BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Progress Energy Florida, Inc.'s petition for approval of long-term fuel supply and transportation contracts for Hines Unit 4 and additional system supply and transportation.	)	Docket No.: 041414-EI
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DIRECT TESTIMONY
OF SAMUEL S. WATERS

ON BEHALF OF
PROGRESS ENERGY FLORIDA

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IN RE: PROGRESS ENERGY FLORIDA, INC.'S PETITION FOR APPROVAL OF LONG-TERM FUEL SUPPLY AND TRANSPORTATION CONTRACTS FOR HINES UNIT 4 AND ADDITIONAL SYSTEM SUPPLY AND TRANSPORTATION

DIRECT TESTIMONY OF SAMUEL S. WATERS

I. INTRODUCTION AND QUALIFICATIONS

Q. Please state your name and business address.

A. My name is Samuel S. Waters. My business address is 410 S. Wilmington Street, Raleigh, North Carolina, 27602.

Q. By whom are you employed and in what capacity?

A. I am employed by Progress Energy Carolinas, Inc. ("PEC") in the capacity of Manager of Resource Planning for Progress Energy Florida, Inc. ("PEF" or the "Company") and PEC.

Q. Please summarize your educational background and employment experience.

A. I graduated from Duke University with a Bachelor of Science degree in Engineering in 1974. From 1974 to 1985, I was employed by the Advanced Systems Technology Division of the Westinghouse Electric Corporation as a consultant in the areas of transmission planning and power system analysis.

While employed by Westinghouse, I earned a Masters Degree in Electrical Engineering from Carnegie-Mellon University.

I joined the System Planning department of Florida Power & Light Company ("FPL") in 1985, working in the generation planning area. I became Supervisor of Resource Planning in 1986, and subsequently Manager of Integrated Resource Planning in 1987, a position I held until 1993. In late 1993, I assumed the position of Director, Market Planning, where I was responsible for oversight of the regulatory activities of FPL's Marketing Department, as well as tracking of marketing-related trends and developments.

In 1994, I became Director of Regulatory Affairs Coordination, where I was responsible for management of FPL's regulatory filings with the FPSC and the Federal Energy Regulatory Commission ("FERC"). In 2000, I returned to FPL's Resource Planning Department as Director.

I assumed my current position with Progress Energy in January of this year. I am a registered Professional Engineer in the states of Pennsylvania and Florida, and a Senior Member of the Institute of Electrical and Electronics Engineers, Inc. ("IEEE").

II. PURPOSE OF TESTIMONY

Q. What is the purpose of your testimony?

A. My testimony addresses, from a resource planning perspective, the strategic benefits of acquiring natural gas supply via the Cypress pipeline project discussed in the testimony of Pamela R. Murphy. Specifically, I wish to address the reliability and, potentially, the pricing benefits provided by obtaining natural gas from an alternative source of supply, as well as discuss the flexibility an alternate source provides in planning for future resource needs. As part of my discussion, I will begin with a projection of future gas usage in peninsular Florida, and present what I feel are the risks associated with over reliance on a single point of supply.

Q. Are you sponsoring any exhibits to your testimony?

A. Yes. I am sponsoring the following exhibit:

SSW-1 Graph of Historical and Projected Energy by Fuel Type for Peninsular Florida

This exhibit was prepared under my direction, and is true and accurate.

III. THE BENEFITS OF AN ALTERNATIVE GAS SUPPLY

Q. What is the projection for natural gas usage in peninsular Florida?

A. I have reviewed the Ten-Year Site Plans submitted by utilities in peninsular Florida and attempted to aggregate their projected energy sources to

exemplify the importance of reliability and price of natural gas as a fuel source. My exhibit ___ (SSW-1) is a graphical representation of the aggregate energy projections, by fuel type, presented in those Site Plans. As the graph shows, the importance of natural gas as a fuel source will increase over the next 10-year period, increasing from 31% of energy supply in 2003, to approximately 55% of energy supply in 2013.

Q. What are the implications of this increase in natural gas usage?

A. Obviously, with natural gas providing the predominant share of energy in the future, concerns are increased about the availability, price, and reliability of supply. For the purposes of my discussion, I will assume that the amount of gas needed, as shown in the aggregate Site Plans presented by peninsular Florida utilities, is appropriate and cost effective, and will address the issues of availability, price, and reliability of supply only as they relate to obtaining the projected amounts. Issues relating to fuel diversity or the appropriateness of any particular percentage of a given fuel are left for a broader discussion of resource planning objectives.

Q. Please describe further what you mean by concerns about the availability, price, and reliability of natural gas supply.

A. In the context used here, I am referring to concerns about availability, price, and reliability when the source of supply is concentrated in a single region, or is delivered from a common region. For example, when natural gas supply in Florida is compared to coal or oil supplies, it is clear that nearly all of the current natural gas supply comes from or through the Gulf of Mexico,

via one of two pipelines. Oil and coal can be supplied from a number of regions in the United States, as well as from the international market, and delivered from a diversity of sources. The concentrated supply region and transportation options for natural gas raise a number of questions:

- Is the supply volume connected to those pipelines sufficient to meet the demand projected for peninsular Florida? (Availability)
- Is the limited region from which gas is supplied adequate to ensure competitive pressures on the gas commodity? (Price)
- Are the supply region and transportation alternatives vulnerable to interruptions from a common source or event? (Reliability)

A qualitative assessment of the natural gas supply picture in Florida would suggest that alternative sources and transportation methods for obtaining this gas would be highly desirable, given the projection that more than half of peninsular Florida's electricity supply will be provided by natural gas.

Q. What alternative sources and transportation methods for natural gas would address the concerns you have identified?

A. An alternative means of obtaining natural gas supply is provided by liquefied natural gas ("LNG"), especially LNG delivered to the east coast of the United States. With the appropriate facilities, specifically re-gasification facilities, natural gas becomes available from worldwide sources, dramatically increasing the availability of supply, increasing the sources of competitive supply, and ensuring that interruption from a single source or region does not jeopardize the entire volume of gas needed. In other

words, having an LNG source available addresses all of the concerns I have identified.

Q. How does this generic discussion relate to the proposed Cypress pipeline project?

A. As described in Ms. Murphy's testimony, the Cypress pipeline project will provide access to the LNG facility at Elba Island by tying that facility to the Florida Gas Transmission Company ("FGT") infrastructure that currently exists in peninsular Florida. This tie would allow PEF to obtain both a firm source of supply through LNG providers, and a firm source of fuel transportation to meet its increasing gas needs, specifically to provide fuel for the combined cycle units identified in PEF's 2004 Ten-Year Site Plan. At the very least, the pipeline introduces a competitive source of supply for all future gas-fired units, which should result in a long-term price advantage, as well as a reliability advantage when compared to the status quo of two existing pipelines from the Gulf of Mexico.

Q. Would you please expand on the reliability advantage provided by the Cypress pipeline project?

A. I think recent events in Florida, specifically the series of hurricanes, are the best demonstration of how an alternative source that supplies gas from the east coast would improve system reliability. When a hurricane enters the Gulf of Mexico and approaches the Mobile Bay area, it is entirely possible, and has in fact happened, that drilling operations in that area have to be shut down for safety reasons. The Mobile Bay region is a significant source

of gas flowing into Florida, so any interruption of supply from that region is likely to result in the curtailment of electricity production from gas-dependent facilities, most notably from the many combined cycle units which have been, and are projected to be, constructed in Florida. Even though many of these units may switch to oil for a very short period, any extended interruption, such as a hurricane might cause, would affect the state's electric supply.

By having a supply available from the east coast, specifically Elba Island, the risk of interruption from a major hurricane is at the very least spread between the coasts. Interruptions to supply or transportation in the Gulf of Mexico are unlikely to be accompanied by interruptions to supply or transportation from the east coast, at least simultaneously. This lessens the likelihood of a curtailment of electrical supply.

Q. Does the Cypress pipeline project provide any benefits beyond addressing the concerns you have discussed above?

A. Yes. In addition to addressing the issues related to availability, price, and reliability that I have presented, the development of an alternative supply source provides additional flexibility in operating the system and meeting future resource needs. Just as having a variety of coal or oil supplies provides benefits to the system, having multiple gas suppliers provides embedded diversity and also introduces the possibility of switching sources to take advantage of shorter term pricing or supply situations, allows for blending fuel supplies to stabilize prices, and opens up more possible arrangements for supply when new resources are added to the system. As

an example, the Cypress pipeline project will promote consideration of new combined cycle units or repowering of the existing units at PEF's Suwannee plant site.

Q. What is your overall assessment of the Cypress pipeline project from a strategic point of view?

A. As a resource planner, I believe that the greater the diversity of fuel suppliers, the better. Having alternatives increases the reliability of supply, increases pressure to hold down prices, and generally lessen concerns about over-reliance on any single source of supply. While it may be difficult to quantify the economic benefits associated with these positives, they are an important part of the decision to proceed with the project.

Q. Would you please summarize the benefits you see in the Cypress pipeline project?

A. By providing access to an alternative source of natural gas supply (LNG), the benefits to be obtained from the Cypress pipeline project are:

- **Increases in the availability of supply by providing access to the world** market, rather than reliance on a small, regional supply base.
- Increases in the reliability of supply by providing an alternate route into the Florida gas transportation infrastructure, from the east coast of the U.S., thereby reducing the risk of interruptions of supply due to major storms or other catastrophes.

- Increases in the competition of supply, potentially placing pressure on long-term commodity prices, resulting in savings versus reliance on a smaller, more concentrated market.
- Increases in operational and planning flexibility by allowing short and long term decisions to switch supply sources based on pricing and availability.

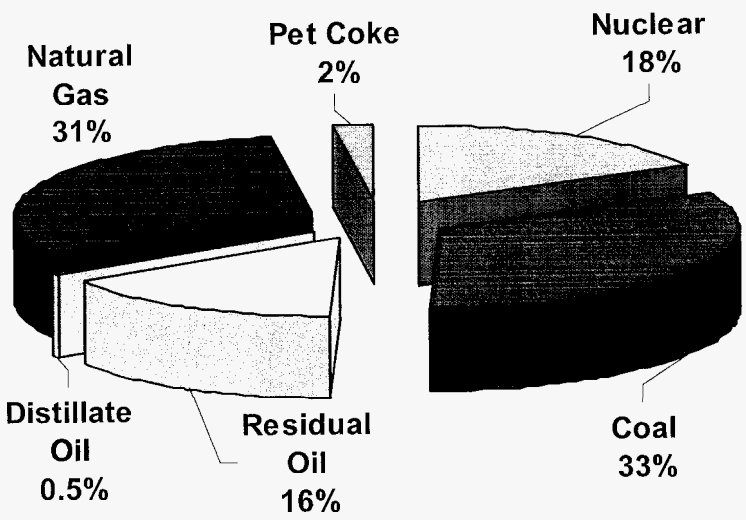
Q. Does this conclude your testimony?

A. Yes.

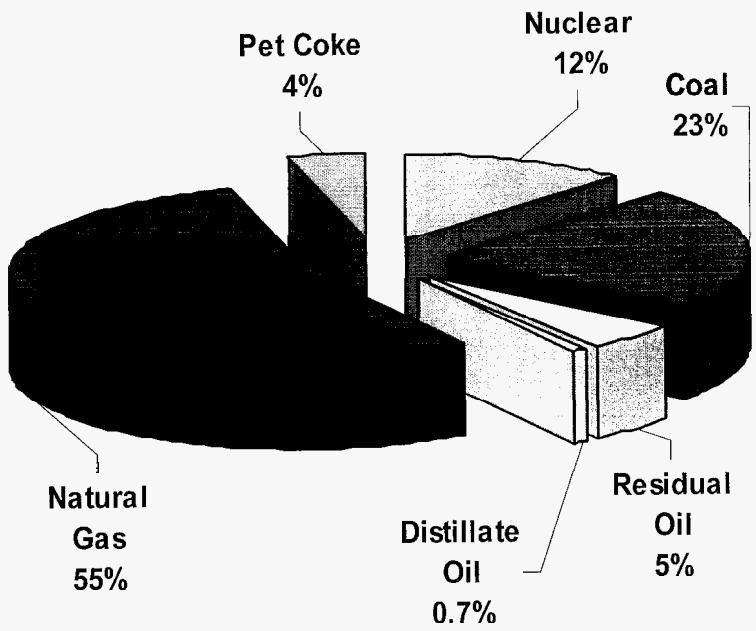
Exhibit ___ (SSW-1)

Historical and Projected Energy by Fuel Type for Peninsular Florida

2003 GWh generated by Fuel Type



2013 GWh generated by Fuel Type



Source: 2004 Ten Year Site Plans