. Lucie Units 1 and 2 are 2036 and 2043, respectively.

Q. Does FPL plan to renew the operating licenses for St. Lucie Units 1 and 2?

A. Yes. In August 2021, FPL will file a request with the NRC for SLRs of St. Lucie Units 1 and 2. If approved by the NRC, operating licenses for St. Lucie Units 1 and 2 will be extended for an additional 20 years, until 2056 and 2063, respectively. The NRC's review of FPL's SLRs for St. Lucie Units 1 and 2 is expected to take approximately 18 months after the request is filed. Given that we have continued to deliver significant value and safe and reliable service to customers through the SLRs we obtained for Turkey Point Units 3 and 4, we have no reason to believe the NRC will not grant our request for SLRs for St. Lucie Units 1 and 2, especially given that none have been denied to date.

III. FPL'S NUCLEAR PLANT PERFORMANCE

Q. What metrics are used by FPL to measure the performance of FPL's nuclear plants?

A. FPL uses many metrics to measure the performance of its nuclear plants, including nuclear safety, regulatory performance (as measured by the NRC), personnel safety, reliability, and overall plant performance (as measured by an objective numerical index maintained by the Institute of Nuclear Power Operations ("INPO")). INPO is an organization that promotes the highest levels of safety and reliability by promoting excellence in the operation of nuclear electric generating plants. FPL is a member of INPO.

Q. What does FPL consider the most important metric in measuring the performance of its nuclear fleet?

A. Nuclear safety is by far the most important aspect of owning and operating FPL's nuclear fleet. The nuclear safety aspects of FPL's nuclear operations are comprehensively regulated by the NRC, the Department of Homeland Security (the Federal Emergency Management Agency), the Department of Energy (Office of Nuclear Energy) and the Environmental Protection Agency. FPL has a strong nuclear safety program that includes:

- Robust plant design and construction;
- Highly experienced and well-trained personnel;
- Stringent plant security;

- Comprehensive safety planning; and
- A commitment to meet or exceed all federal, state and local regulations.

Q. How does the NRC measure FPL's nuclear safety record?

A. The NRC maintains and tracks a set of performance indicators as objective measures of nuclear safety performance for commercial U.S. nuclear plants. These indicators monitor the performance of initiating events, safety systems, fission product barrier integrity, emergency preparedness, occupational and public radiation safety, and physical protection (security). As shown in Exhibit RC-3, all four of FPL's nuclear units are in the "green" band of all NRC Performance Indicators in 2020, indicating the best or highest rating for these indicators of nuclear safety performance. As shown in Exhibit RC-4, the NRC inspection findings for 2020 were also "green," again indicating the best or highest rating for these indicators of nuclear safety performance.

Q. How do FPL's nuclear plants compare to the remainder of the industry in terms of the NRC performance system?

A. Based on the NRC's Performance Indicators, FPL's plants compare favorably with the remainder of the U.S. nuclear industry. The NRC uses its Performance Indicators and inspection activities to determine the appropriate level of agency oversight and response, including the need for supplemental inspections, senior management meetings and regulatory actions.

All of the U.S. nuclear plants are listed in the NRC's Action Matrix, which categorizes each plant into one of five regulatory status columns based on overall regulatory performance. The five regulatory columns in order of best-to-worst regulatory performance are: (1) licensee response; (2) regulatory response; (3) degraded cornerstone; (4) multiple/repetitive degraded cornerstone; and (5) unacceptable performance.

As illustrated by Exhibit RC-5, none of FPL's units falls into categories requiring increased regulatory oversight as of December 31, 2020. Rather, because of FPL's strong regulatory performance in 2020, FPL's nuclear units are in the "licensee response" column of the NRC's Action Matrix, which results in the normal baseline inspection program. In summary, FPL is proud of its nuclear performance, both from a safety and regulatory standpoint. However, this performance cannot be sustained without continued investment in our nuclear plants and our people.

Q. Please describe the operational performance of FPL's nuclear fleet as measured by the numerical index maintained by INPO.

A. The operational performance of FPL's nuclear fleet reflects a strong nuclear safety and reliability record. FPL measures its nuclear plant performance using the INPO index. The INPO index is a metric of nuclear plant safety and reliability widely used in the U.S. nuclear power industry. In 2020, the INPO index was calculated by summing weighted values of the following key indicators:

1. Unit Capability Factor (5 percent);
2. Online Reliability Loss Factor (10 percent);
3. Operational Loss Events (10 percent);
4. Unavailability of High Pressure Safety Injection System (10 percent);

5. Unavailability of Auxiliary Feedwater System (10 percent);
6. Unavailability of Emergency AC Power System (10 percent);
7. Unplanned Reactor Trips (12.5 percent);
8. Collective Radiation Exposure (10 percent);
9. Sustained Fuel Reliability (10 percent);
10. Chemistry Effectiveness (7.5 percent); and
11. Total Industrial Safety Accident ("TISA") (5 percent).

Since 2017, FPL has taken steps to maintain the overall strong performance of its nuclear operations, which resulted in a low cost per megawatt hour ("MWh"), a high overall INPO Index Value, and consistently high generation. As illustrated by the Nuclear Performance Metrics in Exhibit RC-6, these metrics show a consistently strong performance from 2017 through 2020, resulting in increased low cost output and improved reliability. As with the NRC's metrics that I discussed earlier, however, these improvements cannot be sustained without continued investment in our nuclear plants.

Q. What initiatives has FPL implemented since 2017 in order to achieve this consistent strong performance for the nuclear fleet?

A. FPL's top priority remains providing safe and reliable generation. FPL has maintained the safety and reliability of its nuclear fleet by following its Nuclear Excellence Model ("NEM"), which is the cornerstone of its commitment to achieve and sustain excellence in all aspects of its nuclear operations.

In support of its NEM, FPL has continued to implement its Self-Improving Culture/Learning Organization philosophy through the Continuous Improvement Process ("CIP"), which engages employees to develop and implement solutions to operate more efficiently without compromising safety. This effort has resulted in the implementation of several innovative and dynamic ideas that benefit the customer.

Q. What are some examples of CIP initiatives that have been or will be implemented to operate more efficiently without compromising safety?

A. Some examples of CIP initiatives include developing the infrastructure to increase work efficiency through technology, automation, artificial intelligence/machine learning, robotics and drones. Development and adoption of this technology has automated work processes, training programs, resource awareness and work force analytics, dynamic scheduling and work packages, equipment reliability trending, and value based maintenance.

Q. How does the FPL Nuclear Fleet use robotics and drones to increase work efficiency?

A. FPL is using cost saving robotics and drones to reduce more routine work and lower industrial and radiological safety risks. FPL uses Spot, an agile mobile robot, the first to be used in the nuclear industry to monitor and increase equipment reliability through real-time online monitoring of equipment performance to mitigate issues. Spot can enter high radiation areas and perform inspections, limiting exposure to FPL personnnel. Spot can stay in these areas much longer than a team member, allowing it to perform more detailed inspections. Spot has many capabilities that are useful in an industrial environment. Spot can read gauges, detect doors, and status fire protection equipment.Spot can go up and down stairs easily, fit into tight spaces, self-correct and stand up without human interference. FPL also uses autonomous drones to perform data collection on canal temperatures, monitor the environment including crocodile nest monitoring, wetland surveys and algae bloom detection.

Q. How does the FPL Nuclear Fleet use artificial intelligence/machine learning to increase equipment reliability?

A. Having a clear understanding of how equipment is performing is a fundamental factor in our drive to continuously improve equipment reliability. Our Center of Work Excellence ("CWE") team is implementing a comprehensive monitoring and diagnostic software program to provide on-demand, easily accessible trending and modeling. The innovative software helps our fleet reduce more routine work through improved detection of equipment performance and predict the useful-life and time-to-failure of equipment, which helps identify the scope and frequency of maintenance through value based maintenance, and provides advanced predictive analytics. Further, instead of spending time gathering data to create a report, artificial intelligence is used to pull the needed data into one easy to read dashboard enabling personnel to spend more time analyzing trends instead of gathering data. The new program directly supports the safe, reliable and event-free operation of our fleet, helping FPL identify and mitigate risk while building margin.

Q. How does the FPL Nuclear Fleet use artificial intelligence/machine learning to increase work efficiency?

A. The FPL Nuclear fleet is changing how we plan, schedule, and execute work activities through the use of digital work packages and computer based procedures to streamline and automate work processes. Digitial work packages automate work assignments and integrate with planning and scheduling. Personnel are auto assigned to work assignments based on expertise and availability. There is also a simplified workflow to generate Work Order Package and add materials from previous work orders with cost information. Computer based procedures integrated approximately 2,000 existing procedures into digital procedures that are dynamic, less prone to errors and automate the close-out process.

The CWE is also changing how we train for work activities. A library of videos for training before performing specific tasks has been developed by CWE. We have implemented new virtual reality training programs that enable more efficient execution of work activities while reducing risk. For example, the crane simulator enables on demand training without taking a crane out of service and affords trainees valuable time behind the controls to practice a variety of scenarios, including worst case scenarios. Additionally, the new firearm simulator is able to create a more realistic experience for the on-site security officers, allowing trainers to modify the scenario in the midst of a session and easily create new scenarios. These simulators help security focus on the fundamentals, such as grip, stance, breathing and situational awareness, during each training session.

These are just a few examples of how FPL has created benefits through utilizing CIP to identify ways to operate more efficiently and create value for customers while at the same time maintaining high standards of quality and safety.

Q. Please describe the personnel safety performance of FPL's nuclear fleet.

A. FPL measures its nuclear fleet personnel safety performance using an INPO performance indicator known as the TISA rate. The current TISA rate over the 18-month period ending December 31, 2020 for the nuclear fleet is 0.00, the best possible rating that can be achieved. The FPL fleet ranks Top Decile in the industry for this indicator. The TISA rate measures the injury rate for all employees and contractors that work at our nuclear sites, and it is based on the total number of injuries per 200,000 man-hours worked over an 18-month period. An injury rate is an effective measure of personnel safety performance because it takes into account the amount of work undertaken during the reporting period in man-hours. The injuries in the TISA rate are industrial in nature and not radiological. The TISA rate includes injuries that would involve radiological consequences, but there have been none at FPL's sites. FPL is committed to conducting its nuclear operations in a safe and responsible manner that avoids injuries of all kinds and promotes the physical safety and well-being of its employees.

IV. CAPTIAL EXPENDITURES FOR FPL'S NUCLEAR BUSINESS UNIT

Q. Please summarize the principal drivers of capital expenditures for FPL's Nuclear Business Unit.

A. There are two principal drivers of capital expenditures in the Nuclear Business Unit: meeting regulatory commitments and sustaining long term operations by addressing equipment obsolescence and life cycle management. To accomplish these goals, FPL invests in equipment to enhance nuclear safety and improve equipment reliability. These investments will allow FPL to maximize fuel savings, enhance system fuel diversity and provide for the safe and reliable operation of its nuclear units through their renewed license terms.

FPL plans to implement projects to meet NRC regulatory requirements including commitments made in order to obtain the SLR for Turkey Point. The NRC approved SLR for Turkey Point in 2019, securing low-cost energy for FPL's customers for an additional 20 years. As a requirement of receiving the operating license extensions, FPL had to make certain commitments requiring capital expenditures.

FPL continues to implement long-term equipment reliability projects that support the safe, reliable and event-free operation of St. Lucie and Turkey Point. Equipment Reliability is essential for safe and cost-effective operation of a nuclear power plant and also for Life Cycle Management and Aging Management supporting power plant life extension. The primary components addressed in these projects consist of replacement and refurbishment of pumps, motors, valves, breakers and turbines. FPL has planned specific equipment reliability projects through 2023 to address industry operating experience, manage degredation, and optimize how regularly scheduled equipment reliability scope is performed.

Q. Please list the specific equipment reliability projects FPL has planned through 2023.

A. FPL plans to implement numerous equipment realiability projects over the next several years. The most significant of these projects are:

1. St. Lucie and Turkey Point digital control system replacement
2. St. Lucie Non-Segregated Phase Bus ("Non-Seg Bus") replacement;
3. Turkey Point Reactor Coolant Pump ("RCP") upgrade project;
4. St. Lucie integrated reactor head assembly.

Q. Please describe the St. Lucie and Turkey Point digital control system replacement project and explain why it is necessary.

A. The St. Lucie and Turkey Point digital control system replacement project is similar to many capital projects implemented at St. Lucie and Turkey Point in the past to ensure reliable operations are maintained through the life of the plants. The current equipment is not likely to last through the subsequent license renewal term. The analog spare parts are becoming obsolete in the industry resulting in increased maintenance cost and loss of vendor support to replace the obsolete components when necessary. Replacing the analog control systems will increase reliability, reduce system maintenance and reduce the number of system surveillances required to be performed. This will also result in reductions in O&M costs for the life of the plant for both sites as well as reduce operational risk.

The Turkey Point digital system replacement will be completed in the spring 2022, spring 2023 and fall 2023 refueling outages. The St. Lucie digital system replacement is planned to be completed in the fall 2024 and spring 2025 refueling outages.

Q. Please describe the St. Lucie Non-Seg Bus replacement project and explain why it is necessary.

A. The Non-Seg Bus duct is an assembly of bus conductors with associated connections, joints and insulating supports confined within a metal enclosure without inter-phase barriers. At St. Lucie, the Non-Seg Buses are utilized to provide interface connections betwwen the 4kV and 6.9kV transformers and the 4kV and 6.9kV switchgears.

The Non-Seg Bus and associated components at St. Lucie have shown signs of degradation which will continue if corrective actions are not taken. Failure of a Non-Seg Bus can lead to partial or complete loss of offsite power. In this condition, the Emergency Diesel Generators would be the only emergency power source for the safety buses. Thus, replacement of the Non-Seg Bus in Units 1 and 2 are necessary to maintain reliability of the safety systems and for plant operation.

Cable Buses have been proven to be more reliable than Non-Seg Buses and are not prone to the problems associated with Non-Seg Buses. The cable buses are also almost maintenance free; thus, the Non-Seg Buses at St. Lucie Units 1 and 2 are being replaced with equivalent cable buses.

Q. What is the Turkey Point RCP upgrade project and why is it necessary?

A. Nuclear power plants rely on cooling systems to ensure safe, continuous operation of the nuclear reactor. The purpose of the RCP is to provide forced primary coolant flow to remove and transfer the amount of heat generated in the reactor core. The nuclear industry has seen a rise in the effects of an aging RCP fleet, including component fatigue cracking issues, seal issues, increased vibration and bearing failure. While not a safety issue, potential RCP failures could cause a plant shutdown and potentially extended shutdown if replacement rotating elements are not available. Turkey Point will refurbish or replace the original RCPs to ensure safe and reliable operation into the renewed license term.

Q. Why is the St. Lucie integrated reactor head assembly necessary?

A. The head assembly is a mechanical assembly of various components required to provide cooling of the control rod drive mechanism ("CRDM"), radiation shielding for the CRDM, and the duct work for the air cooling system. All these components are assembled with the reactor vessel head into a single assembly that can be lifted in one lift and moved to the storage stand as a single structure during refueling. The integrated head assembly provides the ability to disconnect the head area cables, the head vent piping, and other instrumentation lines in one step. The integrated reactor head assembly at St. Lucie will simplify the disassembly/reassembly of the reactor head to reduce outage critical path time by nearly 2 days and reduce outage costs. It will also address reliability and life cycle management issues in support of plant operations.

Q. Are FPL's projected nuclear capital expenditures from 2019 through 2023 necessary and reasonable?

A. Yes. FPL's 2019-2023 capital expenditures include costs to implement projects to meet NRC commitments and to invest in equipment to maintain nuclear safety and improve equipment reliability for long term operation of the plants. This investment will be necessary to ensure FPL's nuclear facilities maximize fuel savings, enhance system fuel diversity, improve efficiency, and allow for the safe and reliable operation of its nuclear units through their renewed license terms.

Q. Do the forecasts for 2022 Test Year and 2023 Subsequent Year O&M costs for the Nuclear Business Unit exceed the Commission's benchmark using 2018 as the benchmark year?

A. No. FPL's 2022 Test Year and 2023 Subsequent Year O&M for Nuclear Production does not exceed the Commission's benchmark, using adjusted 2018 as the benchmark year. For the 2022 Test Year, Nuclear's O&M funds request is approximately $30 million below the benchmark. For the 2023 Subsequent Year, Nuclear's O&M request is approximately $26 million below the benchmark.

Q. What efforts has the Nuclear Business Unit implemented to reduce O&M costs?

A. FPL implemented several CIP initiatives that have resulted in benefits to the customer. As illustrated in RC-6, FPL's cost per MWh has decreased substantially since the last rate case. In fact, FPL is in the top decile for one of the lowest nuclear O&M costs in the industry. FPL could not achieve this reduction in costs without the implementation of these CIP intitiatives.

Q. Are FPL's projected nuclear O&M expenditures for test year 2022 and subsequent year 2023 necessary and reasonable?

A. Yes. FPL's test and subsequent year expenditures include costs necessary to ensure FPL's nuclear facilities maximize fuel savings, enhance system fuel diversity, and allow for the safe and reliable operation of its nuclear units through their renewed license terms. In total, FPL estimates capital expenditures of $1.6 billion from 2019 through 2023, of which $1.1 billion will be incurred from 2021 through 2023.

Q. Does this conclude your direct testimony?

A. Yes.

Florida Power & Light Company

CONSOLIDATED MFRs SPONSORED OR CO-SPONSORED BY ROBERT COFFEY

MFR	Period	Title
SOLE SPONSOR:		
F-04	Historic Subsequent	NRC SAFETY CITATIONS
CO-SPONSOR:		
B-16	Prior Test Subsequent	NUCLEAR FUEL BALANCES
C-08	Test Subsequent	DETAIL OF CHANGES IN EXPENSES
C-15	Historic Test Subsequent	INDUSTRY ASSOCIATION DUES
C-34	Historic Subsequent	STATISTICAL INFORMATION
C-43	Test Subsequent	SECURITY COSTS
F-08	Test Subsequent	ASSUMPTIONS

Florida Power & Light Company

SUPPLEMENT 1 - FPL STANDALONE INFORMATION IN MFR FORMAT SPONSORED OR CO-SPONSORED BY ROBERT COFFEY

Schedule	Period	Title
SOLE SPONSOR:		
F-04	Subsequent	NRC SAFETY CITATIONS
CO-SPONSOR:		
B-16	Test Subsequent	NUCLEAR FUEL BALANCES
C-08	Test Subsequent	DETAIL OF CHANGES IN EXPENSES
C-15	Test Subsequent	INDUSTRY ASSOCIATION DUES
C-34	Subsequent	STATISTICAL INFORMATION
C-43	Test Subsequent	SECURITY COSTS
F-08	Test Subsequent	ASSUMPTIONS

Florida Power & Light Company

SUPPLEMENT 2 - GULF STANDALONE INFORMATION IN MFR FORMAT SPONSORED OR CO-SPONSORED BY ROBERT COFFEY

Schedule	Period	Title
SOLE SPONSOR:		
F-04	Subsequent	NRC SAFETY CITATIONS
CO-SPONSOR:		
B-16	Test Subsequent	NUCLEAR FUEL BALANCES

FPL

NRC Performance Indicators for St. Lucie and Turkey Point

As of December 31, 2020

	TURKEY POINT UNIT 3	TURKEY POINT UNIT 4	ST. LUCIE UNIT 1	ST. LUCIE UNIT 2
Initiating Events Cornerstone				
Unplanned Reactor Scrams per 7000 Critical Hours (Automatic and Manual)	GREEN	GREEN	GREEN	GREEN
Unplanned Reactor Scrams with Loss of Normal Heat Removal	GREEN	GREEN	GREEN	GREEN
Unplanned Scrams with Complications	GREEN	GREEN	GREEN	GREEN
Mitigating Systems Cornerstone				
Mitigating System Performance	GREEN	GREEN	GREEN	GREEN
Safety System Functional Failures	GREEN	GREEN	GREEN	GREEN
Barriers Cornerstone				
RCS Activity	GREEN	GREEN	GREEN	GREEN
RCS Leakage	GREEN	GREEN	GREEN	GREEN
Emergency Preparedness Cornerstone				
Emergency Response Organization (ERO) Drill/Exercise Performance	GREEN	GREEN	GREEN	GREEN
ERO Drill Participation	GREEN	GREEN	GREEN	GREEN
Alert and Notification System Performance	GREEN	GREEN	GREEN	GREEN
Occupational Radiation Safety Cornerstone				
Occupational Exposure Control Effectiveness	GREEN	GREEN	GREEN	GREEN
Public Radiation Safety Cornerstone				
RETS/ODCM Radiological Effluent Occurrence	GREEN	GREEN	GREEN	GREEN
Physical Protection Cornerstone				
Protected Area Security Equipment Performance Index	GREEN	GREEN	GREEN	GREEN

GREEN	WHITE	YELLOW	RED
Acceptable Performance Licenese Response Band	**Acceptable Performance** Increased Regulatory Response Band	**Acceptable Performance** Required Regulatory Response Band	**Unacceptable Performance** Plants Not Normally Permitted To Operate Within This Band

BEST ← → **WORST**

NRC Inspection Findings for St. Lucie and Turkey Point

As of December 31, 2020

	TURKEY POINT UNIT 3	TURKEY POINT UNIT 4	ST. LUCIE UNIT 1	ST. LUCIE UNIT 2
Initiating Events	GREEN	GREEN	GREEN	GREEN
Mitigating Systems	GREEN	GREEN	GREEN	GREEN
Barriers	GREEN	GREEN	GREEN	GREEN
Emergency Preparedness	GREEN	GREEN	GREEN	GREEN
Occupational Radiation Safety	GREEN	GREEN	GREEN	GREEN
Public Radiation Safety	GREEN	GREEN	GREEN	GREEN
Physical Protection	GREEN	GREEN	GREEN	GREEN

GREEN	WHITE	YELLOW	RED
Acceptable Performance Licenese Response Band	**Acceptable Performance** Increased Regulatory Response Band	**Acceptable Performance** Required Regulatory Response Band	**Unacceptable Performance** Plants Not Normally Permitted To Operate Within This Band

BEST ← → WORST

NRC Regulatory Status for St. Lucie and Turkey Point

As of December 31, 2020

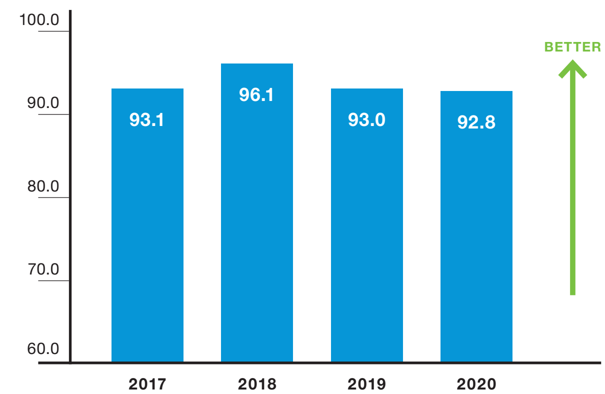
TURKEY POINT UNIT 3	TURKEY POINT UNIT 4	ST. LUCIE UNIT 1	ST. LUCIE UNIT 2
Column 1 Licensee Response	Column 1 Licensee Response	Column 1 Licensee Response	Column 1 Licensee Response

BEST	**Column 1 –** Licensee Response
	Column 2 – Regulatory Response
	Column 3 – Degraded Cornerstone
	Column 4 – Multiple/Repetitive Degraded Cornerstone
WORST	**Column 5 –** Unacceptable Performance

Source: NRC Action Matrix Summary

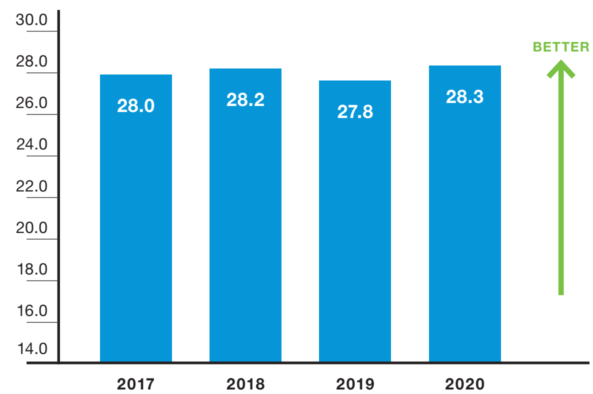
FPL Nuclear Performance Metrics

INPO Index

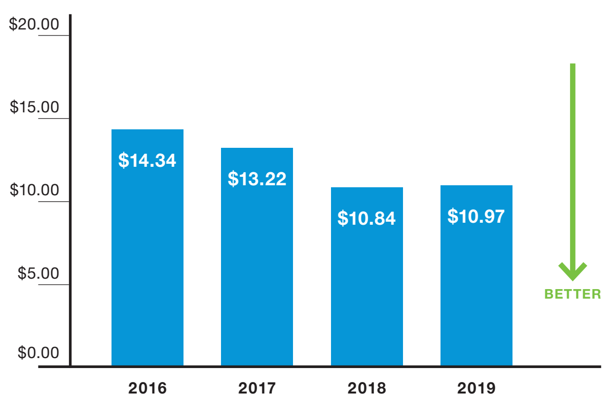


Generation (MM MWh)

FPL Share



Cost per MWh



FERC Form 1: Non-Fuel O&M less Fuel Expenses; Nuclear Generation (MWh)