ORIGINAL

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Petition for Determination of Need for Hines Unit 4 Power Plant

DOCKET NO.
Submitted for filing:

040817-EI

DIRECT TESTIMONY
OF SAMUEL S. WATERS

ON BEHALF OF
PROGRESS ENERGY FLORIDA

JAMES A. MCGEE
Associate General Counsel
PROGRESS ENERGY SERVICE COMPANY, LLC
P.O. Box 14042
St. Petersburg, Florida 33733
Telephone: (727) 820-5184
Facsimile: (727) 820-5519

GARY L. SASSO
Florida Bar No. 622575
JAMES MICHAEL WALLS
Florida Bar No. 706272
JOHN T. BURNETT
Florida Bar No. 173304
CARLTON FIELDS, P.A.
Post Office Box 3239
Tampa, FL 33601
Telephone: (813) 223-7000
Telecopier: (813) 229-4133

IN RE: PETITION FOR DETERMINATION OF NEED

BY PROGRESS ENERGY FLORIDA

FPSC DOCKET NO. _____

DIRECT TESTIMONY OF SAMUEL S. WATERS

I. INTRODUCTION AND QUALIFICATION

Q. Please state your name, employer, and business address.

A. My name is Samuel S. Waters and I am employed by Progress Energy Carolinas (PEC). My business address is 410 S. Wilmington Street, Raleigh, North Carolina, 27601.

Q. Please tell us your position with PEC and describe your duties and responsibilities in that position.

A. I am Manager of Resource Planning for Progress Energy Florida (PEF or the Company) and Progress Energy Carolinas. I am responsible for directing the resource planning process for both companies. Our resource planning process is an integrated approach to finding the most cost-effective alternatives to meet each company's obligation to serve, in terms of long-term price and reliability. We examine both supply-side and demand-side resources available and potentially available to the Company over its planning horizon, relative to the Company's load forecasts. In this regard, System Resource Planning prepares and presents

the Progress Energy Florida Ten-Year Site Plan (TYSP) documents that are filed with the Florida Public Service Commission (FPSC or Commission), in accordance with applicable statutory and regulatory requirements. In my capacity as Manager of Resource Planning, I oversaw the completion of the Company's most recent TYSP document filed in April 2004.

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).

Q. Have you previously testified before this Commission?

A. Yes. I have testified in several dockets related to resource planning and the need for power, including Docket 870197-EI, Petition for Florida & Light Company for Non-Firm Load Methodology and Annual Targets; Docket Nos. 890973-EI and 890974-EI, FPL's Determination of Need for the Lauderdale and Martin Projects; Docket Nos. 900709-EQ and 900731-EQ, Joint Petition of Indiantown Cogeneration Limited (ICL) and FPL to Determine Need for the ICL Facility; Docket No. 900796-EI, Petition for Approval of the Purchase of Robert W. Scherer Unit No. 4 from Georgia Power Company; Docket No. 910004-EU, Annual Hearings on Load Forecasts, Generation Expansion Plans and Cogeneration Prices; Docket No. 910816-EI, Petition of Nassau Power Corporation to Determine Need; Docket No. 911103-EI, Complaint of Consolidated Minerals, Inc. (CMI) Against Florida Power & Light Company for Failure to Negotiate Cogeneration Contract; Docket Nos. 920520-EQ and

920648-EQ, Joint Petition to Determine Need for Electrical Power Plant to be located in Okeechobee County by Florida Power & Light Company and Cypress Energy Partners, Limited Partnership; and Dockets 900001-EI, 910001-EI, 920001-Ei and 930001-EI concerning FPL's Oil Backout Cost Recovery Factor and Capacity Cost Recovery Factor. I also submitted testimony in FPL's rate review, Docket No. 001148-EI.

In addition to appearing on FPL's behalf in the above cases, the PSC Staff submitted my testimony in Docket No. 960409-EI, Tampa Electric Company's Petition to Determine Need for Polk Power Station.

II. PURPOSE AND SUMMARY OF TESTIMONY

Q. What is the purpose of your testimony in this proceeding?

A. I am testifying on behalf of Progress Energy Florida in support of its Petition for Determination of Need for Hines Unit 4. My testimony will introduce all of the Company's witnesses in the proceeding. I will provide an overview of the Hines 4 unit that the Company proposes to build. Then I will discuss PEF's Resource Planning process and how that led the Company to identify the Hines 4 unit as its next-planned supply-side alternative. I will also explain the Company's need for the Hines 4 combined cycle unit, and describe the steps the Company has taken to seek out available, superior supply-side alternatives through the Request for Proposal (RFP) process. Next, I will provide an overview of the Company's evaluation of competing proposals. I will conclude my testimony by explaining

the Company's decision to proceed with the Hines 4 unit. Detailed information concerning the Company's decision to build Hines 4 is contained in the Need Determination Study for Hines 4, provided as Exhibit___ (SSW-1) of my testimony.

Q. Are you sponsoring any sections of Progress Energy Florida's Need Study (SSW-1)?

A. Yes. In general I am the sponsor of the Need Study, and in particular I am sponsoring Section III, "Resource Need and Identification." The Need Study was prepared under my direction, and it is true and accurate.

Q. Are you sponsoring any exhibits to your testimony?

A. Yes. I am sponsoring the following exhibits to my testimony:

SSW-1 Progress Energy Florida Need Determination Study for Hines Unit 4

SSW-2 Forecast of Winter Demand and Reserves With and Without Hines 4

SSW-3 Levelized Busbar Cost Curves

SSW-4 Progress Energy Florida 2008 System Energy Mix

Each of these exhibits was prepared under my direction, and each is true and accurate.

Q. Please give an overview of the Company's presentation.

A. In addition to my own testimony, the Company will present the testimony of the following witnesses:

- Mr. John Robinson, who will testify about the site and unit characteristics for the Hines 4 combined cycle unit, including the size, equipment configuration, fuel type and supply modes; the estimated costs of Hines 4; and the unit's projected in-service date;
- Mr. John J. Hunter, who will describe the Hines Energy Complex (HEC) site, discuss the environmental benefits of the HEC site and Hines Unit 4, and discuss the environmental approval process associated with the construction and operation of Hines 4;
- Ms. Pamela R. Murphy, who will discuss the Company's oil and natural gas forecast and the fuel supply plan for Hines Unit 4;
- Mr. Alfred G. McNeill, who will discuss the transmission requirements for Hines 4 and the transmission requirements for the proposals submitted in response to Progress Energy Florida's RFP;
- Mr. Greg Beuris, who will discuss the financial impacts of power purchases on Progress Energy and Progress Energy Florida and the treatment of those impacts in evaluating proposals submitted in response to Progress Energy Florida's RFP, and
- Mr. Daniel J. Roeder, who will describe Progress Energy Florida's RFP, the proposals we received in response to the RFP, the implementation of the RFP, and the results of the evaluation of the proposals.

Q. Please summarize your testimony.

A. On an ongoing basis, Progress Energy Florida conducts a robust resource planning process to project its future resource needs to serve its customers' future electricity needs in a reliable and cost-effective manner. Through this process the Company identified Hines Unit 4 as its next-planned generating addition, offering economic benefits to customers superior to any other alternative. Our evaluation of these alternatives included an evaluation of generating projects proposed by outside parties in response to PEF's RFP solicitation. Bids were evaluated, and none compared favorably to the Company's proposed expansion of the HEC. Through its planning and RFP processes, Progress Energy Florida has demonstrated that the Hines 4 unit is the best alternative for maintaining its electric system reliability and integrity, and providing its customers with adequate electricity at a reasonable cost.

III. OVERVIEW OF THE HINES 4 PROJECT

Q. Please provide an overview of the Hines 4 unit.

A. The Hines 4 unit will be a state-of-the-art, gas-fired, combined cycle power unit with an expected winter rating of 517 megawatts (MW). Progress Energy Florida will build the unit at its HEC site in Polk County, Florida, with an in-service date of December 2007. The unit will be highly efficient, with a winter full load heat rate of approximately 7062 Btu/kWh, and will be fueled with natural gas. We

currently project the unit to serve as intermediate capacity, although it is projected to operate in more of a base load mode out in time.

Although the Company has previously obtained Site Certification from the Florida Siting Board for the HEC in order to build the Hines 1, 2, and 3 units (and for 3,000 MW of ultimate site capacity), we are seeking at this time Supplemental Site Certification and related environmental permits for the purpose of building the Hines 4 generating unit.

The cost for Hines 4, excluding transmission facilities, is estimated to be $221.5 million plus $27 million for Allowance for Funds Used During Construction (AFUDC), for a total cost of $248.5 million. This includes the cost of equipment; the Engineering, Procurement, and Construction (EPC) contractor; licensing; and internal costs such as construction management and start-up costs.

Construction of a 21-mile, 230 kV line from Hines to West Lake Wales, expansion of the Hines Energy Substation, and the replacement of sixteen 230 kV breakers will be necessary to accommodate the connection of Hines 4 at the HEC to Florida's interconnected electrical grid. The estimated cost for these transmission projects is $33.4 million, plus $4.2 million for AFUDC, for a total cost of $37.6 million.

We believe that the Hines 4 unit will enable the Company to meet the reliability needs of our customers, and that it will provide a superior source of efficient, low-cost power to our customers during its life, as well as add to the balance of energy sources on the Progress Energy Florida system.

IV. THE COMPANY'S RESOURCE PLANNING PROCESS

Q. Please explain Progress Energy Florida's Resource Planning Process.

A. The Resource Planning process is an integrated process in which the Company seeks to optimize its supply-side options along with its demand-side options into a final, integrated optimal plan, designed to deliver reliable, cost-effective power to Progress Energy Florida customers. We evaluate the relationship of demand and supply against the Company's reliability criteria to determine if additional capacity is needed during the planning period. With the inclusion of cost-effective DSM programs, the generation plan is optimized to establish the most cost-effective overall plan, which becomes the Company's Integrated Optimal Plan. This optimal plan is presented to the FPSC in April of every year in the Company's annual TYSP filing. The April 2004 TYSP is included as Appendix F to the Need Determination Study, Exhibit ___ (SSW-1).

Q. What are the reliability standards the Company used to determine the need for additional resources?

A. Progress Energy Florida plans its resources in a manner consistent with utility industry planning practices, and employs both deterministic and probabilistic reliability criteria in the resource planning process. The Company plans its resources to satisfy a minimum Reserve Margin criterion and a maximum Loss of Load Probability (LOLP) criterion. Progress Energy Florida has based its

planning on the use of dual reliability criteria since the early 1990s, a practice that has been accepted by the FPSC. By using both the Reserve Margin and LOLP planning criteria, PEF's resource portfolio is designed to have sufficient capacity available to meet customer peak demand, and to provide reliable generation service under all expected load conditions.

Q. Why are reserves needed?

A. Utilities require a margin of generating capacity above the firm demands of their customers in order to provide reliable service. Periodic scheduled outages are required to perform maintenance and inspections of generating plant equipment and to refuel nuclear plants. At any given time during the year, some plants will be out of service due to unanticipated equipment failures resulting in forced outages of generation units. Adequate reserves must be available to accommodate these outages and to compensate for higher than projected peak demand due to forecast uncertainty and abnormal weather. In addition, some capacity must be available for operating reserves to maintain the balance between supply and demand on a moment-to-moment basis.

Q. What is Progress Energy Florida's Minimum Planning Reserve Margin?

A. Progress Energy Florida's current minimum Reserve Margin threshold is 20 percent. The PSC, in Order No. PSC -99-2507-S-EU, approved a joint stipulation from the investor-owned utilities in peninsular Florida – Progress Energy Florida, Florida Power & Light Company, and Tampa Electric Company – to increase

minimum planning Reserve Margin levels to at least 20 percent by the summer of 2004.

Q. What is LOLP and what does it measure?

A. In contrast to Reserve Margin, which is a deterministic measure of reliability, LOLP is a probabilistic criterion that measures the probability that a company will be unable to meet its load throughout the year. Where Reserve Margin considers only the peak load and amount of installed resources, LOLP also takes into account a utility's load shape, generating unit sizes, capacity mix, maintenance scheduling, unit availabilities, and capacity assistance available from other utilities. A standard probabilistic reliability threshold commonly used in the electric utility industry, and the criterion employed by Progress Energy Florida, is a maximum of one day in ten years loss of load probability.

Q. How does the Progress Energy Florida Resource Planning process begin?

A. The Resource Planning process begins once a forecast of system load growth has been developed for the next ten years. This forecast draws on the collection of certain input data, such as population growth, fuel prices, interest and inflation rates, and the development of economic and demographic assumptions that impact future energy sales and customer demand.

Q. Briefly describe Progress Energy Florida's System demand and energy forecasts.

A. Between the winters of 2003/04 and 2012/13, winter net firm demand is projected to grow from 8,626 MW to 10,606 MW, which represents approximately a 2.3 percent annual growth rate. The net energy for load is projected to grow from 43,911 GWh in 2003 to 54,608 GWh in 2013, which represents a 2.2 percent growth rate. The demand and energy forecasts, and the methodology used to develop them, are discussed in detail in Section III of the Need Determination Study and in Chapter 2 of the Company's TYSP, which is Appendix F of the Need Study.

Q. How are demand-side programs quantified and incorporated into the Company's planning process?

A. Through analysis conducted during the last DSM Goals and DSM Plan proceedings (Docket Nos. 971005-EG and 991789-EG respectively), to assess the projected cost, performance, viability, and cost-effectiveness of a wide range of dispatchable and non-dispatchable DSM program options, the Company identified a set of DSM programs that were cost-effective and met Commission-established goals. With the approval of its DSM plan by the PSC, Progress Energy Florida offers five residential programs, eight commercial and industrial programs, and one research and development program. Progress Energy Florida's DSM programs have successfully met the Commission-established DSM goals in the

past, and the current plan, which includes these programs, anticipates achieving all of the future year goals.

Progress Energy Florida proposed new conservation goals for the ten-year period from 2005 through 2014, as well as a new DSM Plan for meeting the proposed goals, in a filing with the Commission as part of Docket No. PSC-040031-EG. Over the next five years (2005-2009), the proposed conservation goals are generally lower than the existing set of goals, reflecting less available savings from demand-side resources. All other things being equal, this change causes an increase in PEF's firm winter and summer peak demand and, therefore, further establishes the need for Hines 4.

Q. How are off-system supply resources reflected in the Company's planning process?

A. Progress Energy Florida's plan takes into account its future supply of firm capacity from purchased power contracts, as well as its own existing and committed generating units that will be in service during the study period.

Q. How are new supply-side alternatives identified?

A. If a need for additional capacity during the planning period is identified, Progress Energy Florida examines alternative generation expansion scenarios. Supply-side resources are screened to determine those that are the most cost-effective. The Company begins with a wide range of options, identified from various industry

sources and Progress Energy Florida's experience, and pre-screens those that do not warrant more detailed cost-effectiveness analysis. The screening criteria include costs, fuel sources and availability, technological maturity, and overall resource feasibility within the Company's system.

Generation alternatives that pass the initial screening are considered viable capacity alternatives and are included in the next step of the planning process. That step involves an economic evaluation of generation alternatives in a computer model called Strategist. The primary output of Strategist is a Cumulative Present Worth Revenue Requirements (CPWRR) comparison of all of the viable resource combinations that will satisfy Progress Energy Florida's reliability requirements. The most cost-effective supply-side resource (or combinations) are evaluated, resulting in a ranking of the various generation plans by system revenue requirements. Strategist considers many tens or hundreds of thousands of combinations. Each of these resource combinations is ranked based on cost performance over both the study period (40 years) and the planning period (10 years). Generally, the generation plan with the lowest CPWRR over the study period is chosen as the Base Generation Plan.

V. HINES 4 IS THE NEXT-PLANNED GENERATING UNIT

Q. Please explain how the Company's Resource Planning efforts identified Hines 4 as the Company's next-planned generating unit.

A. Through the Resource Planning process I have just described, we developed the April 2004 TYSP. The plan includes the Hines 3 unit, currently under construction for commercial operation by December 2005. Following this addition, the plan calls for the projected combined cycle expansion of the HEC with Units 4 through 6, which are forecast to be in service by December 2007, 2009, and May 2010, respectively. The new HEC units will be state-of-the-art combined cycle units similar to HEC Units 1, 2, and 3.

The plan also calls for the addition of three simple-cycle combustion turbines (CTs) in December, 2006, and two new, unsited combined cycle units in May of 2012 and December of 2013. The company is currently in negotiations to purchase power instead of building these combustion turbines.

Progress Energy Florida's present Determination of Need Petition, its April 2004 TYSP, and its Commission-approved DSM Plan are all consistent with the Company's Resource Planning process as described. Subject to identifying superior opportunities by issuing an RFP, we concluded that Hines 4 was the next-planned generating unit.

Q. Why does Progress Energy Florida need additional new generation in December 2007?

A. Progress Energy Florida maintains its Reserve Margin for both its summer and winter peak demands to ensure reliable electric service to its customers. Currently, the Company's winter peak season triggers the need for additional

resources. Progress Energy Florida needs additional generation in December 2007 to meet its 20 percent minimum Reserve Margin commitment. Exhibit ____ (SSW-2) shows Progress Energy Florida's forecast of winter peak demand and reserves, with and without the Hines 4 capacity addition. For the period from the winter of 2004/05 to the winter of 2008/09, Progress Energy Florida projects that the growth in firm winter peak demand will average approximately 247 MW a year with a projected peak in 2007/08 of 9,737 MW and in 2008/09 of 9,891 MW. The exhibit also shows that Progress Energy Florida will have a total generating capability of approximately 11,561 MW by the winter of 2007/08. This capacity includes the installation of Hines 3 in December 2005, as previously approved by this Commission, and purchased power currently in negotiations. As demonstrated in this exhibit, without the Hines 4 capacity addition, Progress Energy Florida's Reserve Margin will decrease to about 19 percent in 2007/08 and 16 percent by 2008/09.

Q. What impact will the addition of the Hines 4 capacity have upon Progress Energy Florida's Reserve Margin and ability to provide reliable service to its customers?

A. As shown in Exhibit ___ (SSW-2), the addition of the Hines 4 capacity will increase Progress Energy Florida's winter peak Reserve Margin to about 24 percent in 2007/08 and 21 percent in 2008/09. The Hines 4 addition allows

Progress Energy Florida to satisfy its commitment to maintain a minimum 20 percent Reserve Margin.

Q. **Are there other considerations in balancing demand- and supply-side resources?**

A. Yes. The Company calculates its Reserve Margin based on the relationship between firm load and total capacity available to serve that load. Firm load represents firm customer load after all demand-side management (DSM) capability has been implemented. Progress Energy Florida believes that its dispatchable demand-side resources provide important and cost-effective resources when appropriately utilized. Although DSM is available as a resource to reduce load if needed, it cannot be used as often or as long as physical generation without eventually affecting customer participation levels, as was demonstrated by the customer attrition experience of 1998 and 1999. As the Company has learned, when interruptions in service increase in frequency, customers are less willing to accept such service for lower rates. For this reason, Progress Energy Florida is planning to rely more on additional physical reserves to ensure a reliable power supply than on the consent of customers to interruptions in service for reduced tariffs. Based on projected load growth, the addition of Hines 4 will increase the Company's share of physical reserves to approximately one half of total reserve capacity (which includes DSM) in the winter of 2007/08, a level of

physical reserves sufficient to maintain coverage of an unplanned outage of the fleet's largest unit.

Q. Why has Progress Energy Florida chosen the combined cycle generator as the type of generating capacity to install?

A. The results of our resource planning analyses show that the economics favor combined cycle units to serve intermediate to base load need. Progress Energy Florida has been projecting the need for combined cycle capacity in its TYSP filings for many years, including its most recent April 2004 filing.

Perhaps this can most easily be explained using a tool known as "levelized busbar screening curves." Exhibit ___ (SSW-3) is a graph of levelized busbar costs for potential new generation resources, including combustion turbine, combined cycle, and coal technologies. It illustrates a technology's total levelized annual cost in $/kW-year as a function of capacity factor. In this analysis, the costs were levelized and then present valued to 2007. At zero capacity factor, only a technology's capital and fixed costs are depicted. The slope of the line is a function of the variable costs like fuel, variable O&M (operations and maintenance), and consumables that increase in direct proportion to the energy produced. As the capacity factor increases, the line reflects increasing total costs since variable costs such as fuel and variable O&M increase. The steeper the slope of the line, the higher the variable costs per unit of energy (e.g., $/MWh). For example, the line corresponding to a CT has a steeper

slope than the line for a coal unit. This is because the fuel and variable O&M costs for a CT are higher than those of a coal unit. In this type of analysis, various technologies can be compared in the range of their expected capacity factors based on total levelized annual cost.

For any given capacity factor, the lowest line on the chart represents the lowest cost technology. The graph shows as the capacity factor increases, the technology identified as lowest cost changes. The busbar screening curves show that CT capacity is the most economical new generation alternative at capacity factors less than about 20 percent. The curves also demonstrate that combined cycle generation is the most cost-effective new resource when a generator is needed to run more than approximately 20 percent of the time. The figure also shows that combined cycle units are less expensive than a new coal (here, conventional pulverized coal) unit at any capacity factor, due largely to the higher capital and fixed O&M costs of new coal plants. Thus, combined cycle generation is the resource of choice for both intermediate and base load operation.

Since combined cycle generation is the most economical resource for intermediate duty (and could also economically operate as a base load resource, as shown in the busbar screening diagram), Hines 4 is an ideal resource to satisfy not only the projected growth in customers' peak load, but also to serve customers' growing energy requirements in the most cost-effective way. Hines 4 is projected to operate in a capacity factor range of 50-70 percent, averaging 67 percent over its expected 25-year life, and will also provide the flexibility to serve

as economical base load capacity operating at higher capacity factors should future system conditions require this type of service. This is both an economic and a strategic benefit of Hines Unit 4.

Q. You mentioned earlier that the Hines 4 unit will add to the balance of energy sources on the Progress Energy Florida system. Is Progress Energy Florida becoming too dependent on natural gas?

A. No. Current economics overwhelmingly favor natural gas units, as shown in the busbar screening curves. Progress Energy Florida has a good base of coal and nuclear capacity, and there is a limited outlook for cost-effective renewables. As shown in Pam Murphy's testimony, the natural gas supply is abundant over the study period.

To show the balance of the energy sources that will result after the addition of Hines 4, Exhibit ___ (SSW-4) shows the percentages of total Net Energy for Load (NEL) expected to be supplied by the various energy sources in the year 2008. The exhibit demonstrates that the Progress Energy fuel mix is well balanced, with 14% of NEL supplied by nuclear, 34% by coal (totaling 48% for base load technologies), 27% from natural gas, and the remainder from oil and power purchases from both Qualifying Facilities (QFs) and other utilities. In practical terms, Progress Energy Florida customers will be receiving energy from the full spectrum of available sources in nearly equal parts. This balance provides

benefits against price volatility and interruption of supply of any single source, in addition to the economic benefit of adding Hines 4 to the system.

Q. What are the environmental benefits of Hines Unit 4?

A. A combined cycle facility fueled by natural gas, such as Hines 4, is the cleanest and most efficient fossil-fueled generation currently available. There are virtually no sulfur dioxide (SO_2) emissions, and nitrogen oxide (NO_x) emissions are approximately one tenth the level of coal-fired generation utilizing low NO_x burners. Therefore, the proposed combined cycle generation will provide cleaner air for Florida compared to other alternative feasible generation technologies, and will help the Company comply with current environmental regulations, as well as prepare the Company to meet any more stringent regulations that may be enacted in the future.

VI. PROGRESS ENERGY FLORIDA'S RFP

Q. Please describe Progress Energy Florida's efforts to solicit proposals from other supply-side providers.

A. In accordance with Rule 25-22.082, F.A.C., Progress Energy Florida issued an RFP on October 7, 2003, soliciting proposals for other generating resources that might prove superior to Hines 4 as a supply-side alternative. The RFP is included as Appendix H of Exhibit ___ (SSW-1).

In our RFP, we explained that we had identified Hines 4 as our next-planned generating unit, and we invited interested parties to make alternative proposals that offered superior value. We sought proposals that would be in service by December 1, 2007 and that would be reliable, dispatchable, and technically sound. We were looking for the proposals to come from experienced, financially-sound developers that would be able to secure the necessary permits, and that had planned for an adequate fuel supply. We evaluated all proposals by systematically following a structured, orderly evaluation process, which we identified in the RFP, along with the criteria by which we evaluated the proposals.

Q. Briefly, what were the results of the RFP?

A. We received five proposals from four bidders. In addition, one of the bidders provided two alternatives to their proposal. One of the proposals from one of the bidders did not pass the threshold requirements and was eliminated. One proposal from each of the four bidders was put on the Short List and compared to our self-build alternative, Hines Unit 4. We performed a significant amount of analysis, evaluating the price and non-price attributes of the alternatives. The final evaluation of the non-price attributes showed Hines Unit 4 to be one of the top two ranked alternatives in nearly all of the categories. The detailed economic analysis found Hines Unit 4 to be approximately $55 million (2004 dollars) less expensive than the least-cost third-party proposal. The least-cost New Unit Proposal (another combined cycle unit) was found to be more than $95 million

(2004 dollars) more expensive than Hines Unit 4. Finally, we performed sensitivity analyses, in which we either gave advantages to the third-party proposals by assuming decreases in their costs or assumed increases in the costs associated with Hines Unit 4. In all cases, Hines 4 was the least cost alternative, demonstrating that the selection of Hines 4 is a sound choice. The testimony of Daniel J. Roeder describes in detail the RFP, the process we followed, the evaluation of the proposals, and the results of the analysis.

VII. MOST COST-EFFECTIVE ALTERNATIVE

Q. Is the Hines 4 unit the Company's most cost-effective alternative for meeting its need?

A. Yes, it is. As I have described, the Company conducted a careful screening of various other supply-side alternatives as part of its Resource Planning process before identifying Hines 4 as its next-planned generating alternative. We were able to screen out less cost-effective supply-side alternatives, identifying Hines 4 as the most cost-effective alternative available to us. Further, through our RFP process, we determined that the Hines 4 unit was also more cost-effective than any of the proposals made to us.

Q. Why do you think Hines Unit 4 is the most cost-effective alternative?

A. There are a number of factors, with the significant cost differences being primarily related to the lower fixed costs of Hines 4. First, Progress Energy

Florida is able to take advantage of its prior investment in infrastructure at the HEC. Second, by virtue of owning and operating three other power stations on the same site, Progress Energy Florida will need to add a much smaller number of new employees to operate the four units at the HEC than bidders would have to employ to operate a greenfield facility. Finally, Progress Energy Florida has as good, or better, credit rating than many of the IPPs today. Thus, the Company has a financing advantage.

VIII. BENEFIT TO THE STATE

Q. Is the Hines 4 unit consistent with the needs of Peninsular Florida?

A. Yes, the Hines 4 unit will assist Progress Energy Florida in meeting its 20 percent planned Reserve Margin and will assist Peninsular Florida in attaining the 15 percent minimum level of planning reserves targeted for the FRCC region.

IX. CONSEQUENCES OF DELAY

Q. What will be the impact of delay in implementing the Hines 4 project?

A. If the Hines 4 unit is delayed, Progress Energy Florida would not be able to satisfy its minimum 20 percent Reserve Margin planning criterion by the winter of 2007/08 in the most reliable and cost-effective manner. This would expose Progress Energy Florida's customers to a risk of interruption of service in the event of unanticipated forced outages or other contingencies for which Progress Energy Florida maintains reserves. Even without an interruption in service,

without the efficient Hines 4 unit, Progress Energy Florida's customers would be subject to higher fuel costs as less efficient units are used to serve their needs.

X. CONSERVATION MEASURES

Did Progress Energy Florida attempt to mitigate its need for the proposed unit by pursuing conservation measures reasonably available to it?

A. Yes, we did. As I discussed previously, the Company identified and has implemented a set of cost-effective DSM programs that have successfully met Commission-established goals. We anticipate that we will achieve all of the future year goals also.

XI. CONCLUSION

Q. Please summarize the benefits of the Hines 4 unit.

A. Progress Energy Florida needs the Hines 4 unit to maintain its electric system reliability and integrity and to provide its customers with adequate electricity at a reasonable cost. By building the unit, the Company will be able to meet its commitment to maintain a 20 percent Reserve Margin, and it will do so by improving not just the quantity, but also preserving the quality, of its total reserves, maintaining an appropriate portion of physical generating assets in the Company's overall resource mix. The unit will also add diversity to Progress Energy Florida's fleet of generating assets, in terms of fuel, technology, age, and functionality of the unit. Having exhausted conservation measures reasonably

available to the Company, Progress Energy Florida selected the Hines 4 unit as its most cost-effective alternative for meeting its needs. The unit will be a state-of-the-art, fuel efficient, environmentally preferable installation that will be located on a site substantially pre-approved for exactly this kind of power resource. We are pleased to be able to add this unit to the Company's fleet and to Peninsular Florida, and we urge the Commission to approve the plan.

Q. Does this conclude your testimony?

A. Yes, it does.

Exhibit ___ (SSW-1)

Progress Energy Florida Corporation Need Determination Study for Hines Unit 4

(Filed Separately)

Exhibit ___ (SSW-2)

Forecast of Winter Demand and Reserves With and Without Hines 4

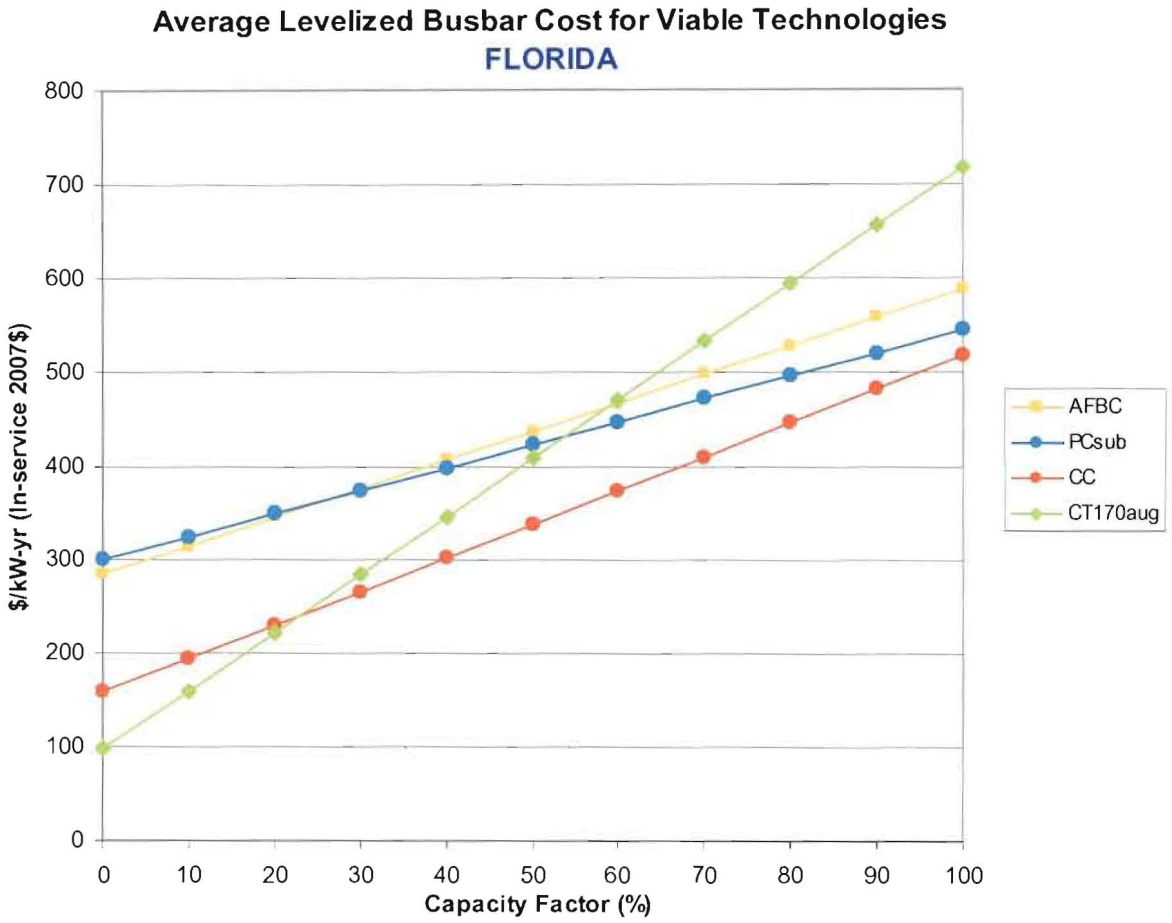
	Net Firm Demand (MW)	Resources Without Hines 4 (MW)	Reserves Without Hines 4 (MW)	Reserve Margin w/o Hines 4 (%)	Reserves With Hines 4 (MW)	Reserve Margin With Hines 4 (%)
2004/05	8,903	10,666	1,763	20%	1,763	20%
2005/06	9,153	11,218	2,065	23%	2,065	23%
2006/07	9,595	11,734	2,139	22%	2,139	22%
2007/08	9,737	11,561	1,824	19%	2,341	24%
2008/09	9,891	11,452	1,561	16%	2,078	21%

Notes:

Average load growth (2004/05 – 2008/09) = 247 MW/Year.

Resources include the addition of Hines 3 in December 2005 and purchased capacity starting in December 2006.

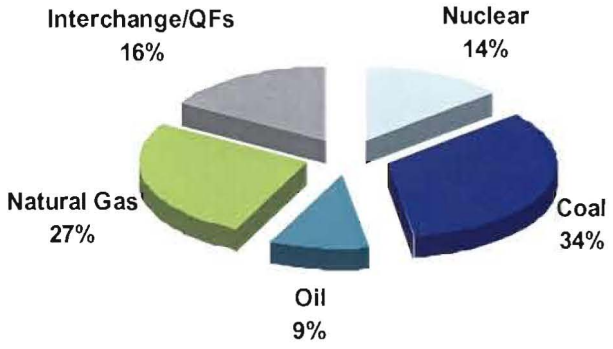
Exhibit ___ (SSW-3)



Based on average of summer and winter.

Exhibit ___ (SSW-4)

Progress Energy Florida 2008 System Energy Mix



Source: Progress Energy Florida Ten-Year Site Plan, April, 2004, Schedule 6.2