BEFORE THE
FLORIDA PUBLIC SERVICE COMMISSION

DOCKET NO. 160021-EI
FLORIDA POWER & LIGHT COMPANY
AND SUBSIDIARIES

IN RE: PETITION FOR RATE INCREASE BY
FLORIDA POWER & LIGHT COMPANY
AND SUBSIDIARIES

DIRECT TESTIMONY & EXHIBITS OF:

ROXANE R. KENNEDY

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

FLORIDA POWER & LIGHT COMPANY

DIRECT TESTIMONY OF ROXANE R. KENNEDY

DOCKET NO. 160021-EI

MARCH 15, 2016

TABLE OF CONTENTS

I. INTRODUCTION

Q. Please state your name and business address.

A. My name is Roxane R. Kennedy, and my business address is Florida Power & Light Company, 700 Universe Boulevard, Juno Beach, Florida, 33408.

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 the Vice President of Power Generation Operations in the Power Generation Division ("PGD") Business Unit.

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

A. I am responsible for the overall management and direction of the non-nuclear power plants for the Company. This fleet consists of approximately 22,000 megawatts ("MW") of electric generating capability including traditional fossil fuel-fired steam boilers, combined cycles, aero-derivative and large frame simple cycle combustion turbine ("CT"), and solar technologies.

Q. Please describe your educational background and professional experience.

A. I received a Bachelor's Degree in Chemical Engineering from the University of Florida in 1985. I am a Registered Professional Engineer in Florida and have held my license for more than 17 years.

My 30-year professional background with FPL involves technical, managerial and commercial experience in progressively more demanding assignments.

Between 1985 and 2008, I held various staff, technical, maintenance, operational and business management roles at several FPL and NextEra Energy Resources sites. In March 2009, I became the FPL Power Generation Division Director, and subsequently Vice President of Production Assurance and Business Services, where I was responsible for providing production standardization and commercial management of PGD's generating fleet. Since January 2010, I have held my current position as Vice President of FPL's Power Generation Operations, which is responsible for more than 600 employees and 75 generating units. FPL's fossil generating fleet is the largest and most fuel-efficient utility fossil fleet in the country.

Q. Are you sponsoring any exhibits in this case?

A. Yes. I am sponsoring the following exhibits:

- RRK-1 MFRs Sponsored and Co-sponsored by Roxane R. Kennedy
- RRK-2 FPL Fossil Generating Capability and Technology Changes
- RRK-3 FPL Fossil Performance Improvements
- RRK-4 FPL Fossil Heat Rate Comparison
- RRK-5 Cumulative Benefits from FPL's Modernized Fossil Fleet since 2001
- RRK-6 FPL Fossil Forced Outage Rate Comparison
- RRK-7 FPL Fossil Total Non-Fuel O&M Production Cost Comparison
- RRK-8 FPL Fossil Capacity Managed per Employee Improvements
- RRK-9 FPL Combustion Turbine Technology Upgrades

- RRK-10 Total Expenditure Comparison (Average $/kW)

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

A. Yes. Exhibit RRK-1 contains a list of the MFRs that I am sponsoring or co-sponsoring.

Q. What are the purpose and key points of your testimony?

A. The purpose of my testimony is to support the reasonableness of FPL fossil non-fuel operating and maintenance expenses ("O&M") and capital expenditures ("CAPEX") in providing service to its customers. My testimony addresses three major areas: (1) FPL's fossil generating fleet performance, (2) FPL's fossil fleet non-fuel O&M and all operating plant maintenance/reliability CAPEX, and (3) an overview of the 1,633 MW Okeechobee Clean Energy Center ("Okeechobee Unit") for which FPL has proposed the 2019 Okeechobee Unit Limited Scope Adjustment ("2019 Okeechobee LSA"). I demonstrate that FPL's fossil fleet has provided and, with appropriate rate relief covering our projected costs, will continue to provide efficient, reliable and cost-effective service for our customers.

PGD is responsible for the operation and maintenance of FPL's fossil power plants. Through its leadership and management practices, PGD has helped successfully avoid costs by improving the operating performance of FPL's existing fossil fleet for the benefit of customers. FPL's fossil fleet performance has consistently exceeded fossil industry performance averages

and frequently ranks top decile or best-in-class among its large electric utility fossil fleet peers (Federal Energy Regulatory Commission ("FERC") reporting utility fossil fleets 5,000 MW or greater in size).

Q. Please summarize your testimony.

A. Since 1990, as FPL transformed its fossil generating fleet, the Company substantially improved its operating performance across key indicators integral to generating electricity for its customers. The cost reductions and performance improvements achieved by FPL's fossil generating fleet provide substantial benefits to the Company's customers. These performance improvements include (as shown on Exhibit RRK-3):

- reducing heat rate (fuel use) by 25 percent
- reducing EFOR by 60 percent
- reducing air emission rates by 33 percent for CO_2, 94 percent for NOx and 99 percent for SO_2
- reducing total non-fuel O&M per kilowatt ("kW") by 39 percent

These improvements have produced tremendous value for FPL customers. Since 2001, these improvements have saved approximately $8 billion cumulatively in fuel cost avoidance for customers. In 2015 alone, the Company saved $1 billion in combined fuel cost and non-fuel O&M through heat rate and non-fuel O&M improvements. These one year savings are illustrative of the significant recurring value that customers are experiencing

each year. Our excellent fossil fleet performance has been top decile or best-in-class over the last decade.

The doubling of FPL's fossil generating capacity over the last two decades to serve its customers' electricity needs as well as the transformation of the Company's generating technology to cleaner and highly efficient combined cycle units (as shown on Exhibit RRK-2) are both key drivers of FPL's fossil fleet non-fuel O&M and plant maintenance/reliability CAPEX. FPL's management of non-fuel O&M and CAPEX continues to play a significant role in helping the Company achieve exceptional generating fleet performance. FPL's outstanding fossil fleet performance provides customers with clean, cost-effective and fuel-efficient generation. FPL's continued CAPEX and non-fuel O&M are essential to providing these performance benefits.

II. FPL's FOSSIL GENERATION FLEET PERFORMANCE

Q. What indicators does FPL use to measure the operating performance of its fleet of fossil generating units?

A. FPL uses a number of indicators to measure the performance of its fossil fleet. These indicators include, among others shown on Exhibit RRK-3: heat rate to measure the amount of fuel used to produce a unit of electricity; EFOR to measure reliability; and non-fuel O&M in dollars per installed kW of capacity

("$/kW") to measure resource management cost effectiveness. As shown in several exhibits to my testimony, FPL's fossil fleet performance compares very favorably with the fossil energy industry as well as with FPL's long-term historical performance.

Q. Please describe the indicator FPL uses to measure generating efficiency.

A. FPL's indicator of generating efficiency, is heat rate expressed in British Thermal Units per kilowatt-hour ("Btu/kWh"), which is calculated by dividing the total heat input in Btu (from fuel burned) by the net kWh of electricity produced by those units. The lower the heat rate, the less fuel is required to generate the same amount of electricity, and the greater the customer savings in fuel costs.

Q. Has the generating efficiency of FPL's fossil fleet improved over time?

A. Yes. The trend in the generating efficiency of FPL's fossil fleet is shown in Exhibit RRK-4. Between 1990 and 2015, FPL has reduced the heat rate of its fossil fleet from 10,214 Btu/kWh to 7,617 Btu/kWh representing a 25 percent improvement in efficiency. As shown on that exhibit, the greatest improvement in fossil heat rate (i.e., 21 percent) occurred between 2001 and 2015, representing approximately $8 billion in fuel cost avoidance for customers over that timeframe, and more than half a billion dollars in 2015 alone. Although fuel prices vary, FPL customers will always have lower fuel charges because of FPL's generating efficiency improvements.

Q. What actions has FPL taken to achieve and maintain its fossil fleet heat rate performance improvements to date?

A. As shown in Exhibit RRK-4, system heat rate performance gains have been achieved by constructing new, highly efficient gas-fired combined cycle units and by converting older power plants into modern combined cycle units. These new units provide significant fuel cost savings to customers and reduced air emissions while re-utilizing existing sites.

Power plant equipment wears and deteriorates over time. FPL works diligently to minimize heat rate degradation, and to restore generating unit performance. Sustaining the operational performance of this growing fleet of fuel-efficient facilities requires ongoing CAPEX to support equipment maintenance.

Q. How does FPL's fossil fleet heat rate performance compare to that of others in the industry?

A. As shown on Exhibit RRK-4, FPL's fossil fleet heat rate compares extremely favorably to the industry. Between 2001 and 2014, the industry average for heat rate for fossil units improved only six percent (from 10,472 Btu/kWh to 9,795 Btu/kWh). In contrast, FPL's fossil fleet heat rate improved 22 percent (from 9,635 Btu/kWh to 7,549 Btu/kWh) in the same period. FPL's fossil fleet heat rate performance also has been best-in-class every year over the last ten years (2005 – 2014).

Q. Please explain how FPL's modernized gas-fired combined cycle fleet benefits FPL's customers.

A. FPL's increased natural gas use and improved heat rate performance, provided by FPL's modernized fossil fleet, benefits customers in three important ways: avoiding fuel cost, avoiding oil use and avoiding air emissions. As shown on Exhibit RRK-5 since 2001, these benefits cumulatively are as follows:

- $8 billion of fuel costs avoided
- 400 million barrels of oil burn avoided
- 95 million tons of CO_2 emissions avoided

In simple terms, a 21 percent heat rate improvement in FPL's fossil fleet since 2001 represents more than half a billion dollars in fuel cost savings in 2015 alone (using FPL's $3 billion in fossil fuel cost in 2015). Since 1990, FPL has reduced its fossil CO_2 emission rate by 33 percent and reduced fossil SO_2 and NO_x emission rates by more than 94 percent each (as shown on Exhibit RRK-3). This impressive achievement has resulted in a reduced rate of greenhouse gas and other air emissions, thereby contributing to a cleaner environment.

FPL's fossil fleet fuel cost savings and emission benefits from efficiency improvements will continue to grow as new and modernized units are placed in service. The planned Port Everglades Clean Energy Center ("PEEC") and the Okeechobee Unit, with even better heat rates than FPL's current system

heat rate, further exemplify the Company's commitment both to fuel cost reduction and environmental sustainability.

Q. Please describe the indicator that FPL uses to measure plant reliability.

A. EFOR represents generating plant reliability and is a measure of a unit's inability to provide electricity when required to operate. EFOR is reported as the percentage of hours when a generating unit could not deliver electricity relative to all the hours during which that unit was called upon to operate. FPL continually strives for -- and has achieved -- a low fossil fleet EFOR. This results in greater availability of efficient generating capacity for customers.

Q. Has the EFOR of FPL's fossil fleet also improved over time?

A. Yes. As shown on Exhibit RRK-6, the EFOR of FPL's fossil fleet has been exceptionally low, which signifies a highly reliable generating fleet. Even though FPL's fossil fleet EFOR has been excellent, EFOR has continued to improve, averaging approximately three percent during the 1990s, two percent during 2000-2009, and one percent since 2010.

Q. How does the EFOR of FPL's fossil fleet compare to that of others in the industry?

A. FPL's fossil fleet EFOR performance has significantly outperformed the industry, as shown on Exhibit RRK-6. Over the decade ending in 2014, FPL's fossil fleet EFOR averaged 1.6 percent compared to the fossil industry EFOR average of more than seven percent. FPL's fossil fleet EFOR performance

has also been either top decile or best-in-class for nine of the last 10 years through 2014.

Q. How does FPL's improved fossil fleet EFOR performance benefit customers?

A. With the progressive transformation of its fossil fleet to combined cycle units, FPL's excellent fossil fleet EFOR performance represents better reliability and provides more opportunity for our highly efficient capacity to operate and minimize customer fuel costs and air emissions.

Q. Please summarize the operating performance of FPL's fossil fleet.

A. The transformation of FPL's generating fleet since 1990 (as shown on Exhibit RRK-2) has enabled significant performance improvement across key indicators (as shown on Exhibit RRK-3) integral to generating electricity for our customers. These performance improvements include:

- reducing heat rate (fuel use) by 25 percent
- reducing EFOR by 60 percent
- reducing air emission rates by 33 percent for CO_2, 94 percent for NOx and 99 percent for SO_2
- reducing total non-fuel O&M per kilowatt ("kW") by 39 percent (see Section III below)

In brief, FPL's fossil fleet progress has resulted in industry-leading performance, either top decile or best-in-class.

III. FPL's FOSSIL FLEET NON-FUEL O&M AND CAPEX

Q. What is FPL's fossil fleet non-fuel O&M performance experience?

A. FPL has worked aggressively to reduce and contain expenses over the last 25 years despite an 80 percent cumulative increase in the Consumer Price Index ("CPI") through 2015. Over that 25-year period, total non-fuel fossil O&M per unit of installed capacity has been reduced nearly 39 percent, from $18.5/installed kilowatt ("$/kW") in 1990 to $11.4/kW in 2015 (as shown on Exhibit RRK-7). Another indication of our excellent performance is that FPL's 2015 cost is also two-thirds less than the latest (2014) fossil industry average cost of $34.1/kW. In addition, if FPL's 1990 fossil fleet cost of $18.5/kW were escalated by CPI to 2015, it would be $33.6/kW, or three times higher than FPL's $11.4/kW actual cost. In either case, for an FPL fossil fleet of approximately 22,000 MW, this approximate $22/kW difference represents significant annual fossil non-fuel O&M avoidance of about half a billion dollars in 2015 alone.

Over the last decade, FPL's fossil fleet has been best-in-class in total non-fuel O&M per kW among its large electric utility fossil fleet peers. FPL witness Reed's Productive Efficiency O&M comparison (page 14 of Exhibit JJR-6) further supports FPL's fossil fleet non-fuel O&M performance excellence. Contributing to this excellent cost performance is PGD's improving resource management trend (as shown on Exhibit RRK-8), indicating that by 2019,

FPL's fossil fleet capacity-managed per employee (23 MW per employee) is projected to be nearly five times better than the rate in 1990 (5 MW per employee).

Q. How do FPL's 2017 Test Year and 2018 Subsequent Year projected levels of base non-fuel O&M for the Steam and Other Production functions compare to the Commission's benchmarks on MFR C-41?

A. The Steam and Other Production levels of base non-fuel O&M for both the 2017 Test Year and the 2018 Subsequent Year are well below the MFR C-41 O&M benchmark levels on either a portfolio or functional basis. This is an impressive accomplishment given the addition of two combined cycle generating units (Riviera Beach Clean Energy Center ("Riviera Beach") and PEEC) and three large scale solar sites since 2013, the base year of the O&M benchmark calculation.

As shown on Exhibit RRK-2, FPL's fossil fleet portfolio has distinctively evolved from a FERC "Steam" to an "Other" Production generating fleet. This modernization and transformation of FPL's fossil fleet and FPL's aggressive efforts to reduce and contain expenses have avoided significant O&M costs for its customers, reduced air emissions, reduced reliance on foreign oil, significantly improved fossil fleet performance and made FPL an industry leader in low cost fossil generation.

Q. Comparing the 2017 Test Year to the 2016 Prior Year, are there any accounts in which the change to PGD fossil non-fuel O&M exceed the threshold defined in MFR C-8?

A. PGD has three accounts (506, 512 and 553) that exceed the defined thresholds referenced in MFR C-8, but this is not unusual given the cyclical nature of these expenditures. I will address each such account.

Decrease of Fossil FERC Steam Production Account 506 - Miscellaneous Steam Power Expenses: The $13.8 million decrease is primarily attributable to reductions at Cedar Bay. Cedar Bay is an existing plant in 2016 that is planned to be retired in early 2017, and this represents approximately $10.9 million of the variance.

Decrease of Fossil FERC Steam Production Account 512 - Maintenance of Boiler Plant: The $11.8 million decrease is primarily attributable to Scherer Unit 4 boiler overhaul maintenance that occurs every two years. The current cycle places a boiler outage in 2016, and no boiler outage in 2017. This is approximately $10 million of the variance.

Increase of Fossil FERC Other Production Account 553 - Maintenance of Generating Plant: This $15.1 million increase in O&M is primarily attributable to planned outage work including: Ft. Myers Unit 2 steam turbine major and generator minor overhauls; Manatee Unit 3 steam turbine and

generator major overhauls; Martin Unit 8 generator-related overhaul; West County Unit 3 CT major overhauls; and Martin Unit 4 generator and steam turbine overhauls. The forecasted expenses for 2017 relate to the maintenance associated with the first scheduled major outage of units constructed in the early to mid-2000s. These outages are required to repair and refurbish plant equipment to sustain the heat rate, reliability and availability of FPL's fleet. Even with this increase in Account 553 expenses, total Other Production O&M is below the O&M benchmark for the 2017 Test Year.

Q. Regarding FPL's CAPEX for its fossil fleet, are there any significant long-term infrastructure capacity additions or replacements from 2014 through 2017 (Test Year) that will deliver improved system reliability, growth and/or economic benefits?

A. Yes, as mentioned in the direct testimony of FPL witness Barrett, there are three specific generation upgrade projects that FPL is undertaking to provide cumulative present value revenue requirement ("CPVRR") benefits (i.e., lower costs) for customers, totaling approximately $286 million.

- CT Compressor (.05 technology) Upgrades: Currently, FPL is implementing the .05 upgrade project to enhance the "Compressor" section of FPL's 26 General Electric ("GE") 7FA CTs and is finalizing the .04 upgrade project to improve the "Combustor" section of these CTs. Both of these upgrade projects are shown on Exhibit RRK-9. These upgraded components offered by the Original Equipment Manufacturer

("OEM") include new designs not available at the time of original construction. The upgrades are being installed during FPL's scheduled planned outages from 2015 to 2017. This project provides operational benefits such as greater generating efficiency (i.e., lower heat rate), and power output (i.e., more megawatts), thereby providing overall fuel savings. The project also enhances CT maintainability (including field replacement of compressor blades, parts life and maintenance extensions). As mentioned by FPL witness Barrett, the compressor upgrades are expected to provide a CPVRR benefit of approximately $57 million.

- Peaker Replacement/Upgrade Project: Consistent with FPL's 2015 Ten Year Site Plan, FPL projects the retirement of a number of its existing gas turbines ("GTs"), including 22 of 24 GTs at the Lauderdale site, all 12 GTs at the Port Everglades site, and 10 of 12 GTs at the Fort Myers plant site. Two of the existing GTs at the Lauderdale site and two of the existing GTs at the Ft. Myers site will be retained for black-start capability. In conjunction with the retirement of these peaking units, FPL is adding a number of new, larger and more efficient CTs: five at the Lauderdale site and two at the Fort Myers site. Also, the two existing CTs at the Ft. Myers site will undergo capacity upgrades. The total effect of all these changes is the replacement of approximately 1,700 MW of peaking capability with new/upgraded CTs by the end of 2016. From an operational benefits perspective, upgrading FPL's gas turbine peaking fleet with new, highly efficient combustion turbine technology is essential

for maintaining the reliability of FPL's critical peaking units given equipment parts availability issues. FPL projects that these new CTs will provide 35 to 40 percent heat rate efficiency improvement resulting in lower fuel usage and better air emission rates. The new units will also alleviate the replacement parts availability issue on the existing 45-year old equipment. As mentioned by FPL witness Barrett, this project is expected to provide a CPVRR benefit of $203 million over the operating life of the units.

- Large Scale Solar ("LSS") Project: Consistent with FPL's 2015 Ten Year Site Plan, FPL currently plans to add three new photovoltaic ("PV") facilities that will triple the Company's current solar capacity by the end of 2016. Each of the PV facilities will be 74.5 MW (nameplate rating, AC). As a result, FPL's solar generation capacity will increase to approximately 334 MW from its current 110 MW. The new PV installations are sited near existing electric infrastructure in Manatee, Charlotte, and DeSoto counties. From an operational benefits perspective, since the new large solar sites require no fuel to operate, they entirely avoid fuel costs and emissions for customers. As mentioned by FPL witness Barrett, these advantages provide customer savings and lead to an expected customer CPVRR benefit of $26 million.

Q. Are there any additional CAPEX projects that generate customer savings?

A. Yes. Riviera Beach came into service in April 2014, and PEEC is projected to be in-service by April 1, 2016, and both will benefit customers in many ways. They are projected to improve the fuel efficiency of generation by approximately 35 percent -- reducing customers' electricity costs over the life of the plant. Riviera Beach and PEEC will also improve the environmental profile of FPL's system and provide reliable generating capacity to serve concentrated areas of FPL's customer base. Riviera Beach and PEEC will achieve all of these benefits without using new land or water resources dedicated to plant use while preserving the use of existing infrastructures, including electric transmission facilities and rights of way, thereby saving customers millions of dollars.

Q. What are FPL's actual and projected fossil fleet non-construction CAPEX over the 2014-2018 period?

A. FPL's fossil fleet average non-construction CAPEX over the 2014 to 2018 timeframe is approximately $480 million annually. Approximately 85% of that CAPEX is comprised of overhaul-related costs, and those expenditures are essential in maintaining reliability and minimizing fuel usage. For purposes of this comparison, "non-construction" refers to all operating plant overhaul and non-overhaul maintenance/reliability capital expenditures.

Q. Why is the 2017 level of fossil fleet non-construction CAPEX of $649 million higher than the 2014-2018 average of fossil fleet non-construction CAPEX of approximately $480 million?

A. The 2017 level of fossil fleet non-construction CAPEX is higher than the 2014-2018 average due primarily to the increased number of Other Production major overhauls scheduled in 2017.

Q. Why are there a number of the major overhauls scheduled for 2017?

A. With the growth of FPL's fossil fleet and a number of units added in the early to mid-2000s, numerous major overhauls are required to be performed in 2017. In fact, there are more major overhauls in 2017 than any other year during 2014-2018.

From 2001 through 2017, FPL will have added more than 13,000 MW of combined cycle units at nine different sites. These include 46 new CTs and their associated major components – generators, heat recovery steam generators ("HRSG") and steam turbine generators – along with the balance of plant equipment (motors, fans, valves, etc.). Each of these major components ultimately require a major overhaul, but the cycle varies depending upon the manufacturer of the equipment and the type of component. To secure the operational benefits of this growing fleet of fuel-efficient facilities, ongoing maintenance CAPEX is necessary.

In 2017, there is simply a confluence of major overhauls that needed to be executed. Several units that came into service in the early to mid-2000s will experience major overhauls of some of their components at the same time. For instance, Manatee Unit 3 and Martin Unit 8, which employ the same type of generator and were added to the system at roughly the same time are both due for a generator-related major overhaul in 2017. Ft Myers Unit 2 is also scheduled for a steam turbine and generator related overhaul in 2017. Cape Canaveral Unit 3 is also due for a generator-related overhaul and West County Unit 3 is due for a CT-related major overhaul. Major overhauls are necessary to maintain unit and system efficiency, performance and reliability.

Q. What steps has FPL taken to reduce fossil fleet O&M and CAPEX associated with operating and maintaining the fleet?

A. FPL has implemented and continues to undertake multiple actions to reduce costs, including:

- Retiring older, less efficient generating units over the 2013 to 2017 timeframe, such as Port Everglades Units 3 & 4; Turkey Point Units 1 & 2; Putnam Units 1 & 2; Cedar Bay; and Peaking GTs at Lauderdale, Port Everglades, and Fort Myers sites.
- Optimizing overhaul cycle intervals as a cost-effective approach to manage spending while maintaining PGD's excellent reliability performance, shown on Exhibit RRK-5. This is achieved by applying condition-based maintenance principles to extract optimum life from equipment by focusing on equipment conditions rather than calendar, or

cycle-based, maintenance programs. This is undertaken through the collaboration of FPL's centralized engineering experts with the equipment manufacturers to prudently extend the timing of overhauls without impacting reliability.

- Deploying real-time, "24/7/365" operational monitoring and diagnostic technologies at PGD's Fleet Performance and Diagnostics Center ("FPDC") to detect issues in advance of failure to enable timely, lower cost corrective actions and maintain high reliability.
- Developing advanced analytical tools that provide increased awareness and daily feedback to the operators regarding: startup timing, accuracy of response to the system operator, and other critical parameters that affect fuel costs and equipment performance.
- Centralizing services, including overhaul work planning and execution, as well as engineering and technical services, around equipment fleet teams.
- Obtaining more favorable pricing and contract terms and conditions.
- Standardizing operational processes and procedures for sharing and replication across the generating fleet.
- Improving fuel oil management efficiency including: in-sourcing fuel terminal/pipeline operations and maintenance, and consolidating fuel terminal control rooms.
- Employing Six Sigma quality tools and techniques, driving continuous improvements.

- Improving resource management/productivity (fossil fleet capacity-managed per employee) by nearly four percent from 2013 to 2017 alone based on the projections shown on Exhibit RRK-8.

Q. Are FPL's fossil fleet O&M and CAPEX forecasts reasonable?

A. Yes. FPL is committed to low-cost operations while maintaining excellent, industry-leading reliability and efficiency performance.

First, FPL has the leadership and management practices for managing and sustaining excellent generating fleet performance through its above-mentioned condition-based maintenance, centralized overhaul services, contract leveraging, process standardization, Six Sigma quality program, FPDC, and equipment fleet teams.

Second, in regard to O&M, PGD's commitment to low-cost, reliable fossil fleet performance has been demonstrated by holding fossil non-fuel O&M $/kW cost essentially level for the last 15 years despite inflation, resulting in best-in-class performance over that timeframe. As shown on Exhibit RRK-7, FPL's 2018 fossil Total non-fuel O&M $/kW cost of $11.6/kW is projected to remain two-thirds below its 1990 CPI-adjusted cost of $36.1/kW and at least one-third below FPL's 1990 non-escalated cost of $18.5/kW. This represents significant O&M cost avoidance of hundreds of millions of dollars annually for FPL customers.

Third, regarding CAPEX, FPL's investments provide long-term customer benefits through: direct operating or maintenance costs savings, increasing generating efficiency, providing fuel and air emission avoidance, and/or enabling the Company to maintain or improve system reliability. These expenditures are essential for both maintaining the reliability of the growing fossil fleet and minimizing fuel usage. This fossil generating fleet reflects more than 13,000 MW of combined cycle units added or projected to be added from 2001 to 2017 at nine different sites, involving 46 new CTs and their associated generators, HRSGs, and steam turbine generators, along with the balance of plant equipment (motors, fans, valves, etc.). Securing the operational benefits of this growing fleet of fuel-efficient facilities requires both upfront and ongoing CAPEX maintenance in the form of additional reliability overhauls and spare parts.

Fourth, in addition to FPL's proven track record of providing cost-effective, reliable, efficient power, PGD's combined Total non-fuel O&M and CAPEX cash flow compare well to industry combined cycle technology costs developed by the U.S. Department of Energy's Energy Information Administration ("EIA"). Comparisons against both the FPL fossil fleet's projected four-year (2014-2017) average cost, and three-year (2016-2018) average cost per installed kW are shown on Exhibit RRK-10.

FPL outperforms the industry, whether one compares FPL's total non-fuel O&M of $11.2/kW to industry total non-fuel O&M of $34.1/KW in 2014 (Exhibit RRK-7) or compares FPL's fossil fleet combined total non-fuel O&M and CAPEX Major Maintenance expenditures of $33.8/kW for 2014 to 2017 to EIA's industry combined cycle technology-based $36.9/kW cost for 2014-2017 (Exhibit RRK-10). In either case, FPL's fossil fleet non-fuel O&M and CAPEX are lower.

IV. OKEECHOBEE UNIT

Q. Please provide a brief description of the Okeechobee Unit.

A. As discussed in FPL's September 2015 Need Determination filing with the Commission, the Okeechobee Unit is an important part of FPL's long-term infrastructure investment, both to meet the growing resource needs of its customers cost-effectively and to enhance system efficiency. This planned 1,633 MW, highly fuel-efficient combined-cycle plant, expected to come online in June 2019, will be the most efficient unit in FPL's already highly efficient system. The Okeechobee Unit's projected heat rate of approximately 6,249 Btu/kWh at 75° is much lower than conventional 10,000 Btu/kWh heat rate steam units and other combined cycle plants with typical heat rates of 7,000 Btu/kWh. The addition of the Okeechobee Unit continues FPL's long history of improving the fleet's fuel efficiency. The new plant is projected to have three nominal 350-MW GE 7HA.02 combustion turbines and three

HRSGs that will reuse the CTs' waste heat to produce steam to be utilized in the new steam turbine generator. The estimated installed cost of the Okeechobee Unit per the Commission's recent need determination in Order No. PSC-16-0032-FOF-EI is $1.232 billion.

The associated fuel savings will begin flowing directly to FPL customers through the fuel clause as soon as the new plant enters service. Highly efficient combined cycle plants like the Okeechobee Unit also continue to transform Florida's generating capacity to environmentally cleaner technology.

Q. Does this conclude your direct testimony?

A. Yes, it does.

Florida Power & Light

MFRs SPONSORED AND CO-SPONSORED BY ROXANE R. KENNEDY

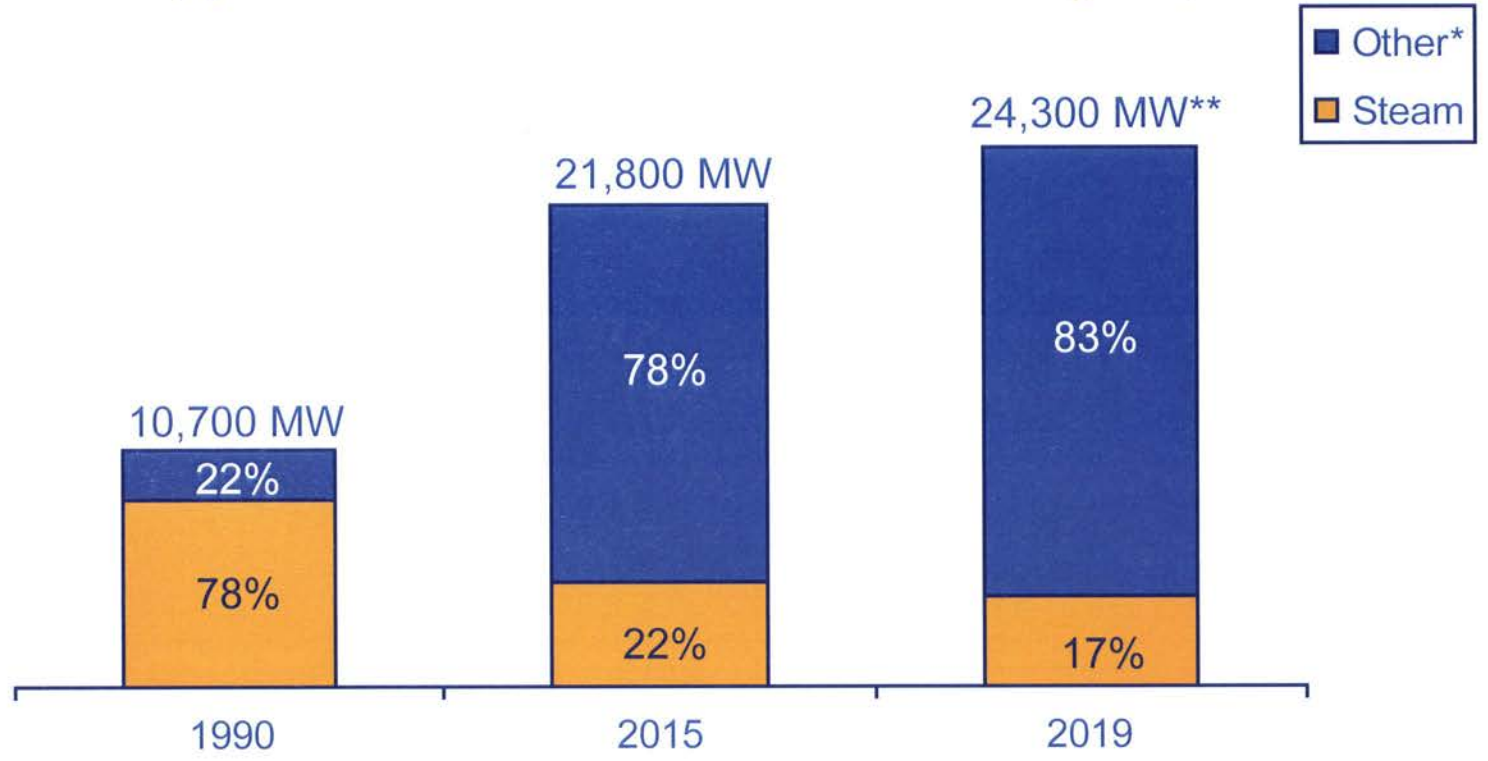
MFR	Period	Title	Sponsorship
SPONSOR			
B-18	Prior Test Subsequent	Fuel Inventory by Plant	Entire Schedule
CO-SPONSOR			
B-12	Prior	Production Plant Additions	Classification for Steam and Other Production Plant Additions
B-13	Test Subsequent	Construction Work in Progress	Data for Steam and Other Production
B-15	Prior Test Subsequent	Property Held for Future Use - 13 Month Average	Data for Steam and Other Production
B-24	Prior Test Subsequent	Leasing Arrangements	West County Reclaimed Water
C-8	Prior Test Subsequent	Detail of Changes in Expenses	Reasons for Changes in Accounts 506, 512 & 553
C-34	Historic Subsequent	Statistical Information	Installed Generating Capacity (MW) (Summer peak net rating input)
C-43	Historic Prior Test Subsequent	Security Costs	Fossil Plant Security Costs
F-8	Test Subsequent	Assumptions	Fossil Unit Outage Schedule

Docket No. 160021-EI
MFRs Sponsored and Co-sponsored by Roxane R. Kennedy
Exhibit RRK-1, Page 1 of 1

Since 1990, FPL's fossil capacity will have doubled, and evolved from FERC "Steam" to efficient combined cycle-based "Other*" Production technology

FPL Fossil Generating Capability and Technology Changes

(by FERC "Steam" and "Other" Production Categories)



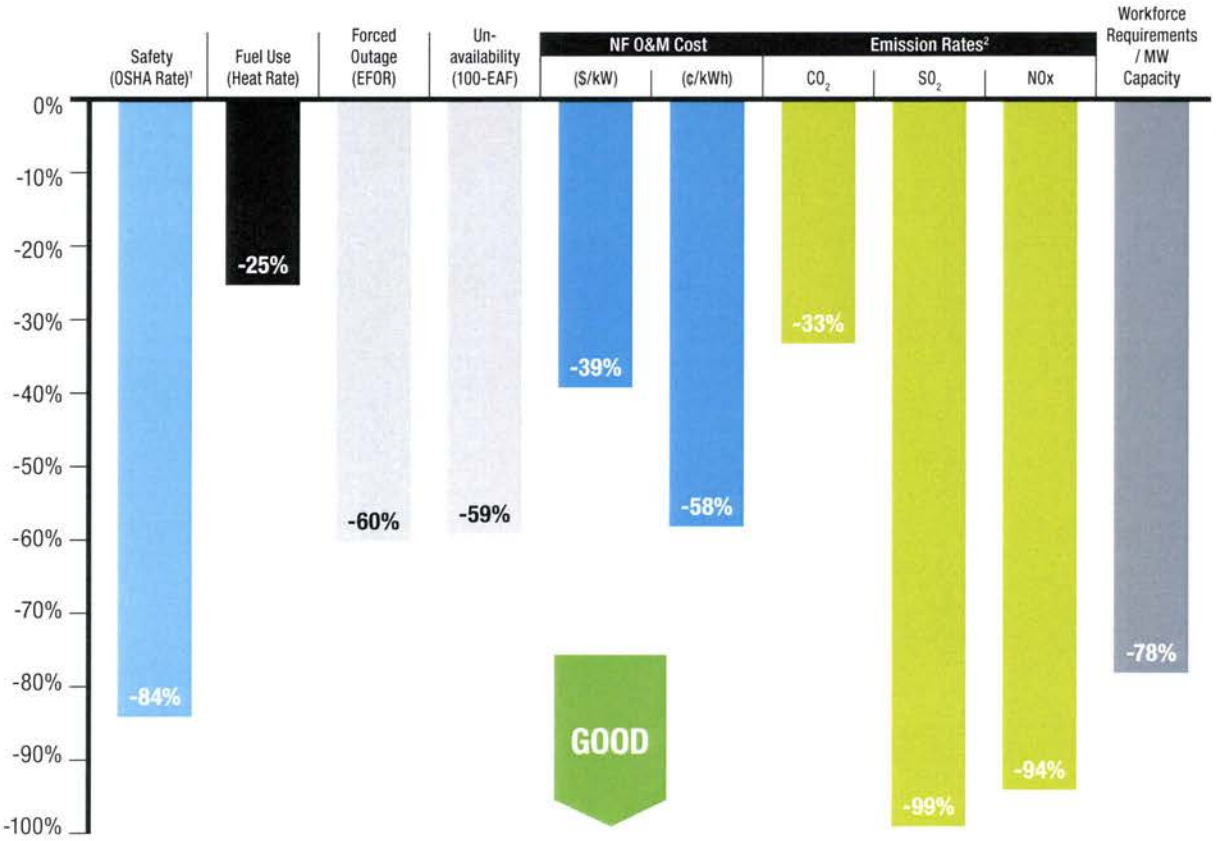
* FERC "Other" Production capacity represents combined cycle, simple cycle, & gas turbine units in FPL's fossil fleet (also includes Solar PV).
** 2019 MW reflects unit additions, retirements, and miscellaneous capacity changes since 2015.

Investments to modernize FPL's fossil fleet provide customers with state-of-the-art electric power generation and associated performance benefits

Docket No. 160021-EI
FPL Fossil Generating Capability and Technology Changes
Exhibit RRK-2, Page 1 of 1

FPL Fossil Performance Improvements (1990-2015)

As FPL transformed the fossil generating fleet, we substantially improved our operating performance across key indicators.



Year	OSHA Rate¹	BTU/kWh	EFOR%	100-EAF%	$/kW	¢/kWh	Lbs/MWh²	Lbs/MWh²	Lbs/MWh²	Empl/MW³
1990	4.95	10,214	2.77	100-81.7=18.7	18.5	0.64	1,464	6.51	5.24	0.21
2015	0.77	7,617	1.12	100-92.4=7.6	11.3	0.27	974	0.07	0.31	0.05
Results>	Safer	More Efficient	More Reliable	More Available	Lower Cost	Lower Cost	Cleaner	Cleaner	Cleaner	More Productive

FPL's fossil fleet improvements in safety, efficiency, reliability, cost, emissions and productivity are integral to cost-effectively generating electricity for customers

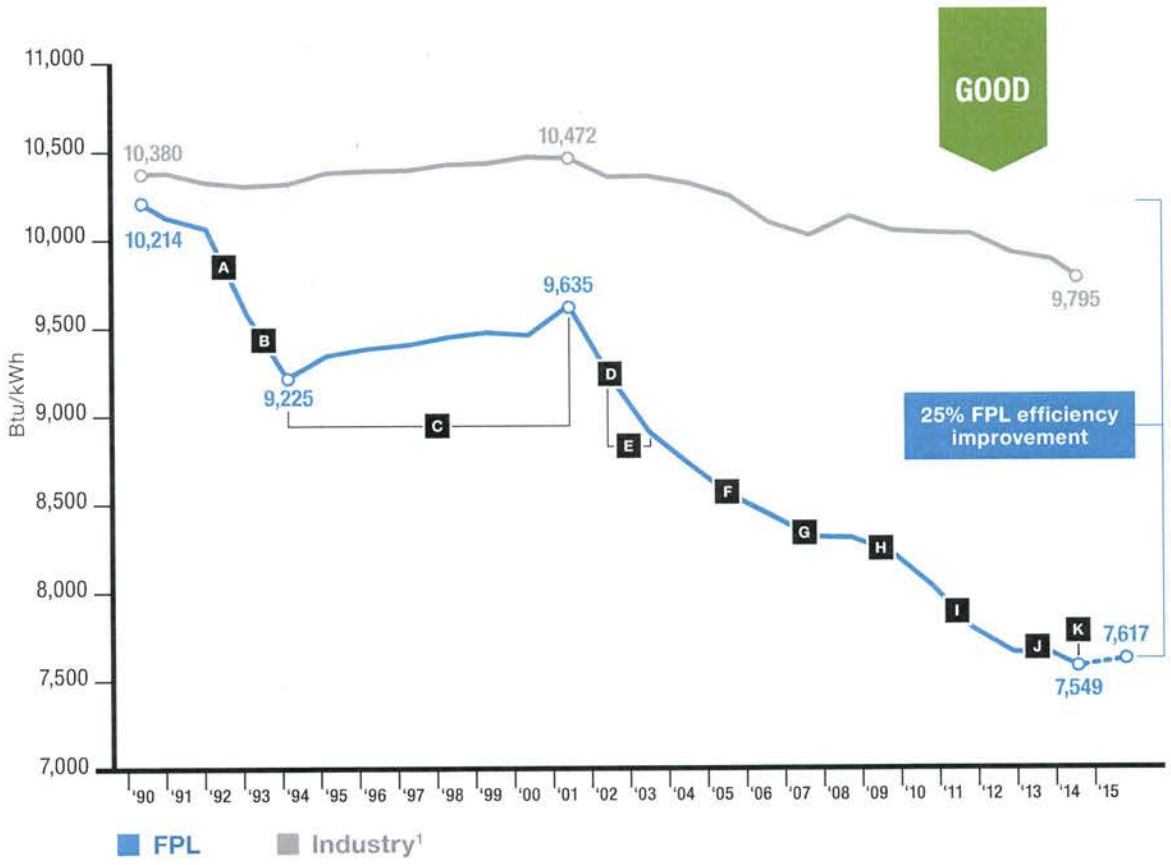
[1] Injuries per 100 employees

[2] Emission rates include solar contribution

[3] 1,001 Employees / 21,800 MW for '15

FPL Fossil Heat Rate Comparison
(1990-2015)

FPL's fossil generating efficiency is 25% better than our 1990 performance and 23% better than the 2014 fossil industry average.



A	PFL 4&5 CC Rpwrg (900 MW)
B	PMG 3&4 CC (900 MW)
C	Heat Rate reductions subside during lapses in new capacity additions as older, less-efficient units are relied on more to serve load growth.
D	PFM CC Rpwrg (1,400 MW)
E	PSR 4&5 CC Rpwrg (1,900 MW)
F	PMG 8 & PMT 3 CC (2,000 MW)
G	PTF 5 CC (1,100 MW)
H	WCEC 1 CC (1,200 MW) & WCEC 2 CC (1,200 MW)
I	Solar (100 MW) & WCEC 3 CC (1,200 MW)
J	PCC 3 (1,200 MW)
K	PRV 5 (1,200 MW)

Since 2001, heat rate improvements have avoided hundreds of millions of fuel costs annually

[1] Source: Platts/ABB-Ventyx - fossil plants in the U.S. (Excludes FPL/NEE).

Note: FPL 2015 heat rate reflects 9% generation increase and record warmest year.

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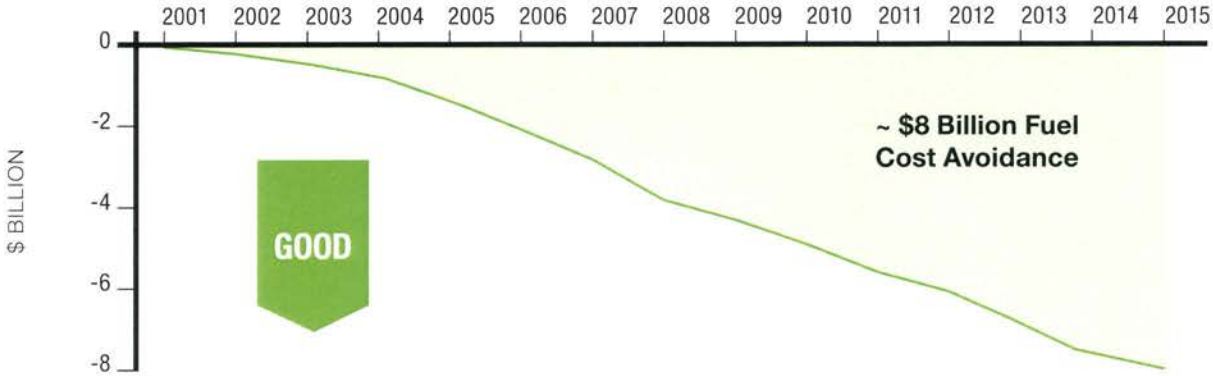
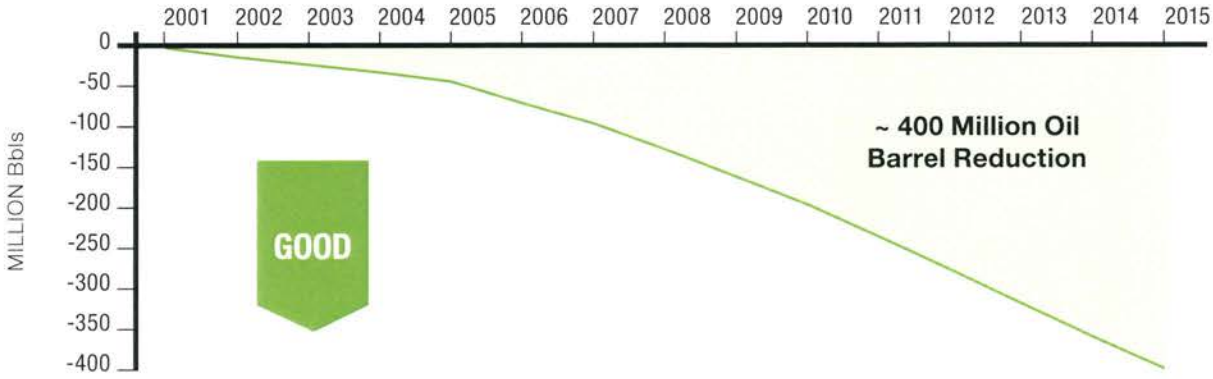
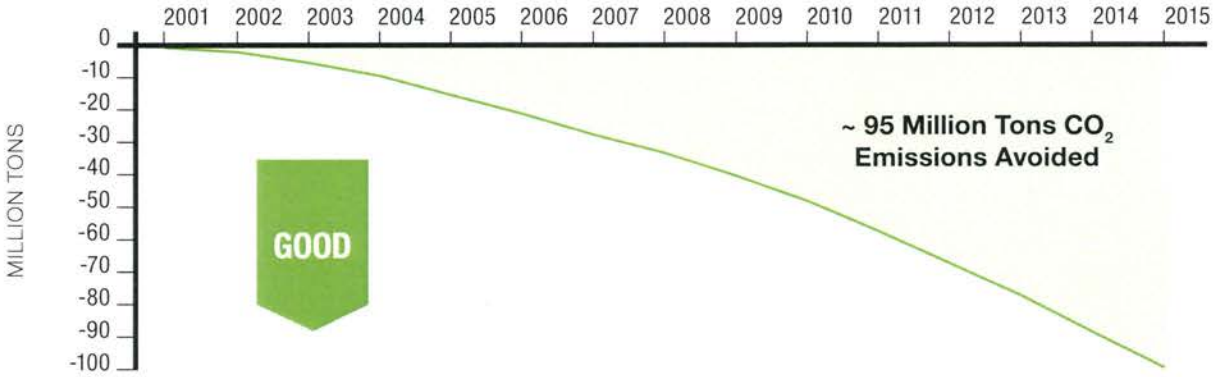
Cumulative Benefits from FPL's Modernized Fossil Fleet since 2001

In addition to fuel cost savings, modernizing FPL's fossil fleet has significantly avoided oil use and emissions in Florida.

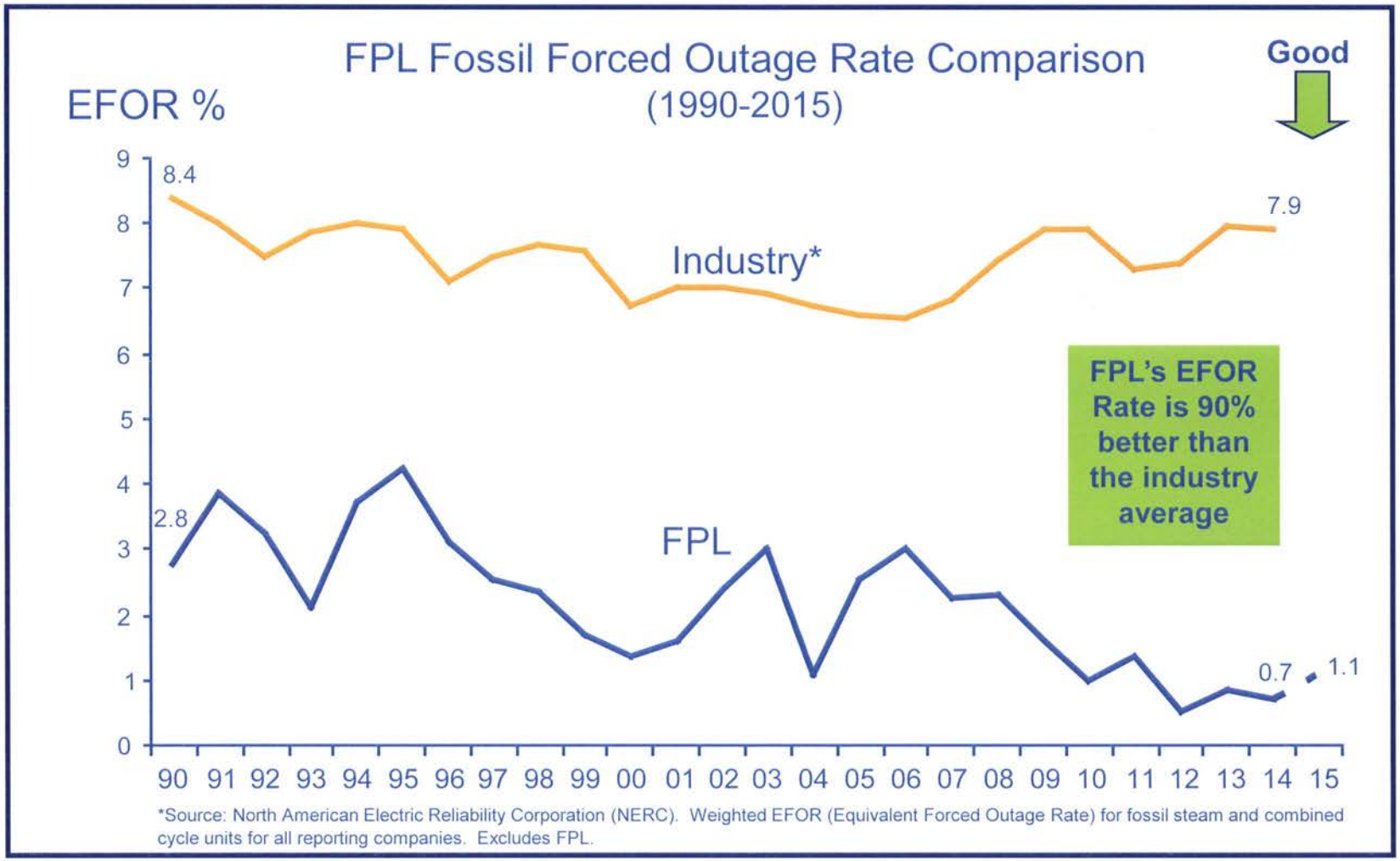






FPL's well-operated, modernized fleet is providing significant customer benefits

For the last five years, FPL's fossil fleet Reliability (averaging ~1.0% EFOR) is ~60% better than 1990 and ~90% below the fossil industry*



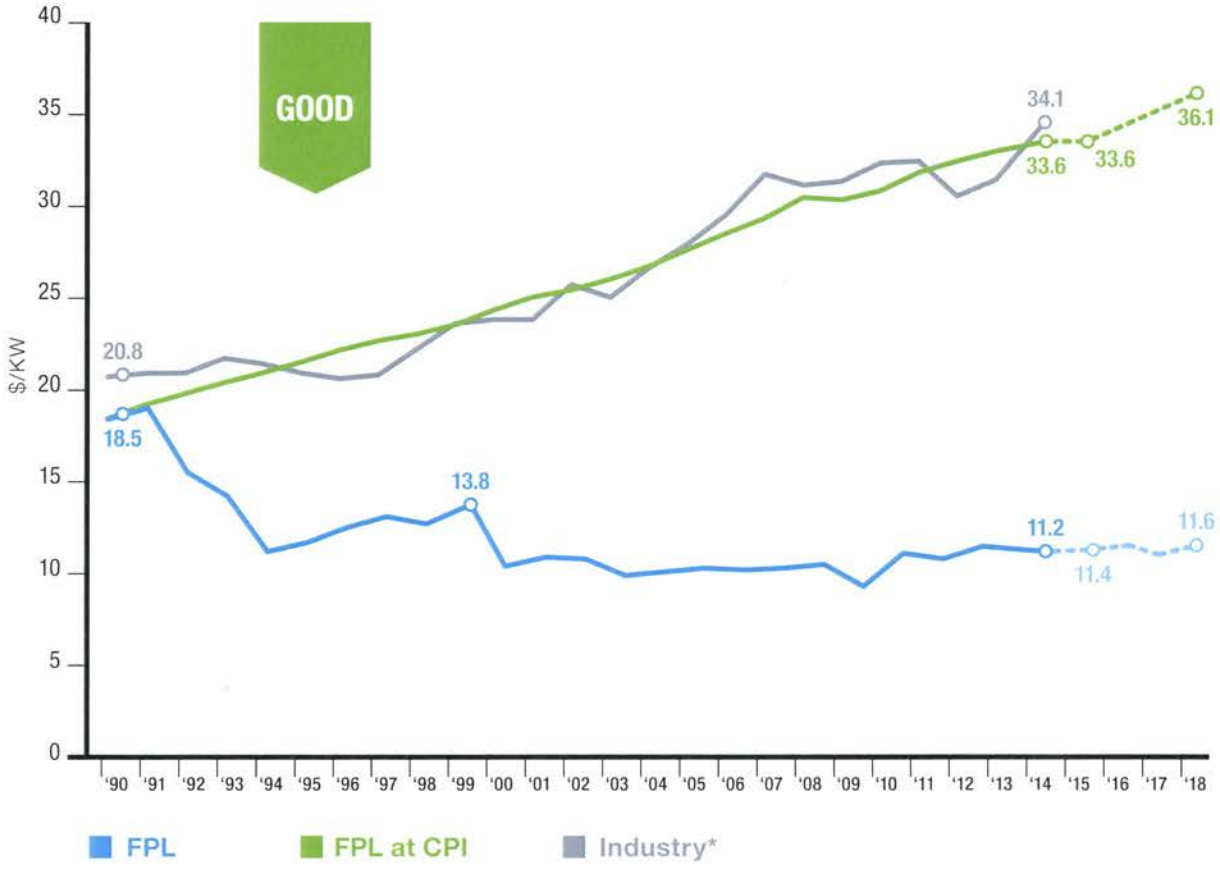
FPL's excellent fossil fleet reliability results in more opportunity for highly efficient capacity to be operating, thus minimizing fuel costs and emissions

Docket No. 160021-EI
FPL Fossil Forced Outage Rate Comparison
Exhibit RRK-6, Page 1 of 1

FPL Fossil Total Non-fuel O&M Production Cost Comparison

(Base plus Environmental and Capacity Clauses) (1990-2018)

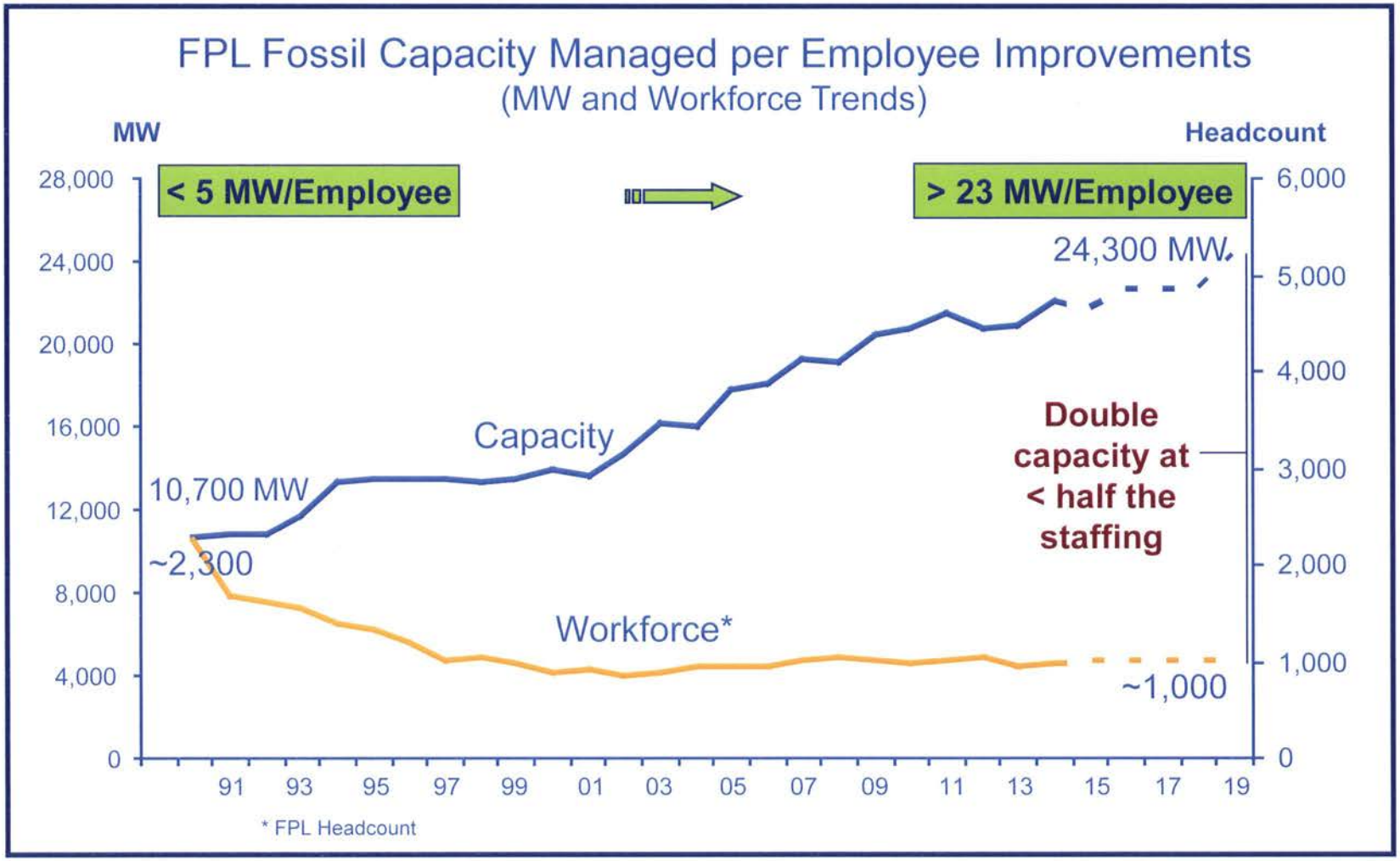
FPL's fossil fleet total non-fuel O&M cost per kW reduced ~40% since 1990 and is almost two-thirds below both corresponding CPI and fossil industry trends



In a 22,000 MW fossil fleet, FPL's exceptional $22/kW O&M performance difference to CPI and industry trends represents ~$500 million of cost avoidance in 2015 alone

*Source: Platts/ABB-Ventyx - FERC Form 1 Steam plus Other cost. (Capacity based on summer capability and excludes FPL).

FPL's fossil capacity managed per employee is projected by 2019 to be nearly five times better than the rate achieved in 1990

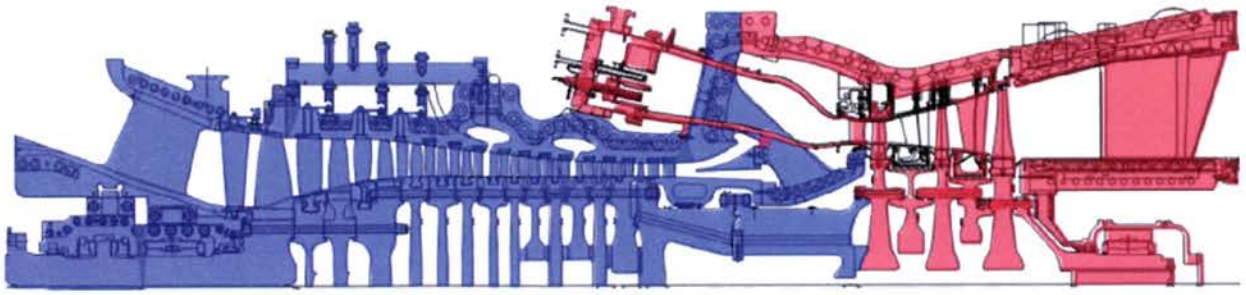


Improving generating capacity management and productivity contributes to lower non-fuel O&M cost for customers

Docket No. 160021-EI
FPL Fossil Capacity Managed per Employee Improvements
Exhibit RRK-8, Page 1 of 1

FPL continues to invest in generating fleet technology upgrades that produce customer benefits

Gas Turbine Modifications



7F.05 Compressor Module (NEW)

- Rotor (Load Coupling, Compressor, Turbine DP)
- Casings (Inlet, Compressor, CDC)
- Compressor Airfoils & VSV (Variable Stator Vanes)
- Fuel Gas manifold arrangement
- #1 Bearing
- Fwd Legs / Base

7F.03/.04 Turbine Module (EXISTING)

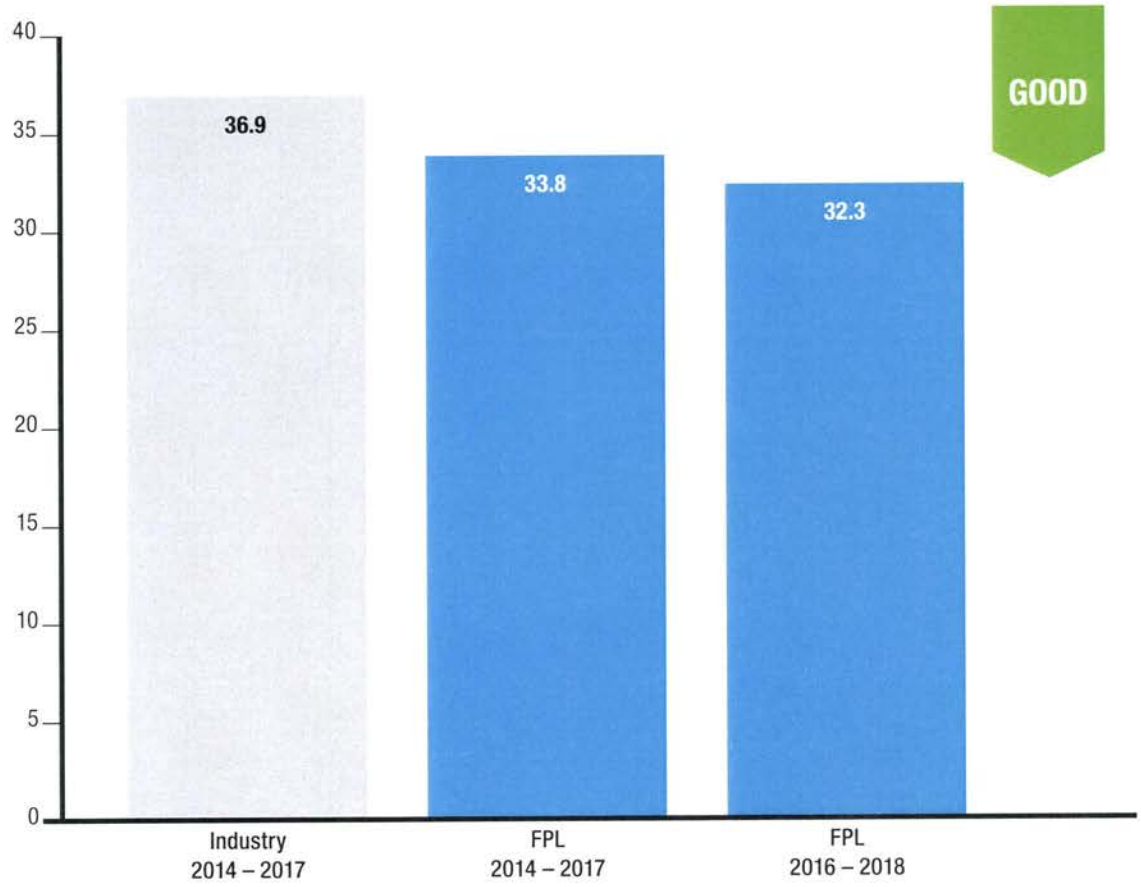
- Turbine Rotor (Stg1 thru Aft Shaft)
- Casings (Turbine Shell, Exhaust frame)
- .04 Adv Gas Path (32k)
- DLN2.6e Combustion System (32k)
- #2 Bearing
- Aft Base

imagination at work

Docket No. 160021-EI
FPL Combustion Turbine Technology Upgrades
Exhibit RRK-9, Page 1 of 1

Total Expenditure Comparison (Average $/kW)[1]

FPL's total O&M and CAPEX maintenance cash flow for its operating fossil fleet compares favorably to industry combined cycle technology costs estimated by U.S. DOE / EIA.



When compared to EIA's industry combined cycle technology estimates, FPL's fossil fleet non-fuel O&M and CAPEX expenditures are lower

[1] Includes all Fixed, Variable, and Major Maintenance costs converted to regional $ per installed kW for periods since last Test Year ('14-'17) and Prior through Subsequent Years (16-'18).

» FPL costs exclude CT upgrades; but reflect Total fossil non-fuel O&M (Base plus Environmental and Capacity Clauses) including all central fossil fleet support services, and CAPEX maintenance.

» Industry CC Source: U.S. Energy Information Administration (U.S. DOE/EIA) "Updated Capital Cost Estimates for Utility Scale Electricity Generating Plants" - April 2013, prepared by SAIC for EIA's Electricity Market Model (EMM) and National Energy Modeling System (NEMS).

» Note: FPL's '13-'18 six year average O&M and CAPEX maintenance expenditure rate of $31.6/kW was also better than the comparable industry CC average of $37.1/kW (values not displayed)