ORIGINAL

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

DOCKET NO. 070098-EI
FLORIDA POWER & LIGHT COMPANY

IN RE: FLORIDA POWER & LIGHT COMPANY'S PETITION TO DETERMINE NEED FOR FPL GLADES POWER PARK UNITS 1 AND 2 ELECTRICAL POWER PLANT

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DIRECT TESTIMONY & EXHIBIT OF:

RENE SILVA

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

FLORIDA POWER & LIGHT COMPANY

DIRECT TESTIMONY OF RENE SILVA

DOCKET NO. 07____-EI

JANUARY 29, 2007

Q. Please state your name and business address.

A. My name is Rene Silva. My business address is 9250 West Flagler Street, Miami, Florida 33174.

Q. By whom are you employed and what is your position?

A. I am employed by Florida Power & Light Company ("FPL" or the "Company") as Director of Resource Assessment and Planning ("RAP").

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

A. I manage the RAP group, the department that is responsible for developing FPL's integrated resource plan ("IRP") and other related activities, such as developing FPL's demand and energy forecasts, developing system production cost projections for various generation capacity alternatives, analyzing demand side management ("DSM") programs, and administering wholesale power purchase agreements ("PPAs").

Q. Please describe your educational background and business experience.

A. I graduated from the University of Michigan with a Bachelor of Science Degree in Engineering Science in 1974. From 1974 until 1978, I was employed by the Nuclear Energy Division of the General Electric Company in the area of nuclear fuel design. While employed by General Electric, I earned

a Masters Degree in Mechanical Engineering from San Jose State University in 1978.

I joined the Fuel Resources Department of FPL in 1978, as a fuel engineer, responsible for purchasing nuclear fuel. While employed by FPL, I earned a Masters Degree in Business Administration from the University of Miami in 1986. In 1987 I became Manager of Fossil Fuel, responsible for FPL's purchases of fuel oil, natural gas and coal. In 1990 I assumed the position of Director, Fuel Resources Department, and in 1991 became Manager of Fuel Services, responsible for coordinating the development and implementation of FPL's fossil fuel procurement strategy. In 1998 I was named Manager of Business Services in the Power Generation Division ("PGD"). In that capacity I managed the group that is responsible for coordinating (a) the development of PGD's long-term plan for the effective and efficient construction, operation and maintenance of FPL's fossil generating plants, (b) the preparation of PGD annual budgets and tracking of expenditures, and (c) the preparation of reports related to fossil generating plant performance. On May 1, 2002, I was appointed to my current position.

Q. Are you sponsoring an exhibit in this case?

A. Yes. I am sponsoring an exhibit consisting of 5 documents attached to my direct testimony. Those 5 documents are:

- Document No. RS-1, FPL's actual energy mix in 2005;

- Document No. RS-2, FPL's projected energy mix in 2016, with and without the addition of FPL Glades Power Park;
- Document No. RS-3, results of FPL's analyses of the relative cost of maintaining fuel diversity by adding FPL Glades Power Park to its portfolio;
- Document No. RS-4, results of FPL's analyses presented in Document No. RS-3, adjusted to reflect the cost that would be incurred if FPL were to install fuel inventory capability under the Resource Plan without Coal that would be equivalent to that provided under the Resource Plan with Coal.
- Document No. RS-5, effect on system cost as natural prices change.

Q. Are you sponsoring any sections of the Need Study for Electrical Power document included with FPL's Petition for a Determination of Need?

A. Yes. This document is referred to throughout FPL's filing as the "Need Study." I sponsor Sections I and IX and co-sponsor Sections II, IV, V and VIII of the Need Study.

PURPOSE AND ORGANIZATION

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

A. The purpose of my testimony is to (1) support FPL's request that the Florida Public Service Commission ("Commission") grant an affirmative determination of need for the addition of the proposed FPL Glades Power Park ("FGPP") Units 1 and 2, authorizing FPL to build these two ultra-

supercritical pulverized coal-fired ("advanced technology coal" or "USCPC") generating units, including the associated transmission interconnection and integration facilities, and place them in service as early as possible, but nominally by June 2013 and June 2014, respectively, based on a finding by the Commission that adding the proposed FGPP to FPL's portfolio is the best alternative available for FPL to continue to provide reliable electric service by maintaining a balanced, fuel-diverse generation portfolio beginning by 2013 and maintaining an adequate reserve margin to meet its customers' projected electricity demand by 2013 and through 2014; (2) describe to the Commission those key areas of uncertainty related to the addition of the proposed FGPP that could significantly change the in-service date or prevent completion of these units, and/or increase their cost; and (3) consistent with recognition by the Commission of the risks associated with such uncertainty, support FPL's petition that the Commission include in its need order statements that express the Commission's concurrence that the decision to add FGPP is deemed prudent and that FPL shall be able to recover all prudently incurred costs related to FGPP, and that the Commission institute an annual review process for the project.

Q. Please summarize how this request for a determination of need differs from the most recent requests for determinations of need filed by FPL and granted by the Commission?

A. FPL's recommendation that the Commission grant a determination of need for FGPP, including associated facilities, and approve the related cost recovery

mechanisms is, consistent with FPL's recommendation in previous requests for determinations of need, predicated on FPL's conclusion that the addition of FGPP is the best alternative to meet the needs of FPL's customers by 2013 and through 2014. However, there are several key differences relative to the requests for determination of need submitted in connection with Manatee Unit 3 and the conversion of Martin Unit 8, Turkey Point Unit 5, and West County Energy Center Units 1 and 2: specifically, (a) an overarching objective to maintain fuel diversity on FPL's system, (b) the very large projected capital costs ($5,700 million) associated with the FGPP project, and (c) the significant uncertainties associated with construction and other costs, as well as the longer project timetable. These factors are described generally in my testimony, and discussed in greater detail by several witnesses on behalf of FPL.

Q. How are you suggesting the Commission approach this proceeding and FPL's request given the differences to which you have referred?

A. While the Commission should consider all the factors set forth in the Florida Power Plant Siting Act ("PPSA"), particular emphasis and weight should be placed on the fact that with the addition of FGPP, FPL's customers will benefit from a more balanced exposure to future natural gas price spikes and interruptions in the production or delivery of natural gas to FPL. This consequence of adding FGPP relates to the benefit of maintaining fuel diversity, an important addition to the statutory standard of review added to the PPSA in the most recent legislative session. This factor is particularly

important because of the number of significant variables involved in assessing the actual economics of FGPP such that there is no one cost outcome that can be projected with any reasonable degree of certainty.

I would emphasize that given the range of potential outcomes FPL is not recommending approval of FGPP based on any specific, projected set of assumptions or comparative economic results against other forms of generation. Instead, FPL is requesting approval of FGPP to meet the need for capacity by 2013 and through 2014 because it is better to meet this need with FGPP, which provides low fuel prices and a significant hedge against the possibility of increases in natural gas prices and gas supply interruptions than to commit to a future in which electricity reliability and prices are determined largely by whatever happens to natural gas. FGPP provides a much needed dimension to FPL's generation portfolio, compared to the addition of another gas unit. It is on that basis that the Commission likewise should approve FPL's request.

Q. What are these variables that affect the relative economics of FGPP compared to gas-fueled generation?

A. The primary variables are the future fuel cost differential between natural gas and coal, and the different cost impact that future environmental requirements will have on these generation technologies. In comparing the potential relative cost differences between a coal-fired plant and a natural gas-fired plant, one must consider potential price movements in both natural gas and

coal. In contrast, in the past, where Commission determinations of need were based on comparing natural gas-fired units against one another, the movement in natural gas prices had a very small effect on the decision. Similarly, future environmental compliance costs will affect coal-fired plants differently compared to natural gas-fired plants. The effect on FGPP of these and other variables is discussed in greater detail in Section 6 of my testimony.

Q. How is your testimony organized?

A. My testimony consists of 9 sections. Section 1 introduces FPL's witnesses and FPL's Need Study and Appendices. Section 2 outlines FPL's request for an affirmative determination of need and adoption of an explicit cost-recovery mechanism. Section 3 discusses the value of fuel diversity to FPL's customers. Section 4 outlines FPL's evaluation of technology alternatives that FPL considered to maintain a balanced fuel-diverse generation portfolio and explains why the selection of the USCPC technology proposed for FGPP is the best alternative. Section 5 presents the results of a comparison between the addition of FGPP and, alternatively, the addition of gas-fired combined cycle units beginning in 2012. Section 6 discusses key areas of uncertainty that could delay the completion or otherwise affect FPL's ability to complete the proposed FGPP, or degrade the cost-effectiveness of these additions. Section 7 summarizes the findings upon which FPL proposes that a determination of need for FGPP be based. Section 8 presents FPL's request for ratemaking treatment and proposal for annual review. Section 9 presents

the significant adverse consequences FPL and its customers would face if FPL's petition is not granted.

SECTION 1. F PL's WITNESSES AND NEED STUDY DOCUMENT

Q. How many witnesses are supporting FPL's petition through direct pre-filed testimony?

A. Fourteen witnesses are submitting direct testimony. In addition to the various exhibits included with the testimony of these witnesses, many of FPL's witnesses sponsor or co-sponsor a portion of FPL's Need Study and Appendices.

Q. Please summarize the topics addressed in the testimony of each of these witnesses.

A. As President of FPL, Mr. Armando Olivera presents an overview of the need for FGPP and some of the many reasons in support of FPL's request in this proceeding.

Dr. Leonardo Green presents FPL's load forecasting process, discusses the methodologies and assumptions used in that process, and presents the resulting load forecast. This load forecast was used in FPL's integrated resource planning process, in the analysis used to forecast FPL's fuel mix and resource needs in the future, and in the economic analysis of the various alternatives identified to meet FPL's fuel diversity and reserve margin needs.

Mr. Dennis Brandt presents FPL's Demand Side Management ("DSM") goals and achievements and FPL's DSM plan. In addition, Mr. Brandt discusses FPL's ongoing DSM-related activities.

Dr. Steven Sim describes FPL's integrated resource planning process, identifies FPL's additional resource needs, describes the results of FPL's evaluation of alternatives available to preserve fuel diversity and meet that resource need, explains in detail the process FPL followed to perform an evaluation of FGPP compared to an all-natural gas resource plan, and presents the results of that evaluation. In addition, Dr. Sim testifies that there is not sufficient DSM potential to avoid or defer the addition of the proposed FGPP. Dr. Sim's testimony demonstrates that the addition of FGPP 1 and 2 by 2013 and 2014, respectively, is the best alternative to preserve fuel diversity while meeting FPL's resource needs through 2014. In addition, Dr. Sim's testimony discusses the effects of delaying or not granting a determination of need for the addition of FGPP.

Mr. William Yeager describes the projected cost of equipment and construction for FGPP, discusses the sources of uncertainty in those costs, describes the "indexed" cost mechanism proposed by FPL as the basis for the approved capital cost of FGPP to be reflected in the determination of need and explains why it is appropriate for the Commission to apply the "indexed" cost method in this determination of need. He also describes the highly

competitive nature of the current market environment for the manufacturing of power generation equipment, and engineering, procurement and construction ("EPC") services for power plants, the limitations that market environment imposes on any buyer of related equipment and services, and the resulting schedule uncertainties. Mr. Yeager describes FPL's vendor selection process and the contracting strategy adopted by FPL and explains why FPL's approach is appropriate in the current market environment.

Mr. William Damon of Cummins & Barnard, Inc. describes the scope of his independent evaluation of the process FPL utilized to select equipment and construction services vendors and FPL's contract strategy, as well as the projected cost of FGPP, and presents the results of his evaluation. He concludes that FPL's approach is appropriate and likely to result in market-competitive costs for FGPP. He also testifies that FPL's cost estimates for FGPP are reasonable and consistent with current market conditions.

Mr. Ken Kosky of Golder Associates, Inc. describes the scope of his independent review of environmental issues for FGPP, and presents the results of his review. He testifies that FPL's design for FGPP, based on advanced technology coal, meets and in many cases exceeds environmental requirements, and that the technology choice and design of FGPP makes it the best alternative available, from an environmental perspective, to preserve fuel diversity in FPL's system by 2013 and through 2014. Mr. Kosky also testifies

that the environmental compliance cost scenarios evaluated by FPL as part of its economic analysis of FGPP effectively address the appropriate range of uncertainty regarding those potential future costs. FPL understands that other federal and state agencies have jurisdiction with respect to environmental compliance requirements. However, FPL has included information related to environmental requirements in this filing in order to provide the Commission with a general understanding of the environmental requirements associated with the addition of FGPP and to inform the Commission regarding the costs of compliance with such requirements.

Mr. David Hicks provides an overview of the process FPL used to select ultra-supercritical pulverized coal technology for FGPP and explains why this is the best technology available to maintain fuel diversity in FPL's system beginning by 2013 and meet FPL's capacity needs by 2013 and through 2014. Mr. Hicks also describes the site selection process. In addition, Mr. Hicks presents the physical and operating characteristics of the proposed FGPP.

Mr. Steve Jenkins of URS Corporation describes the results of his independent review of the technology choices available to FPL to preserve fuel diversity beginning by 2013. He testifies that, in his view, advanced technology coal at FGPP is the best alternative available to FPL to preserve fuel diversity in this time frame and maintain system reliability. In addition, he explains why Integrated Gasification combined Cycle ("IGCC") generation technology

would not be the right choice to meet FPL's fuel diversity and reliability objectives by 2013 and through 2014.

Mr. Hector Sanchez describes the load flow studies and other transmission assessments and calculations performed under his supervision to determine (1) transmission interconnection and integration requirements related to the addition of FGPP, and (2) system losses associated with the addition of FGPP. His testimony presents the results of those studies, assessments and calculations.

Mr. Jose Coto discusses the physical characteristics, schedule, permitting requirements and estimated costs associated with the transmission facilities required for FGPP (or gas-fueled alternatives), based on the requirements presented in the testimony of Mr. Sanchez.

Mr. Gerard Yupp discusses the benefits of fuel diversity in FPL's system resulting from the addition of FGPP. He explains the basis for the various fuel oil and natural gas price forecasts used in FPL's economic analyses and discusses why the uncertainty inherent in gas price forecasts requires the use of scenario analysis. He testifies that the fuel price forecast scenarios FPL used in its economic evaluation of FGPP effectively address the range of uncertainty regarding the future cost differential between coal and natural gas. For purposes of comparison, Mr. Yupp also discusses how FPL could

effectively obtain the same system reliability benefit afforded by the fuel inventory capability planned for FGPP, if instead of FGPP, FPL were to add gas-fueled combined cycle generation in this time frame, and presents the estimated cost of replicating the reliability benefit provided by FGPP.

Mr. Seth Schwartz of Energy Ventures Analysis, Inc. describes the scope of his independent evaluation of fuel supply and transportation issues related to FGPP. Mr. Schwartz also testifies that coal and petroleum coke supplies will be readily available in the future and that coal prices will remain lower and more stable than those of natural gas. Mr. Schwartz also explains FPL's transportation plan to deliver coal and petroleum coke to FGPP.

SECTION 2 – FPL's REQUEST FOR DETERMINATION OF NEED AND DETERMINATION OF PRUDENCE

Q. What relief does FPL seek in this proceeding?

A. FPL seeks from the Commission an affirmative determination of need for the addition to its generation portfolio of FGPP, two advanced technology coal generating units, each with a summer capacity rating of approximately 980 MW, currently projected to be placed in commercial operation nominally by June 1, 2013 and June 1, 2014, respectively, or earlier. The units' fuels will be coal and petroleum coke. FPL requests that the Commission's need

determination include within its scope the associated electric transmission facilities described in its petition and testimony.

FPL also requests that, in connection with granting a determination of need for FGPP, the Commission specifically find that the decision to build the project is prudent and that the proposed costs, including additional costs that are imposed pursuant to subsequent environmental legislation or regulatory requirements, likewise are prudent. We are requesting an annual prudence review of actual costs incurred, and a review of projected costs and of the continued feasibility of the project. In addition, we are also requesting that the Commission approve a mechanism for the recovery of costs incurred should the project not be completed due to a subsequent Commission determination or if it is otherwise precluded from being completed.

FPL's request for an affirmative determination of need is the culmination of extensive efforts to identify the best alternative available for FPL to continue to provide reliable electric service by preserving fuel diversity while meeting our customers' growing demand for electricity.

Q. When does FPL intend to bring FGPP 1 and 2 into service?

A. In order to achieve the reliability and fuel benefits associated with FGPP for our customers, FPL intends to bring the units into service earlier than the nominal is-service dates. FPL believes that the earliest possible date that it can place the first FGPP unit into service is during the second half of 2012,

and the second unit during the second half of 2013, assuming that no significant permitting, construction or other delays occur.

Q. Have FPL's expected in-service dates for the project changed from its earlier expectation?

A. Yes. As Mr. Yeager notes in his testimony, although FPL will continue to pursue the previously projected in-service dates for FGPP, it has become increasingly clear that, due to market conditions related to demand for power generation equipment and engineering, procurement and construction ("EPC") services, as well as other uncertainties associated with the permitting and construction schedule, it is more likely that the in-service date of FGPP 1 will occur in the second half of 2012 or early in 2013, and that of FGPP 2 will occur in the second half of 2013 or early in 2014, instead of the previously projected in-service dates of June 2012 and June 2013, respectively.

Q. What in-service dates has FPL used in the economic analysis performed in support of this filing?

A. For economic analysis purposes it was necessary to select a specific in-service date for each FGPP unit. FPL conservatively chose June 1, 2013 and June 1, 2014 for FGPP 1 and 2, respectively. Similarly, my testimony generally refers to the addition of FGPP occurring in 2013 and 2014. However, while we utilize this conservative assumption in the economic analysis and for purposes of referring to project dates in testimony, FPL will remain focused on enabling an overall project schedule that allows for earlier in-service dates

if reasonably possible. Our permitting efforts will continue to be pursued as expeditiously as possible.

Similarly, as is reflected in the testimonies of Mr. Sanchez and Mr. Coto, the addition of transmission facilities required by FGPP 1 remains scheduled for completion in 2012 in order to ensure that those facilities will be available to deliver electricity from FGPP as soon as the first generating unit is completed.

Q. Why is the addition of FGPP needed?

A. The addition of FGPP is needed by FPL to maintain system reliability for its customers. Specifically, this addition is needed to preserve a balanced, fuel diverse generation portfolio, as well as to maintain an adequate level of generation reserve margin by 2013 and through 2014.

Q. What is FPL's current fuel mix and what is it projected to be in the future?

A. In 2005 FPL's fuel mix consisted of natural gas (42%), nuclear generation (19%), coal (18%), fuel oil (17%), and other sources (about 4%). This fuel mix is presented in Document No. RS-1. If only natural gas-fueled generation were to be added to FPL's system in the future, the contribution of natural gas would increase to about 71% of total electricity delivered to FPL's customers by 2016, while that of coal would decrease to a mere 7%.

This is because by 2016 the quantity of firm power FPL will purchase from coal-fueled plants under existing contracts will decrease by 1,312 MW, as a

result of the terms of those contracts. Thus, the net effect of adding 1,960 MW of advanced technology coal generation at FGPP by 2013 and 2014, less the anticipated reduction in power delivered under expiring existing power purchase contracts served by coal generation between now and 2016, will be a net increase of only 648 MW of coal-fueled generation to FPL's system by 2016 when compared to the current level.

Moreover, aside from FPL's planned addition of FGPP, between 2007 and 2016 FPL will need about 4,482 MW of net additional generation capacity to continue to meet its reliability criteria. About half of this net 4,482 MW requirement will be met by new gas-fired generation that has already been granted determinations of need by the Commission and will be in operation by 2010.

The technology for the additional net generation that will be needed in 2015 and 2016 (after the addition of FGPP) has not been selected, but if gas-fueled generation were selected to meet those needs, then the 648 MW net increase in system coal generation achieved by the addition of FGPP would represent only 13% of the 4,482 MW total net increase in generation capacity needed between 2007 and 2016. Thus, it is clear that the addition of FGPP is critically needed to maintain fuel diversity in FPL's system.

With the proposed addition of FGPP, the share of electricity produced by natural gas would be about 60% in 2016, while that of coal would be 18%. These fuel mix projections, both with and without the addition of FGPP, are shown in Document No. RS-2. This Document shows that the addition of FGPP is needed to prevent a dramatic reduction in the contribution of coal-fueled generation to FPL's system.

Q. Will the addition of FGPP reduce FPL's reliance on natural gas as a fuel source for electric generation?

A. Yes. The electricity that will be produced from coal and petroleum coke at FGPP will primarily displace natural gas that otherwise would be burned if FPL's generation capacity need beginning in 2012 were to be satisfied by adding natural gas-fired generation. For example, over the first twenty full years of operation of both FGPP units, FPL will reduce the use of natural gas by about 2 billion MMBtu compared to the amount of natural gas it would use without FGPP. This decrease in natural gas use, which is a measure of the reduction in FPL's reliance on natural gas achieved by FGPP is equivalent to the total quantity of natural gas FPL used during the last six years.

Q. Is the addition of FGPP also needed to maintain an adequate level of reserve margin through 2014?

A. Yes. As Dr. Sim's testimony explains, FPL will need to add at least 1,644 MW of additional generation capacity (above the additions that have already been granted a determination of need by the Commission) by the summer of 2014 in order to continue to meet its 20% reserve margin reliability criterion.

The proposed addition of FGPP's two 980 MW advanced technology coal units is required to meet this capacity need through 2014. Without the addition of FGPP 1 and 2, FPL's reserve margin would be 14.8% in 2013 and 13.0% in 2014. Furthermore, if FGPP is not added, FPL's capacity need would exceed 2,280 MW by 2015, and continue to grow thereafter. Therefore, the addition of FGPP is a critical part of FPL's need to maintain system reliability.

Q. Has FPL considered how DSM could help avoid the need for generation capacity?

A. Yes. As Dr. Sim explains, FPL's generation capacity need projections already reflect all of the cost-effective DSM currently known to FPL, including not only FPL's current DSM Goals, but also significant amounts of additional DSM that FPL has identified since the DSM Goals were approved. It is important to note that, as presented by Dr. Sim and Mr. Brandt, through 2005 FPL's DSM programs have enabled FPL to avoid the need for more than 4,200 MW of generation capacity, equivalent to about 20% of the 2006 peak load. By 2015 FPL currently projects that DSM will have avoided an additional 1,639 MW, for a total capacity avoidance of more than 5,800 MW. This avoided capacity is almost three times the size of FGPP.

Q. Will the addition of FGPP also provide benefits regarding fuel cost and fuel cost stability?

A. Yes. FGPP will employ a clean, highly efficient, ultra-supercritical generation technology that will use pulverized coal and petroleum coke as

fuel. In addition, because the heat rate of FGPP will be lower than FPL's system average heat rate, the addition of FGPP will help improve the fuel-efficiency of FPL's system. This improvement in system efficiency, combined with the utilization of lower cost fuels such as coal and petroleum coke will result in substantially lower fuel costs than if only gas generation is added to FPL's system. Further, because the future prices of coal and petroleum coke are projected to remain more stable than those of natural gas, the addition of FGPP will help reduce the volatility in the overall system cost of fuel.

Q. Is the addition of FGPP the best alternative to be added by 2013 and 2014 to maintain system reliability?

A. Yes. The addition of FGPP is the best option available to continue to achieve system reliability by helping FPL preserve fuel diversity, as well as maintain an adequate level of generation capacity reserve margin by 2013 and through 2014. The addition of FGPP was selected to meet FPL's needs by 2013 and through 2014 because it was determined to be the best, most cost effective alternative among the four possible solid fuel technology alternatives FPL evaluated, which were assessed according to whether they could materially help maintain fuel diversity in FPL's system and meet FPL's capacity need by 2013.

Q. What solid fuel technology alternatives did FPL evaluate?

A. FPL evaluated four solid fuel technologies to determine whether they could reliably contribute to the fuel diversity and generation capacity needs of FPL's

system in this time period, and to select the best among those technologies that could provide such benefits. The four technologies were: sub-critical pulverized coal ("PC"), circulating fluidized bed ("CFB"), IGCC, and ultra-supercritical pulverized coal ("USCPC") technology. The direct testimonies of Mr. Hicks and Mr. Yeager describe these four technologies.

Q. What were the results of FPL's evaluation?

A. As described in Mr. Hicks' and Dr. Sim's direct testimonies, the results of FPL's evaluation clearly established that USCPC is the best alternative. Specifically, FPL concluded that USCPC is the most cost-effective of the four, has reliability that has been established to be as good as, or better than, the other three options, is the most fuel-efficient, and can be readily constructed in the large size required by FPL's rapidly increasing demand.

Conversely, as explained by Mr. Hicks and Mr. Jenkins, the performance of IGCC technology has not been proven to be as reliable as that of the other alternatives, and the effectiveness of recently proposed design changes aimed at improving IGCC performance will not be determined until after 2013. Mr. Hicks and Mr. Jenkins also testify that no IGCC units of a scale comparable to FGPP have ever been built, and none is currently planned. In addition, as Mr. Hicks and Dr. Sim state, IGCC is more costly than USCPC. Furthermore, as Mr. Hicks explains, IGCC does not currently provide environmental advantages over advanced technology coal. Based on these factors, FPL has concluded that advanced technology coal at FGPP is by far the best choice to

maintain fuel diversity and meet FPL's generation capacity need by 2013 and through 2014.

It is clear that without the addition of FGPP 1 and 2 by 2013 and 2014, FPL's customers would be served by a far less fuel-diverse, less reliable system with greater fuel cost volatility. FGPP is needed to provide adequate electricity at a reasonable cost to FPL's customers.

Q. Do renewable generation resources contribute to fuel diversity?

A. Yes. In 2005 FPL purchased about 1.5 million MWH of electricity from nine suppliers that own and operate renewable generation resources.

Q. How does renewable generation in Florida compare to that in other states?

A. According to the Energy Information Administration data published in June, 2006, after adjusting for hydroelectric and geothermal sources (Florida, has very little hydroelectric and no geothermal potential), Florida ranks second only to California in terms of production of electricity from renewable resources.

Q. What does FPL propose to do to promote the cost-effective use of renewable resources to generate electricity in Florida?

A. FPL continues to encourage existing and potential renewable generators by facilitating dialogue with these entities and offering for negotiation contract terms that enable developers of renewable resources to choose, from a diverse portfolio of avoided units, the payment profile that is most suitable for their

projects. In addition, FPL will file new standard offer contracts for renewable generation consistent with the Commission new rule on renewable energy.

FPL is also involved in developing wind generation in Florida and supporting research regarding the potential for power generation using ocean currents off Florida's East Coast.

SECTION 3 – VALUE OF FUEL DIVERSITY PROVIDED BY THE ADDITION OF FGPP

Q. What are the benefits of maintaining fuel diversity in FPL's system?

A. The primary benefits of fuel diversity are greater system reliability and reduced fuel price volatility. An electric system that relies on a single fuel and a single technology to generate all the electricity needed to meet its customers' demand, all else equal, is less reliable than a system that uses a more balanced, fuel-diverse generation portfolio. In addition, greater fuel diversity mitigates the impact of wide or sudden swings in the price of one fuel, a phenomenon that has characterized the natural gas market over the last several years.

Q. Please explain how fuel diversity enhances system reliability.

A. An electric system that relies exclusively on one fuel is more susceptible to events that cause delays or interruptions in the supply of that fuel because

there would not be any generation facilities that could use other fuels to make up for reductions in the constrained fuel.

Conversely, because a fuel-diverse system with adequate generation reserve margin is capable of producing electricity using a number of different fuels and has sufficient redundancy in generation capacity, it can offset the reduced availability of one constrained fuel by generating sufficient electricity using other fuels.

Q. Does diversity in fuel transportation and delivery methods and routes also improve system reliability?

A. Yes. The ability of a generating system that relies on only one fuel transportation and delivery method and route to serve its customers can be severely impaired by delays or interruptions in the transportation and delivery of that single fuel to the generating plants. As explained by Mr. Schwartz, diversity in transportation and delivery methods and routes enables a utility to mitigate the effects of such interruptions and delays by fully utilizing other transportation channels that remain unaffected until transportation problems are resolved.

Because different fuels usually originate from different geographical areas and are transported and delivered via different methods and routes, having a fuel diverse generation system helps mitigate the effect of problems related to transportation and delivery, as well as production.

Q. Does diversity, not just in fuel type, but in generation technology also improve reliability?

A. Yes. Occasionally, equipment design or manufacturing problems manifest themselves in the form of systematic failure of the same part in a number of generating plants that utilize the same part design, or those plants that use parts produced in the same production batch. Having diversity in generation technology is also important because if a generic equipment problem occurs, it would affect a smaller portion of a utility's generation portfolio, making it easier for the utility to mitigate the effect of that problem without adversely affecting service to its customers. Because generating units that use different fuels usually also use different technologies, a fuel diverse system also helps mitigate the effect of equipment problems that affect one specific type of generation technology, such as for example, gas turbines.

Q. Which of the reliability benefits attributed to fuel diversity that you have discussed are applicable to the proposed addition of FGPP?

A. All of the benefits I have described above are applicable to the addition of FGPP. Adding 1,960 MW of advanced technology coal generation to FPL's system will reduce reliance on natural gas and will enable FPL to more effectively offset decreases in natural gas supply because factors that could affect gas production and transportation would not affect coal. For example, the coal to be used in FGPP will largely be produced in Central Appalachia, South America, and other coal sourcing areas of the world that are well removed from the Gulf of Mexico, where most of the natural gas delivered to

FPL is currently produced. In addition, coal will be transported via ship and rail, instead of pipeline, so most events that would affect gas transportation are unlikely to affect coal transportation. Also, the technology to be used in FGPP will be different from that used in most of FPL's gas-fueled units, so technical problems that may affect the gas units are less likely to affect FGPP.

Q. Does FGPP provide additional reliability benefits?

A. Yes. Because, unlike natural gas, coal and petroleum coke can be economically stored in significant quantities at the plant site, the addition of FGPP will enable FPL to maintain up to a 60-day inventory of coal and petroleum coke to mitigate the effect of solid fuel transportation delays or interruptions. As explained by Mr. Yupp, if FPL were to add the capability to maintain a similar (60-day supply for 1,960 MW of generation) inventory of natural gas in the form of liquefied natural gas ("LNG") at the plant site, the cost to build, operate and maintain this LNG storage facility, including working capital, would be in excess of $1.4 billion (CPVRR). Similarly, if instead of natural gas inventory capability FPL were to add comparably sized fuel oil inventory capability, the cost to build, operate and maintain this fuel oil storage facility, including working capital, would be about $1.5 billion (CPVRR). These costs are not reflected in the economic analysis results presented in Document No. RS-3; however, they are reflected in the adjusted results presented in Document No. RS-4.

In addition, as discussed by Mr. Schwartz in his testimony, because the reserves of coal in the U.S. are so large, fuel supply that meets the specifications required by FGPP, from secure, domestic sources, is assured for the entire operating life of the plant.

Q. Does fuel diversity offer value other than increased reliability?

A. Yes. This point is discussed by Mr. Yupp and Mr. Schwartz in their testimonies. Fuel diversity helps mitigate the effects of price volatility in one or two fuels on the price of electricity. For example, if a utility relies solely on natural gas to produce all the electricity needed by its customers, any increase or decrease in the market price of natural gas would translate into a direct and comparable increase or decrease in the cost of electricity. Because natural gas prices are projected to be volatile in the future, electricity customers would be subject to significant volatility in the future cost of electricity. Recent history has demonstrated just how volatile natural gas prices can be. Because the prices of coal and nuclear fuel are relatively stable, and because changes in these fuels are not directly linked to changes in the prices of natural gas and fuel oil, having a fuel diverse portfolio that includes significant contributions from coal (as would be the case with the addition of FGPP) and nuclear fuel helps dampen the effect of volatility in natural gas prices. In addition, as explained by Mr. Schwartz, FPL's plan to maintain access to both domestic and foreign supplies of coal will provide additional fuel diversity benefits. For these reasons, as Mr. Yupp and Mr. Schwartz

conclude, the addition of FGPP will help dampen the volatility in system fuel costs and make the cost of electricity more stable and predictable.

SECTION 4 – EVALUATION OF TECHNOLOGY ALTERNATIVES

Q. What technologies that do not utilize natural gas did FPL evaluate, and what were the results of those evaluations?

A. FPL evaluated PC technology, CFB technology, IGCC technology, and USCPC technology. The testimonies of Mr. Hicks and Mr. Yeager describe these four technologies.

FPL conducted three separate evaluations of these four technologies. The first evaluation was completed in early 2005. As explained in Mr. Hicks' testimony, the results of that evaluation indicated that USCPC would provide the greatest benefit to FPL's customers of the four technologies considered.

The second evaluation consisted of a technical and economic analysis performed by Black and Veatch jointly with FPL. The testimony of Mr. Hicks explains that the analysis confirms that advanced technology coal is the best alternative to maintain fuel diversity in FPL's system beginning by 2013.

The third evaluation was an economic analysis performed by FPL in December, 2006 after the cost estimates and operating characteristics of FGPP

were fully developed. As explained in Dr. Sim's testimony, the results of this analysis show that the USCPC selected for FGPP is less costly than the other three coal-fueled technologies.

Q. What has FPL concluded from these evaluations regarding these technology alternatives?

A. Based on the results of these evaluations of technology alternatives, FPL has concluded that advanced technology coal at FGPP is by far the best choice to preserve fuel diversity and meet FPL's generation capacity needs by 2013 and through 2014. Mr. Jenkins has independently reached the same conclusion.

Among other statements regarding IGCC, Mr. Jenkins makes the point that IGCC units that will incorporate design enhancements intended to improve the availability of IGCC technology to a level comparable to that of the USCPC technology selected for FGPP will not be placed into service until the 2011-2013 timeframe, so that it will be six to eight years from now (allowing for start-up and initial operation) before we see whether IGCC reliability can be improved to levels greater than 85%. This means that if a utility chooses to wait until the higher level of availability for IGCC is proven, by 2013 at the earliest, before it initiates its process to add to IGCC technology, it could not place an IGCC unit in commercial operation until after 2017.

SECTION 5 – COMPARISON OF FPL'S RESOURCE PLAN WITH COAL (FGPP) TO A RESOURCE PLAN WITHOUT COAL

Q. Did FPL perform an economic analysis to estimate the difference between the cost to customers that would result from adding FGPP by 2013 and 2014, versus that resulting from adding natural gas-fueled generation starting in 2012?

A. Yes. FP L calculated the estimated cost, in cumulative net present value revenue requirements ("CPVRR"), associated with a resource plan that includes the addition of FGPP, the Fuel Diversity Resource Plan with Coal, and compared that cost to a resource plan that included no coal-fueled generation capacity additions, the Resource Plan without Coal. In this analysis FPL considered sixteen different scenarios that utilized four different fuel price forecasts and four different environmental compliance cost projections. Dr. Sim explains this comparative economic analysis in his testimony.

Q. Why did FPL see the need to conduct the cost comparison under different scenarios?

A. Because the relative cost of the Plan with Coal compared to that of the Plan without Coal is primarily determined by the future cost differential between coal and natural gas and the difference in the cost of complying with future environmental requirements, both of which are highly uncertain. FPL performed the scenario analysis in order to identify under what circumstances

implementing the Fuel Diverse Resource Plan with Coal could be more or less economic than an Resource Plan without Coal.

Q. Why has a similar scenario analysis not been included in prior need determination filings?

A. Because it was not necessary. Previous need determination filings reported the results of comparative cost analyses between alternative resource plans constructed from FPL proposed additions and proposals submitted in response to FPL's requests for proposals that included only natural gas generation additions. In these analyses the differentials between the various alternative resource plans were not significantly affected by changes in future fuel costs or in future environmental compliance costs because all plans would be affected equally.

Q. Why did FPL elect to perform the economic analysis using four different fuel price forecasts?

A. Because, as explained by Mr. Yupp, there is significant uncertainty regarding the future cost of natural gas, and because the differential between the future cost of coal and petroleum coke, which would be used in FGPP, and that of natural gas is a key variable in determining the relative cost of adding coal generation compared to adding only natural gas-fueled generation. As Mr. Yupp states in his testimony, FPL utilized four different forecasts of the future price differential between coal and natural gas to ensure that the economic analysis considered a wide range of reasonable future fuel price outcomes.

Q. Why did FPL elect to perform the economic analysis using four different environmental compliance cost projections?

A. Because, as explained by Mr. Kosky, there is significant uncertainty regarding the environmental regulations that may be enacted and applied to generating facilities in the future, and the compliance costs that those regulations could impose on FGPP, compared to a natural gas-fueled plant.

Q. What were the results of FPL's comparative economic analysis?

A. In 7 scenarios that generally reflect a wider fuel price differential between natural gas and coal and/or moderate environmental compliance costs, the Plan with Coal, which reflects the addition of FGPP results in lower costs (CPVRR) than would the plan without Coal. Conversely, in the 9 scenarios that generally reflect a narrower fuel price differential between natural gas and coal and/or higher environmental compliance costs, the Plan with Coal results in higher costs than the Plan without Coal. These results are presented in Document No. RS-3.

Q. In your view, are all sixteen scenarios equally likely?

A. No. As Mr. Yupp explains, if future environmental regulations were to impose a greater compliance cost on coal-fueled generating plants than on gas-fueled plants, the amount of gas-fueled generation would likely increase to avoid the higher compliance cost of coal generation, and demand for natural gas would be expected to increase, while the relative demand for coal would be expected to decrease. Such an increase in gas demand and concurrent decrease in coal demand should cause the price differential

between natural gas and coal to widen in the future. Therefore, other things being equal, those scenarios that exhibit high environmental compliance costs and narrow fuel price differentials would be less likely to occur.

Q. Do the results presented in Document No. RS-3 reflect the cost associated with developing and maintaining an equivalent 60-day fuel inventory capability for both FGPP and an alternate gas-fueled addition?

A. No. Only the cost associated with developing and maintaining a 60-day coal inventory capability for FGPP is reflected in the results presented in Document No. RS-3.

Q. How would the results presented in Document No. RS-3 change if the cost associated with developing and maintaining a 60-day LNG inventory capability at the site of a gas-fueled plant were included in the analysis?

A. As presented in Document No. RS-4, when Mr. Yupp's LNG inventory cost estimate of about $1.4 billion (CPVRR) is applied, the cost of the Plan with Coal is lower in 10 of the 16 scenarios. Under the 6 scenarios with generally lower fuel price differential and/or higher environmental compliance costs, the results indicate that the Plan without Coal would have a lower cost. However, as stated above, in FPL's view, several scenarios that combine the narrowest fuel price differential and highest compliance cost assumptions and yield the least favorable results for the Plan with Coal, are unlikely to occur.

Q. How does FPL interpret the results presented in Documents No. RS-3 and RS-4?

A. The key conclusion from the results presented in Documents No. RS-3 and RS-4 is that the actual economic outcome of adding FGPP, compared to what it would have been had FPL added gas-fueled generation instead of FGPP, will depend largely on the future differential between the delivered cost of natural gas and that of coal, and on the future cost of complying with currently unknown environmental requirements. Therefore, the actual economic outcome is highly uncertain. However, the results also indicate that under a significant number of the scenarios considered in the analysis the aggregate FPL system economic outcome would favor the addition of FGPP, especially when one considers the cost that would be incurred to develop and maintain a comparable fuel inventory capability in both resource plans. In addition, because as explained above, FPL believes that some of the unfavorable scenarios are less likely to occur, it has given them less weight in making its decision to add FGPP.

Q. Does that mean that FPL is certain that the addition of FGPP by 2013 will result in lower costs than would adding gas-fueled generation?

A. No. Within a possible range of fuel price and environmental compliance outcomes, FGPP might not prove to be lowest cost alternative based on the conventional metrics used to reach that determination. In other words, if the Commission grants a determination of need for FGPP, it should not be predicated on an assumption or finding that these units are projected, or will

prove, to be the lowest cost resource options available under all future circumstances. Given the uncertainties in the primary cost drivers that I refer to above and which are discussed in more detail by other FPL witnesses, such a conclusion is simply indeterminable with any degree of precision at this time. Rather, the reason for FPL's proposal to undertake the addition of FGPP at this time, and the basis for the Commission's decision to grant a determination is that adding FGPP is the best alternative for FPL's customers because it will cost-effectively maintain fuel diversity in FPL's generation portfolio beginning by 2013, which will also provide greater system reliability and help dampen the effect of volatility in natural gas prices. Adding only gas-fueled generation will not achieve these objectives.

The importance of applying this portfolio fuel diversity criterion to a decision regarding the fuel to be used in future generation additions is reinforced when one considers that, as explained in Section 2 of this testimony, what FPL is proposing in this proceeding is to add 1,960 MW of coal-fired generation to a portfolio of owned and purchased capacity that, even with the addition of FGPP will likely have by 2016 about 22,800 MW of oil and natural gas-fueled generation, compared to about 3,400 MW of coal-fueled generation.

Without FGPP, by 2016 FPL would likely have more than 24,700 MW of oil and natural gas-fueled generation and less than 1,500 MW of coal generation,

and natural gas would be used to generate about 71% of all electricity delivered to FPL's customers.

Q. If actual fuel and compliance costs in the future are such that FGPP is determined to be less cost-effective than if natural gas-fired generation had been added in its place, will the Company or the Commission have made the wrong decision in pursuing the construction of FGPP?

A. No, absolutely not. It must be recognized that decisions today must be made in the absence of perfect knowledge, based instead on the overall assessment of risks and policy considerations, including the need to promote fuel diversity as part of FPL's generating portfolio. For the reasons I have discussed above, and described more fully by other FPL witnesses, the Company believes that the risks to customers of not pursuing the addition of FGPP at this time are greater than the risks of pursuing this project. It is possible that at some point in the future someone may determine, with perfect hindsight, that adding FGPP resulted in a higher cost up to that point than would have been the case had gas-fueled generation been added instead. However, that possibility should not be the basis for the decision that must be made now, nor should it be the basis, if it does come to pass, for questioning in retrospect the appropriateness of today's decision. A Commission decision to approve a determination of need for FGPP would require a finding, whether implicit or explicit, that the potential for higher actual costs of FGPP is more than offset by the benefits that such addition provides to FPL's customers, including lower fuel cost volatility and greater system reliability, and the risks and costs

associated with not moving forward today in an effort to preserve fuel diversity.

SECTION 6 – KEY AREAS OF UNCERTAINTY

Q. What are some of the key areas of uncertainty that could affect FPL's ability to place FGPP in commercial operation by 2013 and 2014?

A. There is uncertainty regarding the date by which FPL will obtain a final, non-appealable Site Certification for FGPP. According to the requirements of the Florida Power Plant Siting Act, after the Commission grants a determination of need for FGPP, a Site Certification from the Siting Board made up of the Governor and members of the Cabinet and an Air Emissions Permit issued by the Florida Department of Environmental Protection ("FDEP") will be required before construction can commence. The process to obtain these approvals for FGPP likely will be contentious and, as a result, both the timing for completing the process and the outcome are uncertain. If a final Site Certification, with acceptable terms, for FGPP is delayed beyond the first quarter of 2008, or if any governmental agency were to impose restrictions that hinder the construction process, the in-service date of one or both of the FGPP units could change.

There is also uncertainty regarding the construction schedule that could cause the in-service date of FGPP to change. Mr. Yeager discusses construction schedule uncertainties.

Q. Is there uncertainty regarding FPL's ability to complete FGPP or place it in commercial operation?

A. Yes. There is uncertainty regarding the final outcome of FPL's Site Certification Application for FGPP, as well as actions that may be taken by other government agencies that could prevent FPL from completing FGPP. If a final Site Certification is not granted, or if the conditions imposed on the Site Certification are not acceptable, or if any government agency imposes restrictions that block the construction process, FPL would not be able to proceed with construction of FGPP. Further, if any government agency were to prevent FPL from performing any aspect of the plant's operation, FGPP could not be placed in commercial operation, even after having incurred significant costs.

Q. Have any of these factors prevented the construction of other generating facilities?

A. Yes. For example, subsequent to FPL receiving Commission approval to proceed with a plan to modify the boilers at its existing Manatee Units 1 and 2 and add emission control equipment to enable it to utilize a much less costly fuel – Orimulsion – in order to reduce FPL's use of fuel oil and decrease fuel costs, the Siting Board twice rejected FPL's application for Site Certification

in spite of a very positive recommendation in favor of granting the Site Certification from the Administrative Law Judge who conducted the hearing.

Q. What are key areas of uncertainty that affect the relative cost to the customer of adding FGPP, compared to adding a different type of generation technology, such as gas-fueled combined cycle units, that do not contribute to fuel diversity?

A. Key areas of uncertainty relate to: (1) the future fuel price differential between natural gas and coal; (2) the ability to transport and deliver coal to FGPP at reasonable costs from diverse sources of coal; (3) costs of compliance with future environmental requirements or unanticipated Site Certification conditions; and (4) the actual capital cost and schedule of and completing FGPP and placing it in commercial operation.

Q. How does uncertainty in the future fuel price differential between natural gas and coal affect the economics of FGPP relative to those of a gas-fueled addition?

A. The capital and operation and maintenance ("O&M") costs of FGPP will be greater than those of a similarly sized gas-fueled generating plant. A sufficiently large price differential between natural gas and coal would help offset the capital and O&M cost differential. However, it is not possible to know today, or even tomorrow, what the fuel price differential will be during the forty-year life of FGPP. If the future fuel price differential is sufficiently large, then adding FGPP would result in lower costs to FPL's customers than adding natural gas-fired generation. Conversely, if the future actual fuel price

differential is not large, then, in retrospect, it could be determined that having added FGPP resulted in higher costs than would have been incurred by adding gas-fueled generation. This possible outcome is shown in the economic analysis results presented in Document No. RS-3 for some of the scenarios FPL evaluated.

Q. How does uncertainty regarding FPL's ability to transport and deliver coal at reasonable costs from diverse coal sources affect the economics of FGPP relative to those of a gas-fueled addition?

A. The cost of adding FGPP will depend, in part, on FPL's future access to diverse and competing sources of coal and petroleum coke, as well as competitively priced transportation and delivery of the fuels from those sources to the plant. This will require that FPL have access to coal and petroleum coke import facilities for receipt of fuel transported by water from foreign and domestic sources, as well as competitively priced rail transportation and delivery from the import facilities, as well as from domestic fuel sources, to the plant. As discussed in the testimony of Mr. Schwartz, FPL is evaluating a number of potential commercial arrangements to ensure that FPL will have the necessary access to import facilities. FPL is also involved in negotiations to obtain the necessary rail transportation services. As indicated by Mr. Schwartz, for the purpose of the economic analysis, the results of which are presented in Document No. RS-3, FPL has assumed a market based rate for accessing throughput capacity through an import terminal. However, until FPL finalizes contractual agreements to ensure

access to import facilities and rail transportation services, there will be uncertainty regarding the delivered cost of coal and petroleum coke to FGPP, which in turn affects the comparative economics between adding FGPP or, in the alternate, adding gas-fueled generation.

Q. How does uncertainty regarding the costs of compliance with future environmental requirements or with conditions imposed as part of the Site Certification affect the economics of FGPP relative to those of a gas-fueled addition?

A. The results of FPL's economic analysis of FGPP indicate that the cost of complying with all currently known environmental requirements that would be applicable in 2012 and later years would not, in itself, make the addition of FGPP more costly than adding gas-fueled generation. How ever, there is significant uncertainty regarding what additional requirements may be imposed by future legislation or regulation, especially regarding emissions of sulfur dioxide (SO_2), nitrogen oxides (NOx), mercury (Hg) and carbon dioxide (CO_2). Complying with potential future additional requirements regarding these substances could involve installing and operating additional control equipment, or purchasing emission allowances, or paying a tax, or paying more for fuel, or a combination of some or all of these measures. Neither the requirements nor the resulting compliance costs, all of which would be part of the cost of electricity borne by FPL's customers, may be known until after construction of FGPP has begun, or possibly until after FGPP has been placed in commercial operation. Furthermore, the cost of

compliance with such unknown future requirements could be very large. Consequently, the absolute economic outcome of adding FGPP will simply not be knowable until well after the units have been in operation. The results of FPL's economic analysis (Documents No. RS-3 and RS-4) illustrate this point, showing that in some environmental compliance scenarios the cost of adding FGPP could be significantly lower than that of adding gas-fueled generation, while in other scenarios the cost of adding FGPP could be significantly greater.

Similarly, the adoption by the Siting Board of unanticipated conditions as part of the Site Certification could impose additional capital or O&M costs on FGPP. Such conditions and associated costs were not specifically modeled because it is not possible to know at this point what conditions may be adopted.

Q. How is uncertainty regarding the actual capital cost of FGPP different from that associated with the capital cost of gas-fueled additions?

A. Mr. Yeager explains the factors that could cause the cost of FGPP to be higher than projected and why the level of uncertainty is greater than that associated with the capital cost of recent gas-fueled combined cycle unit additions. One reason he notes for this higher level of uncertainty is that there is a much longer lead time required – more than five and a half years from the date of this need filing - for development, permitting and construction of the first FGPP unit, compared to just over three years for gas-fueled units, and a

correspondingly greater opportunity for changes in the cost of equipment, labor and materials to occur. Another reason noted by Mr. Yeager is that, because of high market demand for certain equipment and services related to FGPP, and the market uncertainty with regard to the costs of certain inputs over which neither FPL nor suppliers have control, suppliers are not willing to sign fixed price contracts for such equipment and services. Thus, a portion of the costs will need to be indexed. FPL has included such mechanisms in its overall projected cost estimate for FGPP. Mr. Yeager describes the indexing mechanisms and explains how they may affect the cost of FGPP.

SECTION 7 – BASIS FOR DETERMINATION OF NEED

Q. Recognizing key areas of uncertainty discussed in Section 6, and in view of the potential range of results demonstrated by the economic analysis results presented in Section 5, what should be the basis for the Commission granting a determination of need for FGPP?

A. There are two principal findings that I believe support the addition of FGPP, one is that the addition of FGPP is needed to maintain system reliability and the other is that the addition of FGPP will help FPL provide electricity at reasonable costs. Both of these findings are related to maintaining fuel diversity. However, there are other important findings that the Commission should make in connection with the determination of need in light of the uncertainties I have noted as well as the magnitude of the investment required

for FGPP. Those findings relate to the prudence of the decision to construct FGPP, the need for annual reviews by the Commission to determine the prudence of actual costs and the continued feasibility of FGPP, the means by which the costs of FGPP would be recovered in future rates, and, alternatively, how costs would be recovered in the event FGPP were later cancelled. I discuss these points below in Section 8 of my testimony. I will focus first on the reasons in support of the first two findings relative to fuel diversity.

The addition of the 1,960 MW of coal-fueled generation, to be provided by FGPP beginning by 2013 and through 2014, is needed in order to maintain reliability of service in FPL's system because:

a) The addition of the 1,960 MW of coal-based generation is needed to maintain fuel diversity in FPL's system beginning by 2013, in part, by offsetting the anticipated 1,312 MW reduction in existing coal-based generation in FPL's system that will occur between 2010 and 2016; and

b) The addition of 1,960 MW of generation capacity is needed for FPL to meet its 20% reserve margin reliability criterion by 2013 and through 2014.

As stated in Section 3 of my testimony, the primary benefit of fuel diversity is system reliability. An electric system that relies on a single fuel and a single technology to generate all the electricity needed to meet its customers' demand is, all else equal, less reliable than a system that uses a balanced, fuel-

diverse generation portfolio. The importance of fuel diversity has been recognized in House Bill 888, which was signed into law on June 18, 2006. While FPL has always considered fuel diversity in its resource planning process and this Commission has always taken fuel diversity into account in approving new generation additions, Bill 888 amended Section 403.519, Florida Statutes, and now requires this Commission to explicitly consider "the need for fuel diversity and supply reliability" when making its determination of need for new generating capacity.

By helping FPL maintain a balanced, fuel diverse portfolio, the addition of FGPP will enable FPL to be better positioned to offset future interruptions in natural gas supply. Because the fuel for FGPP will be sourced at different geographical areas and will be transported by different routes and methods than those used for natural gas, the addition of FGPP will help mitigate the effects of problems related to production, fuel transportation and delivery. Because FGPP will use a different technology from that of the majority of recent generation additions to FPL's system, its addition will help mitigate the effect of generic equipment problems. Also, because, unlike natural gas, coal and petroleum coke can be economically stored in large quantities at the plant site, the addition of FGPP will enable FPL to maintain ample inventories to mitigate the effect of fuel supply interruptions. Mr. Yupp presents an estimate of the costs of maintaining similar inventories of LNG and fuel oil.

Without the addition of FGPP, the reliability benefits of fuel diversity in FPL's system will be greatly diminished. As stated in Section 2, without this addition, by 2016 FPL would utilize natural gas to provide 71% of the electricity delivered to its customers, while the contribution from coal would plummet to a mere 7%.

The Commission also should find that the addition of FGPP is needed for FPL to continue to provide electric service at reasonable costs because the fuel diversity contribution that FGPP provides would help FPL mitigate the effect of increases in the market price of natural gas on the cost of electricity. It should be noted that if, on the other hand, natural gas prices were to decrease, because FPL will continue to utilize very large quantities of natural gas even after the addition of FGPP, FPL's customers would still benefit greatly from favorable natural gas prices.

These effects are illustrated in Document No. RS-5. The difference in height between the two bars in each pair shows the difference between the cost (CPVRR) of the Plan with Coal on the left and that of the Plan without Coal on the right for each of the four fuel price differential forecasts under environmental compliance cost case A.

The fuel price differential is widest for the pair on the far left, driven by high gas prices, and it narrows progressively to the right, reflecting lower gas

prices. In the three cases on the left that have a greater fuel price differential, the Plan with Coal has a lower cost than the Plan without Coal; and the greater the fuel price differential the greater the benefit provided by the addition of FGPP. At the same time, the greater the price differential, the higher the total cost to the customers under both plans, because of the high cost of natural gas. In other words, when gas prices are at their highest so that total system costs are at their highest and customers need the most relief is when the benefit of the addition of FGPP is the greatest.

In the case at the extreme right, which reflects a narrow fuel price differential due to low gas prices, the Plan with Coal shows a higher cost than the Plan without Coal. But the total cost to the customers is also at the lowest point. The customers are far better off in this case under both Plans, and although the Plan without Coal offers some advantage in this case, the Plan with Coal also captures most of the advantage of the lower gas price. Moreover, because it is not known what the future fuel price differential will be, it is better to have a fuel-diverse portfolio with the addition of FGPP that will protect the customers when gas prices are high and capture most of the benefit when gas prices are low, than gamble that gas prices will always be low.

For these reasons, and because the addition of FGPP is the best, most cost-effective alternative to maintain fuel diversity starting by 2013, and meet FPL's resource need by 2013 and through 2014, FPL requests that the

Commission grant an affirmative determination of need for the addition of FGPP.

SECTION 8 – REQUEST FOR RATEMAKING TREATMENT AND PROPOSAL FOR ANNUAL REVIEW

Q. Please explain why it is appropriate and necessary that the Commission explicitly address the prudence of the decision to construct FGPP, establish an annual review process for FGPP, and to address other cost-recovery issues as part of this need determination process for FGPP.

A. Because of the magnitude of the financial commitment that FPL and its customers will need to make to add FGPP to FPL's generation portfolio ($5,700 million), the lead time required to complete construction and place FGPP in-service, the significant public policy issues associated with the choice of fuel for FGPP, and the risks associated with this capacity addition, as described in the discussions regarding key areas of uncertainty, prior to undertaking this project and in connection with this request for a determination of need for FGPP, FPL is requesting a determination from the Commission relative to the prudence of FGPP and the means by which the costs of FGPP would be reflected in future rates, including the establishment of an annual review process by which the prudence of actual costs incurred and the continued feasibility of the plant would be determined.

Q. Specifically, what findings does FPL request the Commission include in its need order for FGPP?

A. FPL requests that upon granting a determination of need the Commission explicitly find: (a) that the decision to add FGPP has been determined to be reasonable and prudent; (b) that the projected installed costs of FGPP and the associated facilities described in FPL's filing are reasonable and prudent; (c) that, as explained below, the Commission will annually review actual and projected costs of FGPP and the associated facilities and make a determination of the prudence of actual costs incurred, as well as determine the continued feasibility of the project; (d) that after FGPP is placed in service, all prudently incurred capital and O&M costs related to FGPP, including but not limited to costs of siting, licensing, engineering, design, equipment, construction and operation and maintenance of the plant and associated facilities, except those costs recovered through cost recovery clauses, shall be recovered through base rates, utilizing the Generation Base Rate Adjustment ("GBRA") mechanism if the current base rate agreement is in effect, or, if it is not, through new based rates or a new GBRA mechanism set through a future base rate case; (e) that environmental compliance costs related to FGPP incurred due to existing or future environmental requirements, including but not limited to, a carbon tax, shall be deemed to be prudent and recovered on an incremental basis through the Environmental Cost Recovery Clause (ECRC), or similar means; and (f) that if FPL is precluded from completing construction of FGPP, or if the Commission

determines that construction should not be continued, all prudently incurred costs, including carrying costs, associated with FGPP shall be accumulated and recovered over a five-year period beginning when new base rates next go into effect.

Q. How will the addition of FGPP impact customers' bills?

A. While the capital costs of FGPP are high relative to comparably sized gas-fired generating units, these capital costs are offset to a large extent by fuel savings. For example, the estimated net effect on a residential 1,000 kilowatt-hour ("kWh") monthly bill for both FGPP units is $3.96 under a relatively conservative scenario using projections from the lower half of the range of fuel price differential forecasts utilized in the analysis. The estimated increase in the 1,000 kWh residential base bill for the first year revenue requirements for both FGPP units is $9.41, and the corresponding projected fuel savings for both units as described above, compared to not adding FGPP or any new generation, is $5.45 for a net effect of $3.96.

Q. If a determination of need is granted not only because of the fuel diversity and system reliability benefits of FGPP, but also based on favorable expectations regarding the key areas of uncertainty discussed in your testimony, how can FPL's customers be protected if those factors change in a manner such that FGPP would impose a large economic burden on FPL's customers?

A. After a need determination is granted, FPL will continue to evaluate factors that affect the cost and viability of FGPP. FPL proposes to annually present

to the Commission a report that presents actual and projected costs for the project and explains any changes in the projected cost and requests that the Commission conduct annual reviews of the prudence of actual FGPP costs until the project is completed. Within this same review, the Commission would assess the continued feasibility of the project.

Q. Please describe this review process further.

A. This annual review process will be particularly beneficial to the Commission and customers given the magnitude of the project and the dynamic nature of circumstances and market conditions upon which a decision to proceed with the Project is predicated, in essence giving the Commission and interested parties a "real time" ability to review the continued feasibility of the Project.

Further, an annual review and prudence determination of the Project costs will allow for more timely review than has been typical in past prudence determinations, i.e., closer in time to the actual expenditures, thus allowing a greater opportunity to consider the reasonableness and prudence of actual costs incurred. Annually, FPL will furnish forecasted costs as well as actual costs incurred, providing detailed justifications of such costs, allowing an assessment of the continued cost-effectiveness and need for FGPP. Such information would include a list of all contracts executed in excess of $1 million, including the value, term and method of vendor selection for such contracts. In addition, Staff would have continual access, through its audit function, of key information and documentation supporting the project.

SECTION 9 – ADVERSE CONSEQUENCES

Q. Would there be any adverse consequences to FPL and its customers if the Commission were not to grant an affirmative determination of need for FGPP in this proceeding?

A. Yes. If a determination of need for FGPP were not granted in this proceeding, FPL's customers would face significant adverse consequences related primarily to reduced system reliability due to significantly lower fuel diversity. As indicated in Document No. RS-2, without the addition of FGPP FPL's reliance on natural gas would rise to 71% in 2016. This would make it much more difficult to mitigate the effect of a significant interruption in natural gas supplies on FPL's ability to meet the electricity needs of its customers. In addition, if a determination of need for FGPP is not granted, other Florida utilities may be less likely to pursue coal generation. As a consequence, not only FPL but the entire State of Florida may become over dependent on natural gas for the generation of electricity.

From an economic perspective, greater reliance on natural gas is expected to result in higher electricity costs and greater volatility in the cost of electricity. Greater use of natural gas in Florida will contribute to higher natural gas prices, and because a greater portion of electricity would be generated using natural gas (71% in FPL's system by 2016), the price of electricity would be more directly affected by the rising price of natural gas. Similarly, any

volatility in natural gas prices will translate very directly in volatility in the price of electricity.

If, on the other hand, FGPP is added to FPL's system, because FPL would continue to utilize very large quantities of natural gas, FPL's customers would still benefit greatly if the price of natural gas decreases. In other words, there will be more than sufficient natural gas generation in FPL's portfolio to capture most of the benefit of a possible decrease in natural gas prices in the future; but without the addition of FGPP there would be far less protection for FPL's customers if the price of natural gas increases. It is clear from the perspective of both reliability and price volatility that the risks of not adding FGPP to FPL's generation portfolio far outweigh those of adding FGPP.

TESTIMONY SUMMARY

Q. Please summarize your testimony.

A. FPL believes that the addition of FGPP is needed to provide reliable service at reasonable cost in the future. This advanced technology coal project is the most cost-effective alternative among those with a potential to contribute to fuel diversity, and is in fact the only alternative that can maintain fuel diversity in FPL's system by 2013.

Fuel diversity contributes to greater system reliability because it helps offset reduced availability of one fuel, be it due to supply constraints or transportation interruptions, and helps mitigate the effect of equipment problems that affect one type of generation technology. The addition of FGPP also contributes to system reliability by having the capability to maintain a 60-day on-site fuel inventory. Fuel diversity also helps mitigate the effects of price volatility in one or two fuels on the price of electricity. In FPL's system the addition of FGPP provides an effective price hedge against anticipated increases in the price of natural gas.

With the addition of FGPP, coal would be used to produce 18% of the electricity delivered to FPL's customers, the same percent coal contributed in 2005. Conversely, without FGPP by 2016 coal would contribute only 7% while natural gas would contribute 71%, nearly double the percent contribution of natural gas in 2005. Although FPL has included renewable resources and DSM as a significant part of its resource mix, and will continue to encourage future renewable development and participation in DSM programs, these alternatives cannot by themselves help FPL maintain a balanced, fuel-diverse system.

FPL has explained that there are significant areas of uncertainty that could affect the cost of adding FGPP, as there are regarding the cost of adding other generation technologies by 2013. FPL's analyses have quantified the effect of

uncertainty regarding future fuel prices and environmental requirements. The results of these analyses indicate that although the addition of FGPP will not result in the lowest cost outcome under all possible circumstances, it does provide an economic advantage under many scenarios, particularly when the benefit of the inventory capability of FGPP is properly valued. FPL's conclusion is that the addition of FGPP is the best, most cost-effective alternative to maintain system reliability and provide electricity at a reasonable cost; it is the right choice for FPL and its customers in this time frame.

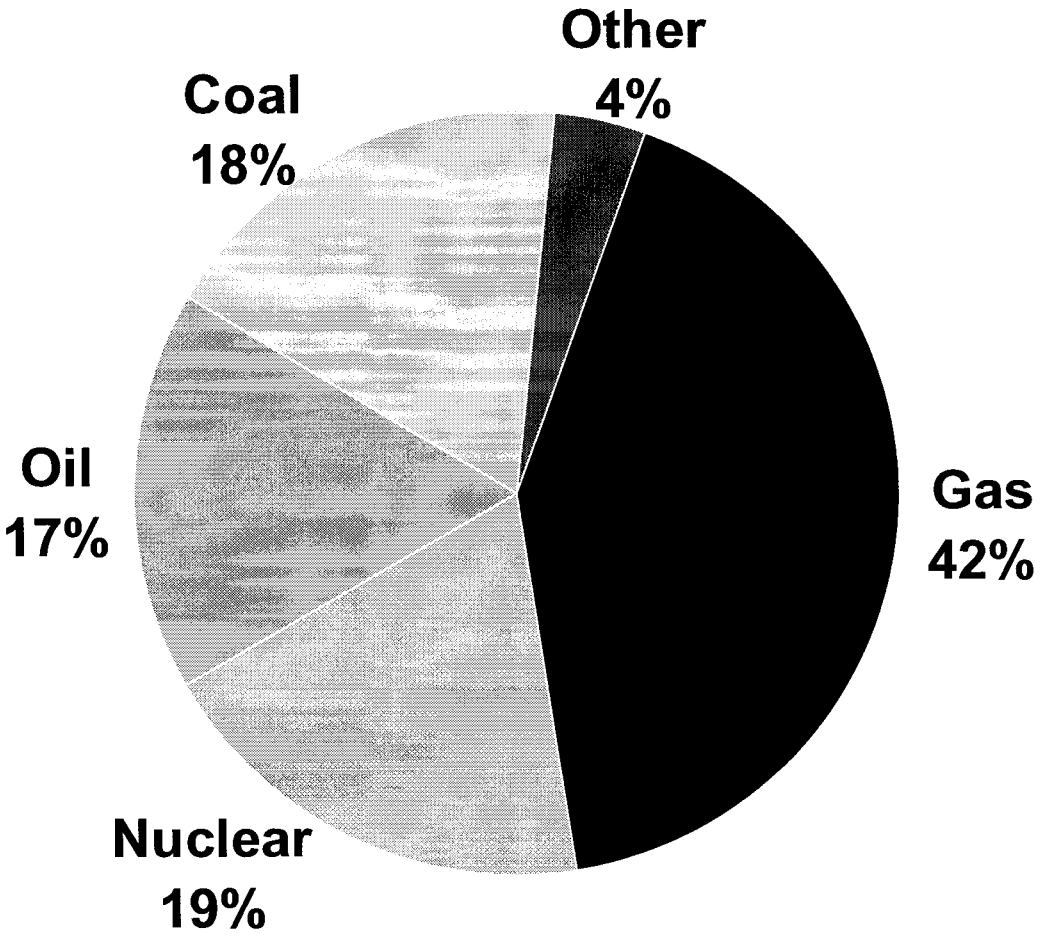
For these reasons FPL requests that the Commission grant an affirmative determination of need for the addition of FGPP Units 1 and 2, beginning by 2013.

Because of the magnitude of the investment required to add FGPP to FPL's generation portfolio, the longer lead time required to complete construction and the other uncertainties and public policy issues associated with completion and operation of FGPP, FPL also requests that the Commission provide explicit assurances regarding the prudence of the decision to add FGPP and of the projected costs, as well as the process by which prudently incurred costs will be recovered. FPL also requests that the Commission establish an annual review process to assess the prudence of actual costs and the continuing feasibility of the project.

Q. Does this conclude your direct testimony?

A. Yes.

Actual Energy Mix 2005



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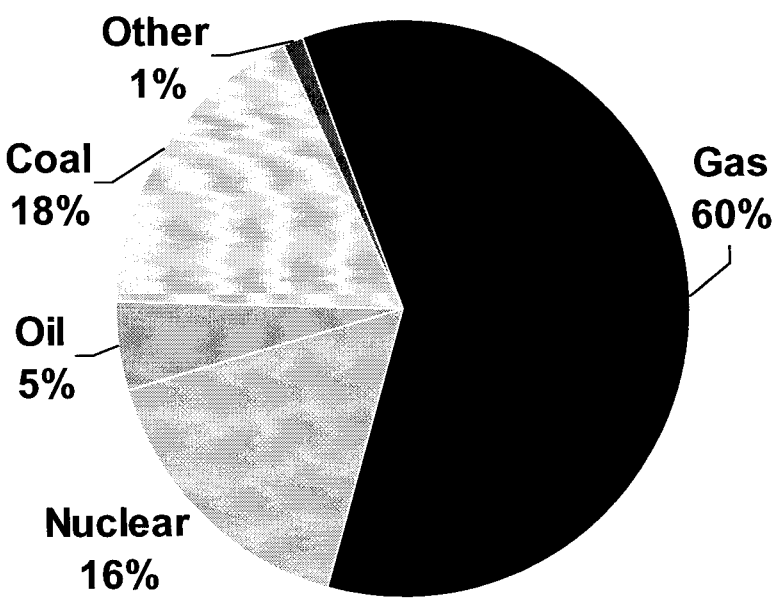
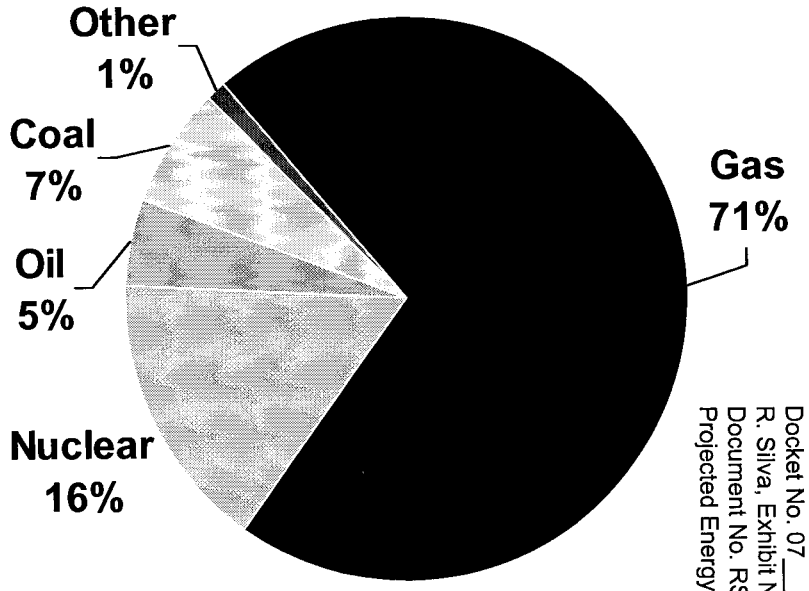
Actual Energy Mix 2005

Projected Energy Mix 2016

With FGPP



Without FGPP



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R. Silva, Exhibit No. ____
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Projected Energy Mix 2016

Economic Evaluation Results: the Plan with Coal vs the Plan without Coal Total Cost Differentials for All Fuel and Environmental Compliance Cost Scenarios

Total Cost Differentials *
(millions, CPVRR, 2006$, 2006 - 2054)

Fuel Cost Forecasts

Environmental Compliance Cost Forecasts		1 High Differential	2 Shocked Differential	3 Medium Differential	4 Low Differential
	A	(2,792)	(873)	(219)	1,912
	B	(2,045)	(113)	537	2,670
	C	(1,127)	804	1,466	3,604
	D	(666)	1,278	1,930	4,037

* A negative value indicates that the Plan with Coal is less expensive than the Plan without Coal. Conversely, a positive value indicates that Plan with Coal is more expensive than the Plan without Coal.

Economic Evaluation Results: the Plan with Coal vs the Plan without Coal Total Cost Differentials for All Fuel and Environmental Compliance Cost Scenarios - Adjusted to reflect LNG Inventory Cost

Total Cost Differentials *
(millions, CPVRR, 2006$, 2006 - 2054)

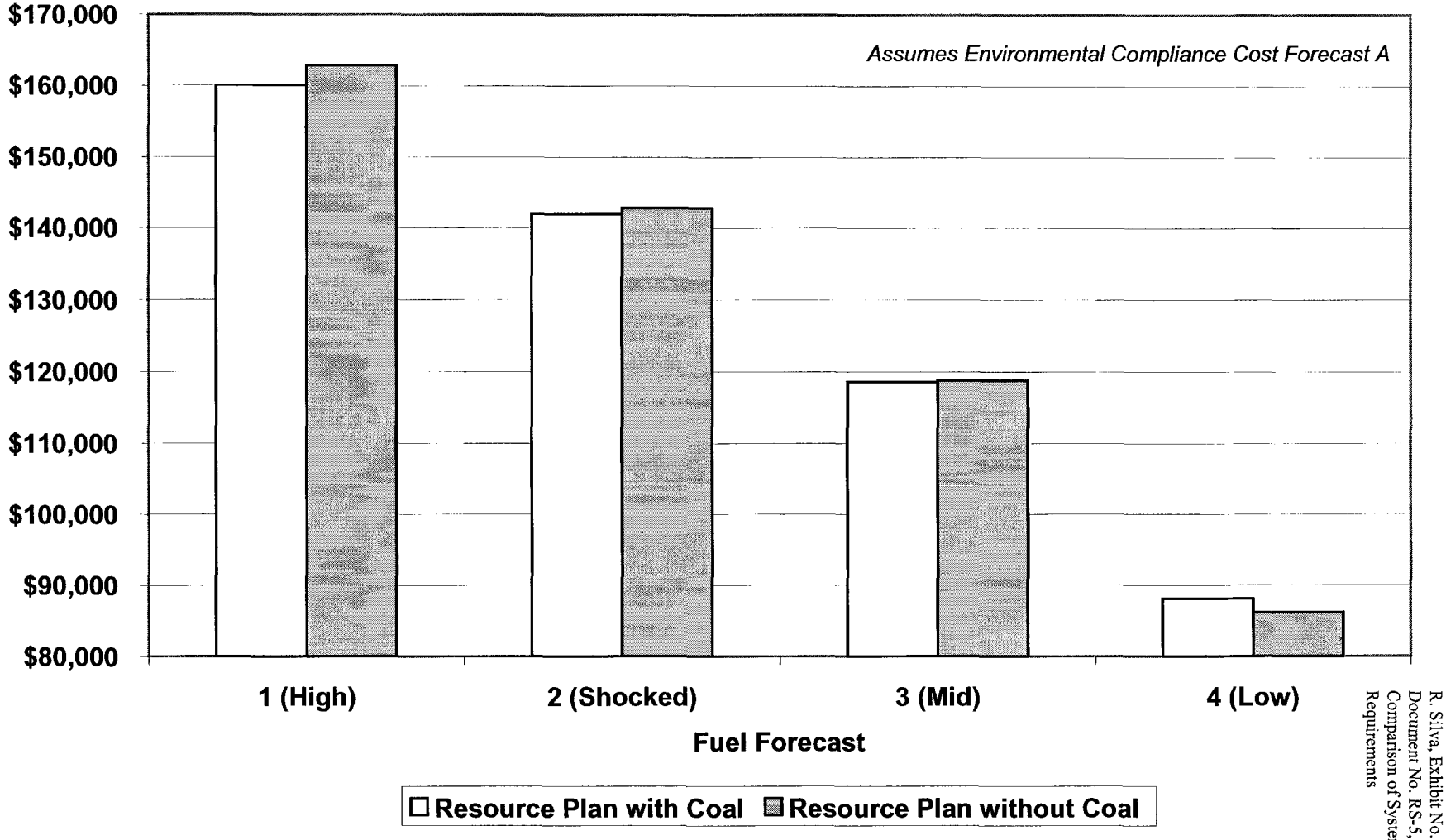
Fuel Cost Forecasts

Environmental Compliance Cost Forecasts		1 High Differential	2 Shocked Differential	3 Medium Differential	4 Low Differential
	A	(4,212)	(2,293)	(1,639)	492
	B	(3,465)	(1,533)	(883)	1,250
	C	(2,547)	(616)	46	2,184
	D	(2,086)	(142)	510	2,617

* A negative value indicates that the Plan with Coal is less expensive than the Plan without Coal. Conversely, a positive value indicates that Plan with Coal is more expensive than the Plan without Coal.

Total Cost - System Revenue Requirement

(millions$ CPVRR, 2006$, 2006 - 2054)



Docket No. 07____-EI
R. Silva, Exhibit No. ____
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Comparison of System Revenue Requirements