BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

DOCKET NO. 120015-EI
FLORIDA POWER & LIGHT COMPANY

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

REBUTTAL TESTIMONY OF:

ROXANE R. KENNEDY

COM	5
~~AFD~~	4
APA	1
ECO	1
ENG	1
GCL	1
IDM	1
TEL	
CLK	1-Chrep

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

FLORIDA POWER & LIGHT COMPANY

REBUTTAL TESTIMONY OF ROXANE R. KENNEDY

DOCKET NO. 120015-EI

JULY 31, 2012

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 700 Universe Boulevard, Juno Beach, Florida, 33408.

Q. Did you previously submit direct testimony in this proceeding?

A. Yes.

Q. What is the purpose of your rebuttal testimony?

A. The purpose of my rebuttal testimony is to refute the positions of the Office of Public Counsel's ("OPC") witness Donna Ramas regarding FPL's fossil fleet overhaul expenses and Algenol's witness Paul Woods regarding unviable revenue sources from FPL's fossil plant generation waste recovery.

II. FOSSIL PLANT OVERHAUL EXPENSES

Q. Has FPL's fossil fleet significantly changed over time?

A. Yes. As stated in my direct testimony and shown on Exhibit RRK-2, FPL's fossil fleet capacity will have nearly doubled from 10,700 MW in 1990 to 20,800 MW in 2013 with the completion of the Canaveral Modernization Project, and evolved from older conventional steam technology to primarily modern combined cycle technology. Based on the Federal Energy Regulatory Commission's ("FERC") classifications of fossil Steam Production (e.g., conventional boiler based units) and Other Production (e.g., combustion

turbine based units), FPL's fossil capacity will have been distinctively transformed over the same period from approximately an 80:20 mix to a 20:80 mix of "Steam" vs. "Other", respectively.

Q. Has there been a change in the quantity of equipment that needs to be maintained?

A. Yes it has. With the doubling of the fossil generating fleet, the quantity of plant equipment that needs to be maintained has significantly increased. For example, from 2000 to 2013, the number of Combustion Turbines ("CT") more than quadruples from 12 to 52 with the completion of the Canaveral Modernization project and the number of electric generators in the fleet increases from 42 to 78. In addition, the deployed balance of plant equipment (i.e., critical valves) has increased accordingly with the doubling of the fossil fleet capacity.

Q. Do you agree with OPC witness Ramas's proposed process for projecting overhaul cost for FPL's fossil fleet?

A. No I do not. OPC's proposal lacks appropriate justification, is not properly predicated on anticipated operational and overhaul plans, and the results are not indicative of O&M costs going forward.

Q. Is it appropriate to base overhaul costs going forward on normalized historical values?

A. No it is not. As stated before, FPL's fossil fleet has not only significantly grown in size, it has also evolved from mainly conventional steam technology to CT-based technology. This means that historical levels of work, type of

work, and expenditures are not representative of current and projected overhaul work since this transformation has significantly increased the deployed equipment that needs to be maintained currently and going forward. Furthermore, because the doubling of the fossil fleet did not occur all in the same year, but rather it was staggered based on need, over a number of years, the timing of the different maintenance cycles of fossil units is also staggered over the years; hence, historical maintenance cycles timing have no bearing or relationship to current or future maintenance cycles. Consequently, normalization of historical maintenance costs is completely inappropriate as a basis to forecast maintenance costs going forward.

Q. What is the appropriate method for projecting maintenance costs?

A. For FPL's fossil fleet, in general terms, the appropriate way to budget for overhaul costs is to base the expenditures on the level and type of work that is due for the specific projection period based on a combination of factors such as the condition assessment of the units and manufacturer recommendations to help maximize the life of the equipment, maintain the reliability of the units and minimize operational impacts to FPL customers. As shown in Exhibit RRK-7, this method has allowed FPL's total fossil non-fuel O&M costs to be about two-thirds (i.e. $20/kW) less than the industry average. This represents a cost avoidance of more than $400 million in non-fuel O&M just last year for an FPL fossil fleet of more than 20,000 MW.

Q. Does Ms. Ramas's analysis account for any of this?

A. No. Her position takes none of this into consideration. She simply reaches her conclusion based on a mathematical average of numbers that simply do not represent reality and ignores the best in class operations that have produced substantial customer savings.

Q. Is there a specific equipment maintenance schedule that FPL must follow?

A. Yes. There are equipment-specific maintenance plans for conventional steam and combined cycle units.

Q. Please describe each type of equipment maintenance schedule.

A. For FPL's steam units like Martin 1 & 2, a full maintenance outage cycle is defined by the longest equipment maintenance frequency/duration and is typically associated with steam turbine maintenance that occurs every 8 to 12 years. An interim maintenance outage is driven by major boiler maintenance and occurs mid cycle or every 4 to 6 years. This cycle is further divided to include traditional minor boiler maintenance that occurs every 2 to 3 years. The cycle is further divided to include shorter inspection outages that occur annually to perform equipment condition assessments and maintenance to ensure reliability issues are identified and addressed.

FPL's combined cycle units like Ft. Lauderdale 4 & 5, Ft. Myers 2, Martin 3, 4 & 8 and Manatee 3 fit into outage cycles driven primarily by service hours and fall into three outage types: Combustion Turbine Inspections (12,000

service hours), Hot Gas Path Inspections (24,000 service hours), and Major Inspections (48,000 service hours). Maintenance of the steam turbine and generator is executed on a 3 to 12 year interval. The Heat Recovery Steam Generator ("HRSG") and balance of plant equipment maintenance is executed on a 1 to 3 year interval. This work is performed in conjunction with the outage types listed above. Each unit will also undergo an outage annually to perform equipment condition assessments and maintenance to ensure reliability issues are identified and addressed.

Q. Based on this, does the type of work change from year-to-year?

A. Yes it does. For example, in 2013 Scherer Unit 4 does not require a planned overhaul. Consequently, FPL's 2013 O&M request does not include the cost of a planned overhaul for this unit. However, for 2014 Scherer 4 will require a planned overhaul at a cost of $11.8 million to FPL. Hence, the Company will incur this expense in 2014 which is not included in the 2013 request.

Q. Is the 2013 non-fuel O&M overhaul request appropriate?

A. Yes it is. The 2013 non-fuel O&M overhaul request, as stated before, is based on a combination of factors such as the condition assessment of the unit and manufacturer recommendations to help maximize equipment life, maintain the reliability of the unit, and minimize operational impacts to FPL customers. Furthermore, the level of overhaul expenditure requested in 2013 as a percent of total base O&M is reasonably consistent with prior years and beyond and is in line with the increase in deployed equipment that needs to be maintained. As shown in Exhibits RRK-5 through 7, this approach has allowed FPL to

provide high levels of availability and reliability at a cost that is about two thirds below the industry average.

III. ADDITIONAL BENEFITS FROM FPL'S FOSSIL PLANT GENERATION AND OTHER WASTE RESOURCES

Q. Please provide some examples of additional benefits from FPL's fossil plant generation and other waste resources.

A. One example of benefits from fossil plant generation waste are the revenues produced from FPL's Coal Combustion Residual ("CCR") Management program associated with FPL's ownership in both St. Johns and Scherer coal plants. FPL's coal by-product revenues from gypsum and fly ash, as documented by the Florida Public Service Commission Office of Auditing and Performance Analysis "Review of Coal Combustion Residual Storage and Disposal Processes of the Florida Electric Industry" report (November 2011), totaled almost $700,000 in 2010. Another example, based upon FPL's 2011 Sustainability Report, relates to the Company's centralized recycling operations which collectively generated another $5.8 million in revenues from its various waste minimization programs.

Q. Does Algenol Biofuel's proposal present a viable revenue generating benefit for FPL's customers?

A. No it does not. From the information provided by Algenol and available on their website, FPL has been unable to recognize any short or long term

customer benefits. Consequently, FPL does not presently believe it is in the best interest of customers to pursue business ventures with Algenol. Algenol's process is neither commercially-proven, nor do we believe it is possible to permit, at the scale necessary to achieve material benefits. For example, based on Algenol's stated ethanol production rates of 160 gallons per metric ton of CO_2 and 6,000 gallons per acre, approximately 267,000 acres of property would be required to process the CO_2 emissions which Algenol stated are released from FPL's West County Energy Center ("WCEC"). This land requirement for just one plant, virtually equivalent to nine times the area of Disney World or almost 60 percent of the expanse of Florida's Lake Okeechobee, is unreasonable and in glaring contrast to Algenol's limited resources. Also, while Algenol's process distinguishes itself as preserving freshwater by relying on saltwater, no saltwater exists within reasonable proximity to FPL's WCEC plant. Further, Algenol's testimony misstated the potential revenues projected from the WCEC plant and failed to take into account revenue off-setting capital and O&M costs associated with capturing, compressing, and transporting FPL's CO_2, along with thermal efficiency/parasitic load impacts and potential environmental risks associated with their process. Recently published technical analysis of the application of commercially available Carbon Capture and Storage ("CCS") technologies to natural gas-fired combined cycle ("NGCC") power plants provided the typical make-up of the exhaust gas from such facilities and essentially indicated that the weak concentration of CO_2 (3%) in NGCC plant

exhaust "makes CO_2 capture technically challenging and more difficult than for coal-fired power plants.... Further, the additional equipment required to implement the CO_2 capture is very expensive, raising the overall capital cost of the plant. Due to significant amounts of energy required to implement CO_2 capture, there are also significant impacts on output, efficiency, and the cost of electricity" (*Technical and Regulatory Analysis of Adding CCS to NGCC Power Plants in California,* prepared by CH2M HILL for Southern California Edison Company, November 2010). Moreover, the costs of CO_2 capture for an existing NGCC plant for commercial use were estimated in the report at up to $100/ton, far eclipsing Algenol's stated $30/ton revenue proposition.

Q. Do you believe this is a viable revenue generating opportunity for FPL to pursue?

A. No I do not.

Q. Does this conclude your rebuttal testimony?

A. Yes.