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BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Petition for Determination of Need of Hines Unit 3 Power Plant	))))	DOCKET NO. 020953-EI Submitted for filing: September 4, 2002

DIRECT TESTIMONY OF JOHN BENJAMIN CRISP

ON BEHALF OF FLORIDA POWER CORPORATION

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IN RE: PETITION FOR DETERMINATION OF NEED

BY FLORIDA POWER CORPORATION

FPSC DOCKET NO. 020953-EI

DIRECT TESTIMONY OF JOHN BENJAMIN CRISP

I. INTRODUCTION AND BACKGROUND

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

A. My name is John Benjamin Crisp and I am employed by Carolina Power and Light Company (CP&L). My business address is 410 S. Wilmington Street, Raleigh, North Carolina, 27601.

Q. Please tell us your position with the CP&L and describe your duties and responsibilities in that position.

A. I am Director of System Resource Planning for Florida Power Corporation (Florida Power or Company) and CP&L. I am responsible for directing the resource planning process for Florida Power. Our resource planning process is an integrated approach to finding the most cost-effective alternatives to meet the Company's obligation to serve, in terms of long-term price and reliability. We examine both supply-side and demand-side resources available to Florida Power on its system 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

Company's Ten-Year Site Plan (TYSP) documents that are filed with the Florida Public Service Commission (PSC or Commission), in accordance with applicable statutory and regulatory requirements. In my capacity as Director of System Resource Planning, I oversaw the completion of the Company's most recent TYSP document filed in April 2002, and I presented the Company's 2002 TYSP filing to the Commission at the planning workshop scheduled for that purpose in August of this year.

Q. Please summarize your educational background and employment experience.

A. I attended the Georgia Institute of Technology in Atlanta, Georgia. I received a Bachelor of Science degree in Industrial and Systems Engineering in 1979. As part of the requirements for my job at Oglethorpe Power Corporation, I also completed Georgia Tech's International Management Executive Program in 1990.

My power industry employment began with Oglethorpe Power Corporation in 1988, where I was involved in the management of peaking generation, generation planning, operations planning, load forecasting, integrated resource planning, and strategic and business planning. In addition, I developed and implemented strategies for asset leasing and fixed price contract supply. I also implemented an operations resource planning and marketing system for sales of excess generation capacity and energy in order to optimize the utilization of the company's generation assets for the benefit of its customers.

After leaving Oglethorpe Power in 1995, I joined an independent power producer (IPP), Tenaska Inc., as its Manager of Power Services Development. In this position, I was responsible for developing marketing proposals for peaking and combined-cycle facilities that served wholesale requirements and cogeneration functions. In February 1997 I joined Dynegy Marketing and Trade (then known as Electric Clearinghouse) in a start-up position in their Atlanta field office. In this position, I coordinated the development and implementation of power marketing strategies in Southeastern Electric Reliability Council (SERC) and Florida Reliability Coordinating Council (FRCC). I was responsible for market analysis, deal identification and prioritization, capacity and energy pricing, negotiations, portfolio balance, and achievement of revenue and profit objectives. I also assisted Dynegy with field alliance development, power plant and asset acquisition, merchant market evaluation, merchant plant siting, power plant marketing, and strategic asset deployment.

In May 1999, I joined Florida Power as its Director of Integrated Resource Planning and Load Forecasting. When CP&L merged with Florida Power in December 2000, I assumed the position of Director of System Resource Planning.

II. PURPOSE AND SUMMARY OF TESTIMONY.

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

A. I am testifying on behalf of Florida Power in support of its Petition for Determination of Need for Hines Unit 3. My testimony will introduce all of the Company's witnesses in the proceeding. I will provide an overview of the Hines 3 unit that the Company proposes to build. Then I will discuss Florida Power's Resource Planing process and how that led the Company to identify the Hines 3 unit as its next-planned supply-side alternative. I will also explain the Company's need for the Hines 3 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 3 unit. Detailed information concerning the Company's decision to build Hines 3 is contained in the Need Determination Study for Hines 3, provided as Exhibit___ (JBC-1) of my testimony.

Q. Are you sponsoring any sections of Florida Power's Need Study (JBC-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:

JBC-1 Florida Power Corporation Need Determination Study for Hines Unit 3

JBC-2 Forecast of Winter Demand and Reserves With and Without Hines 3

JBC-3 Florida Power System Typical Load Duration Curve (2005-2006)

JBC-4 Levelized Busbar Cost Curves

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:

- Mr. James J. Murphy, who will testify about the site and unit characteristics for the Hines 3 combined-cycle unit, including the size, equipment configuration, fuel type and supply modes; the approximate costs of Hines 3; 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 3, and discuss the environmental approval process associated with the construction and operation of Hines 3;
- Ms. Pamela R. Murphy, who will discuss the Company's oil and natural gas forecast and the fuel supply plan for Hines Unit 3;
- Mr. W. Bart White, who will discuss the transmission requirements for Hines 3; and
- Mr. Daniel J. Roeder, who will describe Florida Power'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, Florida Power 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 3 as its next-planned generating addition, offering economic benefits to ratepayers superior to any other alternative. Our evaluation of these alternatives included an evaluation of generating projects proposed by outside parties in response to Florida Power'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, Florida Power has demonstrated that the Hines 3 unit is the best alternative for maintaining its electric system reliability and integrity, and providing its ratepayers with adequate electricity at a reasonable cost.

III. OVERVIEW OF THE HINES 3 PROJECT

Q. Please provide an overview of the Hines 3 unit.

A. The Hines 3 unit will be a state-of-the-art gas-fired, combined-cycle power unit with an expected winter rating of 582 megawatts (MW). Florida Power will build the unit at its HEC site in Polk County, Florida, with an in-service date of December 2005. The unit will be highly efficient, with a winter full load heat rate of approximately 6,900 Btu/kWh, and will be fueled with natural gas. We currently project the unit to serve as intermediate capacity, although it would be an attractive base load alternative if additional base capacity were needed.

Although the Company has previously obtained Site Certification from the Florida Siting Board for the HEC in order to build the Hines 1 and 2 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 3 generating unit.

The estimated total installed cost for building the unit is $231 million actual dollars and $258 million, including Allowance For Funds Used During Construction (AFUDC). This includes the cost of equipment; the Engineering, Procurement, and Construction (EPC) contractor; licensing; internal costs such as construction management and start-up costs; and plant substation costs.

We believe that the Hines 3 unit will enable the Company to meet the reliability needs of our ratepayers, and that it will provide a superior source of efficient, low-cost power to our ratepayers during its life.

IV. THE COMPANY'S RESOURCE PLANNING PROCESS

Q. Please explain Florida Power'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 the Florida Power 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 Florida PSC in April of every year in the Company's annual TYSP filing. The

TYSP is included as Appendix F to the Need Determination Study, Exhibit ___ (JBC-1).

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

A. Florida Power plans its resources in a manner consistent with utility industry planning practices, utilizing dual reliability criteria: a minimum Reserve Margin planning criterion and a maximum Loss of Load Probability (LOLP) criterion. Florida Power has based its planning on the use of dual reliability criteria since the early 1990s, a practice that has been accepted by the PSC. By using both the Reserve Margin and LOLP planning criteria, Florida Power's overall system is designed to have sufficient capacity for peak load conditions, and the generating units are selected to provide reliable service under all expected load conditions. Florida Power has found that resource additions are typically triggered to meet Reserve Margin thresholds before LOLP becomes a factor. However, Florida Power still considers LOLP a meaningful supplemental reliability measure, and the Company is committed to adding resources when either one of the criteria would not otherwise be met.

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. At any given time during the year, some plants will be out of service and unavailable due to forced outages to repair failed equipment. Generating equipment also requires periodic outages to perform maintenance and refuel nuclear plants. Adequate reserves must be available to provide for this unavailable capacity and 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 Florida Power's Reserve Margin?

A. Florida Power's current minimum Reserve Margin threshold is 15 percent. The PSC approved a joint proposal from the investor-owned utilities in peninsular Florida – Florida Power, 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 only considers the peak load and amount of installed resources, LOLP also takes into account unit failures, unit maintenance, and assistance from other utilities. A standard probabilistic reliability threshold commonly used in the electric utility industry, and the criterion employed by Florida Power, is a maximum of one day in ten years LOLP.

Q. How does the Florida Power 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 Florida Power's System demand and energy forecasts.

A. Between the winters of 2002/03 and 2010/11, winter net firm demand is projected to grow from 8,559 MW to 10,190 MW, which represents approximately a two percent annual growth rate. The net energy for load is projected to grow from 42,220 GWh in 2002 to 50,437 GWh in 2011, which also represents a two 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, Florida Power offers five residential programs, eight commercial and industrial programs, and one research and development program. Florida Power'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.

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

A. Florida Power's plan takes into account its future supply of 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, Florida Power 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 Florida Power'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 PROVIEW, a module of New Energy Associates' proprietary computer model called STRATEGIST. The primary output of PROVIEW is a Cumulative Present Worth Revenue Requirements (CPWRR) comparison of all of the viable resource combinations that will satisfy Florida Power'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. PROVIEW 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 3 IS THE NEXT-PLANNED GENERATING UNIT

Q. Please explain how the Company's Resource Planning efforts identified Hines 3 as the Company's next-planned generating unit.

A. Through the Resource Planning process I have just described, we developed the 2002 TYSP. The plan includes the Hines 2 unit, currently under construction for commercial operation by December 2003, and one combustion turbine (CT) unit, for which equipment and site development plans are being secured to ensure commercial operation by December 2004. To follow these two additions currently being developed, the plan calls for the projected combined cycle expansion of the HEC with Units 3 through 6, which are forecast to be in service by December 2005, 2007, 2009, and 2010, respectively. Between Hines 4 and 5, the plan calls for the addition of another CT in 2008. The new HEC units will be state-of-the-art combined cycle units similar to HEC Unit 1 and HEC Unit 2.

Florida Power's present Determination of Need Petition, its 2002 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 3 was the next-planned generating unit.

Q. Why does Florida Power need additional new generation in December 2005?

A. Florida Power 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. Florida Power needs additional generation in December 2005 to meet its 20 percent minimum Reserve Margin commitment.

Exhibit ___ (JBC-2) shows Florida Power's most recent forecast of winter peak demand and reserves, with and without the Hines 3 capacity addition. For the period from the winter of 2002/03 to the winter of 2006/07, Florida Power projects that the growth in winter peak demand will average approximately 159 MW a year with a projected peak in 2005/06 of 8,966 MW and in 2006/07 of 9,195 MW. The exhibit also shows that Florida Power will have a total generating capability of approximately 10,500 MW by the winter of 2005/06. This capacity includes the installation of Hines 2 in December 2003, as previously approved by this Commission, and the addition of a new CT peaking unit by December 2004. As demonstrated in this exhibit, without the Hines 3 capacity addition, Florida Power's

Reserve Margin will decrease to about 17 percent in 2005/06 and 14 percent by 2006/07.

Q. What impact will the addition of the Hines 3 capacity have upon Florida Power's Reserve Margin and ability to provide reliable service to its customers?

A. As shown in Exhibit ___ (JBC-2), the addition of the Hines 3 capacity will increase Florida Power's Reserve Margin to about 24 percent in 2005/06 and 21 percent in 2006/07. The Hines 3 addition allows Florida Power 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. Florida Power 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, Florida Power 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 3 will increase the Company's share of physical reserves to approximately one half of total reserve capacity (which includes DSM) in the winter of 2005/06, a level of physical reserves sufficient to maintain coverage of an unplanned outage of the fleet's largest unit.

Q. You previously mentioned that Hines Unit 3 would operate as an intermediate load resource. Please describe the role of peaking, intermediate, and base load resources and their contributions to Florida Power's resource requirements.

A. Exhibit ___ (JBC-3) shows a typical load duration curve representative of the 2005-2006 timeframe for the Florida Power system. A load duration curve is a plot of annual hourly firm loads in descending order of magnitude. The plot is based on each hourly load as a percentage of the annual peak. Overlaid on the curve are the amounts of Florida Power's base load, intermediate, and peaking resources during the 2005-2006 timeframe without the Hines 3 addition. A utility's load duration curve is important because it demonstrates the time duration for any particular level of demand (base, intermediate, or peaking). It is this duration of demand, as well as the level, that dictates the type of generating units the utility needs to meet customer demand. As a general rule, peaking resources such as CTs are constructed with the intention of running them only during peak load periods or emergency conditions. Therefore, they generally operate at capacity factors less than 20 percent, that is, less than 20 percent of all hours. Peaking resources have low capital costs but relatively expensive operating costs. Because CTs can be started quickly in response to a sharp increases in customer demand without having to continuously operate the units, they are very effective in providing peaking and reserve capacity. The load duration curve shows that the Company's peaking resources are expected to operate between 10 percent and 20 percent of the time to satisfy peak demand periods.

Base load facilities are designed and intended to operate on a near continuous basis with the exception of outages for required maintenance, repairs, major overhauls, or for refueling in the case of nuclear plants. These plants are traditionally called on to operate in the 60 percent and greater capacity factor range. Base load capacity typically has high capital costs and low operating costs. A combination of nuclear and coal generation including the Company's Crystal River facility, coal-by-wire purchases, and cogeneration contracts priced on the basis of coal units provides Florida Power's base load coverage. This exhibit shows the Company's base load resources are expected to operate greater than about 70 percent of the time in the 2005-2006 timeframe.

Intermediate facilities operate between base load and peaking resources. They are intended to operate more frequently than peaking resources and are subject to daily load variations. Because these facilities may take several hours to start up and bring to full power output, they are best utilized to respond to the more predictable system load patterns. These plants also contribute to overall system reliability. As a rule, they operate with capacity factors in the range of 20 percent to 60 percent. Intermediate generation plants have higher capital costs than peaking units, but lower operating costs than peaking units, making them cost-effective to operate for a longer duration. However, their operating costs are higher than those of baseload resources. For example, the operating cost (fuel + variable O&M) of Hines 3 is expected to be

$24.37/MWh in 2006. This is higher than the most expensive coal unit on the Florida Power system, Crystal River Unit 1, with an expected operating cost of $18.84/MWh in 2006. Thus, in order to minimize the dispatch cost of the Florida Power system, Hines 3 will be dispatched after Crystal River Unit 1, and consequently, run less. Florida Power's existing intermediate facilities are predominately older fossil steam plants.

Q. Why has Florida Power 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. Florida Power has been projecting the need for combined-cycle capacity in its TYSP filings for many years, including its most recent April 2002 filing.

Perhaps this can most easily be explained using a tool known as "levelized busbar screening curves." Exhibit ___ (JBC-4) is a graph of levelized busbar costs for potential new generation resources, including combustion turbine, combined-cycle, coal, and nuclear 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 2001. 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 curve 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 or nuclear unit at any capacity factor, due largely to the higher capital and fixed O&M costs of new coal and nuclear 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 3 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 3 is projected to operate at capacity factors in the range of 50-60 percent 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 3.

Q. Is the State of Florida becoming too dependent on natural gas?

A. From our perspective, no. Current economics overwhelmingly favor natural gas units, as shown in the busbar screening curves. Florida Power 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.

Q. What are the environmental benefits of Hines Unit 3?

A. A combined-cycle facility fueled by natural gas, such as Hines 3, 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 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. FLORIDA POWER'S RFP

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

A. In accordance with Rule 25-22.082, F.A.C., Florida Power issued an RFP on November 26, 2001, soliciting proposals for other generating resources that might prove superior to Hines 3 as a supply-side alternative. We filed a copy of this RFP with the PSC on December 20, 2001 (the RFP is included as Appendix H of Exhibit ___ (JBC-1)).

In our RFP, we explained that we had identified Hines 3 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, 2005 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 proposals from seven bidders. Two of the proposals were eliminated because they did not meet the basic informational requirements of the RFP. Of the five remaining participants, one proposal did not pass the Technical Evaluation. The remaining four proposals were put on the Short List and compared to our self-build alternative, Hines Unit 3. 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 3 to be one of the top two ranked alternatives in all the categories. The detailed economic analysis found Hines Unit 3 to be over $92 million (2002 dollars) less expensive that the least-cost third-party proposal. The least-cost Greenfield Proposal (another combined-cycle plant) was found to be more than $187 million (2002 dollars) more expensive than Hines Unit 3. Finally, we performed sensitivity analyses, in which we gave advantages to the third-party proposals by assuming decreases in their costs or increases in the costs associated with Hines Unit 3. In all cases, Hines 3 was the least cost alternative, demonstrating that the selection of Hines 3 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 3 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 3 as its next-planned generating alternative. We were able to screen out less cost-effective supply side alternatives, identifying Hines 3 as the most cost-effective alternative available to us. Further, through our RFP process, we determined that the Hines 3 unit was also more cost-effective than any of the proposals made to us.

Q. Why do you think Hines Unit 3 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 3. First, Florida Power negotiated combustion turbine equipment terms several years ago, when we negotiated equipment prices for Hines 1. Second, Florida Power is able to take advantage of its prior investment in infrastructure at the HEC. Third, by virtue of owning and operating two other power stations on the same site, Florida Power will need to add a much smaller number of new employees to operate the three units at the HEC than bidders would have to employ to operate a greenfield plant. Finally, Florida Power 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 3 unit consistent with the needs of Peninsular Florida?

A. Yes, the Hines 3 unit will assist Florida Power in meeting its 20 percent planned Reserve Margin and, concomitantly, 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 3 project?

A. If the Hines 3 unit is delayed, Florida Power would not be able to satisfy its minimum 20 percent Reserve Margin planning criterion by the winter of 2005/06 in the most reliable and cost-effective manner. This would expose Florida Power's customers to a risk of interruption of service in the event of unanticipated forced outages or other contingencies for which Florida Power maintains reserves. Even without an interruption in service, without the efficient Hines 3 unit, Florida Power's customers would be subject to higher fuel costs as less efficient units are used to serve their needs. For example, if Hines 3 is delayed one year and no other capacity is added in its place, Florida Power's production costs would increase approximately $25 million due to that one-year delay.

X. CONSERVATION MEASURES

Q. Did Florida Power 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 3 unit.

A. Florida Power needs the Hines 3 unit to maintain its electric system reliability and integrity and to provide its ratepayers 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 Florida Power'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, Florida Power selected the Hines 3 unit as its most cost-effective alternative for meeting its needs. The unit will be a state-of-the-art, fuel efficient, environmentally benign 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 ___ (JBC-1)

Florida Power Corporation Need Determination Study for Hines Unit 3

(Filed Separately)

Exhibit ___ (JBC-2)

Forecast of Winter Demand and Reserves With and Without Hines 3

	Net Firm Demand (MW)	Resources Without Hines 3* (MW)	Reserves without Hines 3* (MW)	Reserve Margin without Hines 3*	Reserves with Hines 3 (MW)	Reserve Margin with Hines 3
2002/03	8,559	9,877	1,318	15%	1,318	15%
2003/04	8,583	10,459	1,876	22%	1,876	22%
2004/05	8,779	10,653	1,874	21%	1,874	21%
2005/06	8,966	10,507	1,541	17%	2,123	24%
2006/07	9,195	10,502	1,306	14%	1,888	21%

* Resources include the addition of Hines 2 in December 2003 and a combustion turbine in December 2004.

Notes: Average load growth (2002/03 – 2006/07) = 159 MW/Year

Exhibit ___ (JBC-3)

Florida Power System

Typical Load Duration Curve (2005-2006)

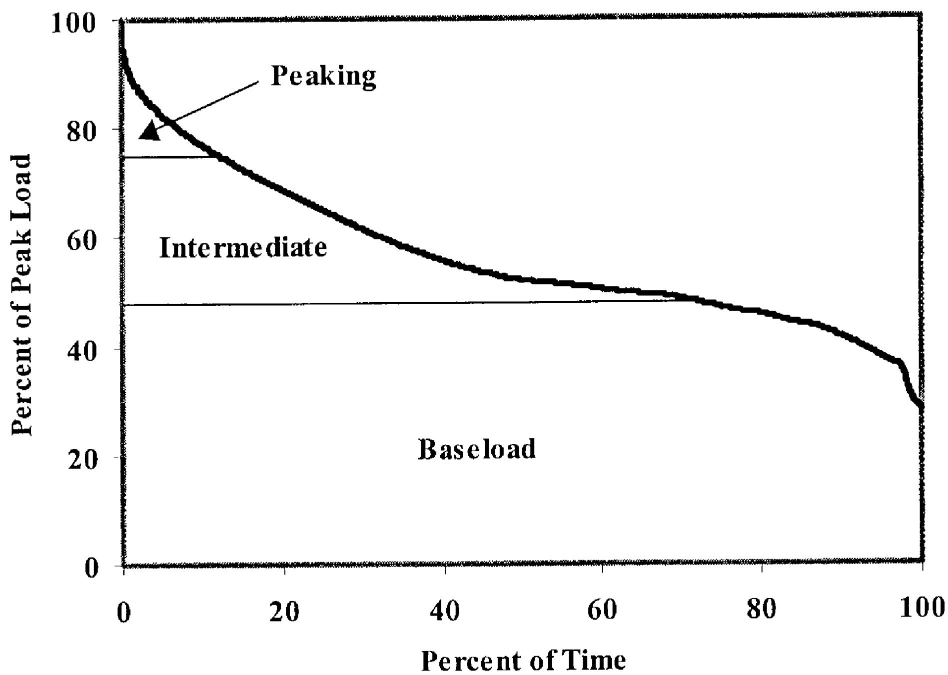

Exhibit ___ (JBC-4)

Levelized Busbar Cost Curves