BEFORE THE
FLORIDA PUBLIC SERVICE COMMISSION

DOCKET NO. 070098-EI

In the Matter of:

PETITION FOR DETERMINATION OF NEED FOR GLADES POWER PARK UNITS 1 AND 2 ELECTRICAL POWER PLANTS IN GLADES COUNTY, BY FLORIDA POWER & LIGHT COMPANY.

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VOLUME 3

Pages 281 through 457

PROCEEDINGS:	HEARING
BEFORE:	CHAIRMAN LISA POLAK EDGAR COMMISSIONER MATTHEW M. CARTER, II COMMISSIONER KATRINA J. MCMURRIAN
DATE:	Tuesday, April 17, 2007
TIME:	Commenced at 9:45 a.m.
PLACE:	Betty Easley Conference Center Room 148 4075 Esplanade Way Tallahassee, Florida
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APPEARANCES:	(As heretofore noted.)

I N D E X

WITNESSES

EXHIBITS

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P R O C E E D I N G S

(Transcript continues in sequence from Volume 2.)

CHAIRMAN EDGAR: We're going to go ahead and get started.

We will go back on the record. And let's start out by seeing if there are any other preliminary matters before we go into witness testimony.

MS. BRUBAKER: The one that staff is aware of is the documents that were submitted through public testimony yesterday. The parties have been given copies, as I understand, and have been afforded an opportunity to look through them. They have been identified, and I suppose this is the time we might consider whether to move the records into, well, into the record.

MS. SMITH: Madam Chairman.

CHAIRMAN EDGAR: Yes.

MS. SMITH: If I may --

CHAIRMAN EDGAR: You may.

MS. SMITH: -- FPL has some comments.

FPL believes that the documents that were introduced during the public testimony portion of the hearing yesterday should be entered into the Commission's correspondence side of the docket the way it's typically done in rate proceedings and should not become part of the evidentiary record in this proceeding. This is particularly true for those introduced by

attorneys and other witnesses who, to borrow Commissioner Carter's terminology, were professional witnesses.

The procedural order in this docket set out the controlling dates for purposes of prefiling direct testimony and conducting discovery in this proceeding, and anyone who wanted to intervene could have done so, and FPL would have had an opportunity to respond to discovery, prefiled testimony and cross-examination in accordance with the Commission's traditional governing procedures.

Putting this type of testimony in the record would put the company in the posture of having to cross-examine public witnesses, which will add delay and complexity to future Commission proceedings.

Further, the Commission is compelled by Section 120.569(2)(g), Florida Statutes, of the Florida Administrative Procedure Act to exclude, quote, irrelevant, immaterial or unduly repetitious evidence, end quote. Putting the public documents on the correspondence side of the file would ensure compliance with the APA, as a number of the documents introduced go well beyond the scope of this proceeding as well as the Commission's jurisdiction.

Alternatively to putting the documents in the correspondence side of the file, I can identify certain documents that should be excluded in accordance with the APA. Irrelevant and immaterial documents that are well beyond the

scope of this proceeding include the documents marked as Exhibit 149, which addresses mercury exposure; 150 addressing health issues; 151 addressing CO2 concentrations over the past 650,000 years; the portions of Exhibit 153 addressing mercury, as well as newspaper articles, articles regarding other environmental issues; Exhibit 154 addressing emissions and environmental issues. And FPL feels that the portions of Exhibit 153 that address energy efficiency as well as the ACEEE report are fine to go into the record, but FPL witnesses would need the latitude to respond to these documents when they take the stand.

And then I would also note that the portions of the USCAP document that were included as part of Exhibit 148 should be excluded from the record as the entire document was entered into the record on cross-examination by Mr. Gross and was marked as Exhibit 159. The remainder of Exhibit 148 addressing coal prices is fine, but FPL Witness Schwartz should be given the latitude to address these documents when he takes the stand.

CHAIRMAN EDGAR: Are there comments from any of the other parties? Mr. Beck.

MR. BECK: Yes. Thank you, Madam Chairman.

The problem with doing what Florida Power & Light is requesting is that you're sending a message to the public witnesses that the Commission is not going to consider the

documents they brought with them. If you put it in the correspondence side, you're saying it's not evidence and you're saying it's nothing that the -- and the Commission will not and cannot rely on that.

I would think the better approach would be allow Florida Power & Light to respond when their witnesses take the stand to any of the documents. You can give the things Florida Power & Light said as going to the weight that you consider it. I think the better course is to allow -- public witnesses were here, they're subject to cross-examination. I think the documents that they've testified about should go in subject to the considerations that Florida Power & Light has said about the weight, and I think it would be proper to let Florida Power & Light respond also with their witnesses.

CHAIRMAN EDGAR: Mr. Gross, did you also have comment?

MR. GROSS: Good morning, Madam Chair, Commissioner Carter. Thank you for giving me an opportunity to comment on this. I think we conceptually agree with the proposal of Mr. Beck, but we're wondering is there a Commission policy on this matter in this procedure? We feel that this is a question of policy. And we agree with Mr. Beck, and if that is a policy that's been established or is in its nascent stage this morning, then as a policy matter I think we prefer the procedure that Mr. Beck has proposed.

CHAIRMAN EDGAR: Mr. Krasowski.

MR. KRASOWSKI: I'd just like to say -- good morning, Commissioners.

CHAIRMAN EDGAR: Good morning.

MR. KRASOWSKI: We agree with both gentlemen, Mr. Beck and Mr. Gross.

CHAIRMAN EDGAR: A few comments, and then, Ms. Brubaker, I will look to you also for your comments. I guess I'm not sure whether it's a policy or a practice, Mr. Gross, to respond to that, and Ms. Brubaker perhaps can speak to that in more detail. I know that during the time that I have been presiding officer, my general practice is to allow documents to come in and for them to be given the weight that the Commission deems them to be due and for all of the parties to have an opportunity to ask questions and review them.

In this particular instance, I note in response to the objection raised by FPL that this is not a rate case and it is a case that we both by policy, practice and rule do encourage public testimony. And with that, Ms. Brubaker, I will look to you for further comment.

MS. BRUBAKER: Well, I would further distinguish a need determination from a rate case in that need determinations are unique in that any member of the public can offer testimony. You do not have to be an affected ratepayer of the utility as would be appropriate for a rate case.

The notices that were issued, the notice of -- possibly not the notice of commencement, but the notices of hearing and prehearing that were issued all set forth the procedure for members of the public to testify. It does mention that they are subject to cross-examination. In your introductory comments yesterday you did let the speaking witnesses know that they would be subject to questions by the parties as well as by the Commissioners. So they were aware that there was the possibility of cross-examination. They offered the documents, I believe, with the understanding that those would be part of the record. There is a way that should take place. You don't want to necessarily hang up the public testimony section in order for parties to examine documents and make a determination there and then about whether they're going to object to them. At the same time, to automatically exclude them at this point, I have some concerns a little bit about the fairness of the proceeding.

To me, what's been offered by counsel for OPC seems a reasonable accommodation to go ahead and let the records in. We are allowed to accept hearsay evidence into the record, of course, as always, you give the weight that it's due, and to permit the FPL witnesses some latitude to speak to those documents as they feel is appropriate. I think it would be a reasonable accommodation.

CHAIRMAN EDGAR: Ms. Smith, do you have further

comment before I rule?

MS. SMITH: No, I don't.

CHAIRMAN EDGAR: Okay. With that then, I will recognize obviously the objections that you have raised for the record. I do, as I said in my comments, and echoing some of Ms. Brubaker's comments, feel that although you requested that the documents be moved into the correspondence file, that that is not a part of the record. I appreciate -- well, first of all, I note that again there was the opportunity for you to ask questions on cross of the witnesses that were sworn as part of the public testimony portion of the hearing, but I do note and appreciate your support of the public testimony portion of what we do and wanting to work with those witnesses and customers and consumers so that it is a relatively friendly environment for them to come and speak in public with all of us.

So with that, I will rule that documents 148 through 156, excuse me, 148 through 154 will be admitted into the record to be given the weight that they are due and give the latitude to the witnesses to speak to those during cross and redirect.

(Exhibits 148 through 154 admitted into the record.)

Other preliminary matters?

MS. BRUBAKER: I'm aware that there was some discussion yesterday about the possible stipulation of witnesses, but it's my understanding at this point that

Intervenor witnesses will be available at differing parts of the day, and that counsel for Sierra Club and FPL will be speaking later in the day to discuss any possible consolidation of rebuttal and direct testimony and what arrangements might be accommodated for the Intervenor witnesses.

CHAIRMAN EDGAR: Okay. And then let's talk about scheduling for just a moment so that we can take that up also perhaps at the break and at lunch, if we need to.

I, I just don't see us finishing today. If we do, that will be wonderful, but I don't see it. So the Commission has conflicts for the remainder of the week. We do, however -- and, Commissioners, we have talked with staff in your offices and I think this accommodates your schedule, but also obviously if there's a conflict we're not aware of, please make that known to me as well. So we are looking at next week, and it looks like the 25th and the 26th, which would be Wednesday and Thursday, can be available. I would ask, again, for each of you to note that, look at your schedules, your witnesses, and let's talk at the break and if we need to at lunch and see if we can map out a plan later today so that we can conduct the business that we need to.

I also note that April 26th, which is next Thursday, I believe, is Take your Children to Work Day. So for any of you, counsel, staff, witnesses, who have children who are planning to be with you that day, we welcome them. I may

actually have my daughter as well. We'll see. So if you would, let's talk at the break and see what we can do to accommodate schedules. That also means probably that we would need to maybe look at some of the dates that had been set. The transcripts will be available, but we may need to talk if we extend to those days next week to look at the dates that briefs would be due, staff recommendation, and the agenda item. So, again, think on that and we will talk later in the day. And please consult with our staff and we will make some scheduling decisions. And also, so that everybody is aware, if indeed it looked like we would be able to finish today, we would maybe go late. But since I do not think that that is the case and we do have some days that we've been able to identify next week, I am planning on a normal working business day today.

Before we call witnesses, normally what we would next do is swear in since we just took the first witness yesterday, although realizing that we're talking about a couple of different days in scheduling. Do we have witnesses in the room that makes it worthwhile from an efficiency standpoint to swear in as a group, or would that just be more confusing if we only have a few? And, Mr. Litchfield, you have the majority of the witnesses, so I'll first look to you.

MR. LITCHFIELD: I'm looking and I think FPL has two witnesses in the room. Just two. Sorry.

CHAIRMAN EDGAR: Okay. Well, then in that case let's

just go ahead and do it one by, one by one so that we don't get into that keeping track of who was here and who wasn't. And if we want to do a group later on at some point in the proceeding, we can certainly do that. And so if there are no other matters, then, Mr. Litchfield, your witness.

MR. LITCHFIELD: Thank you. Madam Chairman, FPL's next witness is Mr. Rene Silva.

CHAIRMAN EDGAR: And, Mr. Silva, if you would please, stand with me and go ahead and raise your right hand and we'll swear you in.

RENE SILVA

was called as a witness on behalf of Florida Power & Light Company and, having been duly sworn, testified as follows:

DIRECT EXAMINATION

BY MR. LITCHFIELD:

Q Mr. Silva, would you please state your name and business address for the record.

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

Q And by whom are you employed and in what capacity?

A By Florida Power & Light Company as Director of Resource Assessment and Planning.

Q Have you prepared and caused to be filed 56 pages of prefiled direct testimony in this proceeding?

A Yes.

Q Did you also cause to be filed errata to your testimony on April 13th, 2007?

A Yes.

Q Do you have any further changes or revisions to your prefiled direct testimony other than the errata sheet that you just mentioned?

A I have one change.

Q Would you show us that?

A Yes. On Page 17, Line 19, the number "4,482" should be changed to "5,130." That's the only change.

Q With these changes, if I were to ask you the same questions today, would your answers be the same?

A Yes.

MR. LITCHFIELD: Madam Chairman, I would ask that Mr. Silva's prefiled direct testimony be inserted into the record as though read.

CHAIRMAN EDGAR: The prefiled direct testimony will be inserted into the record as though read with the correction noted by the witness. And just for clarity, Mr. Litchfield, we are taking up just direct testimony with rebuttal to be later; is that correct?

MR. LITCHFIELD: Yes, Madam Chairman.

CHAIRMAN EDGAR: Thank you.

BY MR. LITCHFIELD:

Q Are you sponsoring any exhibits to your direct

testimony, Mr. Silva?

A Yes, I am sponsoring an exhibit consisting of five documents attached to my testimony.

Q RS-1 through RS-5?

A That's correct.

MR. LITCHFIELD: And, Madam Chairman, Mr. Silva's exhibits have been premarked for identification as Exhibit Numbers 4 through 8 respectively.

CHAIRMAN EDGAR: Thank you.

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~~ 5,130 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~~ $3.63 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~~ $5.78 for a net effect of ~~$3.96~~ $3.63.

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.

BY MR. LITCHFIELD:

Q Have you prepared a summary of your direct testimony, Mr. Silva?

A Yes.

Q Would you please provide that at this time?

A Certainly.

Good morning, Chairman Edgar, Commissioners. Thank you for giving me this opportunity to present a summary of my testimony.

FPL's proposed addition of two advanced technology coal-generating units at the FPL Glades Power Park or FGPP in 2013 and 2014 is necessary to maintain system reliability and fuel diversity. The addition of FGPP is not only the best, most cost-effective resource that can be added to FPL's generation portfolio to continue to provide reliable service at a reasonable cost to FPL's customers, but also the only practical --

CHAIRMAN EDGAR: Mr. Silva, I'm sorry to interrupt you, but we are having a little difficulty hearing. If you could maybe pull up closer or, Mike, if you could help us with that a little bit. Thank you.

THE WITNESS: Thank you. The only -- but it is also the only practicable means to maintain fuel diversity in FPL's system until at least 2018. Because of continuing increases in electricity demand due primarily to growth in the number of FPL

customers, despite the addition of about 1,640 megawatts of new demand-side management between now and 2015, without the addition of FGPP, FPL's reserve margin would drop to less than 15 percent, much lower than the 20 percent reserve margin that both FPL and the Commission have agreed is required to ensure reliable service. And, of course, our demand would continue beyond that point.

Fuel diversity is necessary in order to maintain system reliability, and this Commission has taken fuel diversity into account in approving new generation additions in the past. As shown in my document RS-2, which is on the left, the left-hand side, if you look at the right-hand pie chart, without the addition of FGPP to FPL's generation portfolio, by 2016 natural gas and fuel oil taken together, the two fuels that have become the most susceptible to supply interruptions and price increases, would be used to produce more than three-quarters of the electricity delivered to FPL's customers. Conversely, the contribution from coal, the most plentiful fuel in the United States, would be reduced from 18 percent today to only 7 percent by 2016. For FPL to maintain fuel diversity between 2013 and 2018 it is critical that action be taken now.

It is important that the Commission recognize FPL's generation portfolio in its totality and the beneficial effect that FGPP will have on that portfolio. Specifically, even with the addition of FGPP, by 2016 FPL will have only

3,400 megawatts of coal-fired generation compared to more than 22,800 megawatts of oil and natural gas-fired generation. Without FGPP there would be less than 1,500 megawatts of coal generation in the system. Such an imbalanced resource portfolio would make FPL's customers much more vulnerable to the type of gas and oil supply interruptions and price increases that have occurred in recent years and are anticipated to occur again in the future.

FPL has evaluated renewable resources and is involved in exploring wind generation and supporting research regarding the potential for power generation from ocean currents. We also continue to encourage existing and potential renewable generators by offering flexible contract terms based on a diverse portfolio of avoided units including FGPP. However, it is clear from our studies that there will not be sufficient renewable resources to defer the need for FGPP.

We've also evaluated four technologies that utilize coal and petroleum coke. They include supercritical pulverized coal, subcritical pulverized coal, circulating fluidized bed and IGCC. The results of these evaluations clearly indicate that the ultra-supercritical pulverized coal technology is by far the best, most cost-effective technology to maintain fuel diversity in FPL's system in this time frame, and that's the technology we've adopted for FGPP.

We have also compared the cost of a resource plan

over time with FGPP included or a plan with coal to a resource (phonetic) plan without coal generation under 16 different scenarios that combine four different fuel price forecasts and four different environmental compliance cost projections. As shown on my document RS-4 on the right in blue, in ten of those 16 scenarios the plan with coal resulted in a lower cost than the plan without coal. These results clearly indicate that in a significant number of the scenarios the plan with coal which maintains fuel diversity and system reliability also provides the lower cost to FPL's customers.

The only practical alternative to FGPP to meet FPL's growing resource need is more gas generation, but adding only gas generation is more likely to result in higher costs and presents greater uncertainties and risks than adding FGPP. More to the point, it is precisely because of the uncertainty regarding the future cost differential between natural gas and coal and the risk of oil and gas supply interruptions that maintaining a diverse fuel mix by granting determination of need is essential to ensure system reliability. For these reasons, FPL requests that the Commission grant an affirmative determination of need for FGPP. Thank you.

MR. LITCHFIELD: FPL tenders Mr. Silva for cross-examination.

CHAIRMAN EDGAR: Thank you.

Ms. Perdue, any questions?

MS. PERDUE: No.

CHAIRMAN EDGAR: No questions.

Mr. Beck.

MR. BECK: Thank you, Madam Chairman.

CROSS EXAMINATION

BY MR. BECK:

Q Good morning, Mr. Silva.

A Good morning.

Q Mr. Silva, could you turn to your Exhibit RS-3 that's attached to your testimony, please?

A Yes.

Q Okay. Exhibit RS-3 shows an economic evaluation of your plan with coal versus a plan without coal, does it not?

A That's correct. It is a partial comparison.

Q Okay. And your Exhibit RS-4, what you've blown up behind you, in format it's the same as RS-3, but it's a different analysis with different numbers, is it not?

A It is the same analysis with one change to make it transparent to the Commission what that impact was. And the change is that in RS-4 we have reflected a cost associated with maintaining inventory in the form of natural gas that is equal to the inventory capability that FGPP would provide in coal. We felt that it was only fair to include that cost in the case without coal in order to at least match the, that component of fuel reliability that is offered by FGPP, and which, of course,

our customers would be paying for.

Q Okay. So is the difference between RS-3 and RS-4 then that RS-4 includes a $1.4 billion cost for a liquid natural gas storage facility?

A That is correct.

Q Okay. Now let's go to RS-3, if we could, which is attached to your testimony. There are four different fuel cost forecasts and four different environmental compliance cost forecasts, are there not?

A Yes.

Q Could you describe what the four, what each of the four fuel cost forecasts are?

A Generally I can describe these, these differences. Mr. Yupp, who is the expert witness in fuel, is the one that prepared and could describe these in detail. However, what we represent in these four different cases is the price differential between, that is projected into the future between natural gas and coal delivered to FPL.

It's important that we look at the price differential as opposed to just looking at the forecast of gas or the forecast of coal separately because it's the price differential that enables the, the coal plan to provide much more economic operation.

The -- our fuel experts developed forecasts that looked at today's conditions, i.e., today's environmental

conditions, and projected possible ranges of fuel price differentials into the, into the future. The one that's labeled High is a high differential looking at the, essentially a higher range of differential. If I can jump to the -- the medium differential is, is kind of a status quo type of, of forecast. The shock differential has inserted into it in the early years a price shock short-lived of only two years, and then it conforms back to the, the medium number three. And the low price differential is essentially a very optimistic view of very low gas prices that would narrow the gap, I guess reminiscent of years gone by. And the idea of having these four is not to say that any one of them is more or less probable than any of the others, but simply to say all of these could happen and under each of these circumstances we would have a set of results that would be different from another set of results driven by other circumstances over which we have no control. And that was the reason why we chose scenario analysis as the format for presenting these results.

Q So, Mr. Silva, in each of those forecasts gas is more expensive than coal, is it not?

A Yes.

Q And what the different columns show is how much difference there is between the price of gas and the price of coal.

A That is correct.

Q Okay. You also had four different environmental compliance cost forecasts?

A Yes.

Q A through D. Could you briefly describe what each of those are?

A Yes. FPL Witness Kosky would be the right person to discuss these in detail. But, again, from A to D we have increasing possible constraints or requirements associated with environmental emissions.

In the case of A, for example, it is assumed that the rules will continue as they exist today or, or as they are already known today that will exist in future years with no speculation or, or estimation about any, any additional changes beyond what has already been enacted.

And then as we progress to B and C and D, the major difference is that there's a progressively greater cost of CO2 emissions that is characterized as low, moderate and high to, to depict the reasonable range of possibilities that we and our experts have determined logically combined with the fuel price differentials constitute the range that we should be analyzing and that is going to reflect the type of outcomes that we would see in actuality in the future.

Q Okay. Mr. Silva, then Compliance Cost A, that assumes that there will be no carbon taxes throughout the lives of the plants, does it not?

A That's correct.

Q Because that's what exists today. There are no carbon taxes.

A Yes.

Q And Scenario B changes that so that it incorporates a low forecast of carbon taxes; is that right?

A Yes. And let me -- for a point of clarification, we've applied a carbon cost and assumed for the purpose of this analysis that whatever that cost is imposed by legislation will translate directly into costs at FPL, and we've done that in order to be conservative. In other words, we have assumed that there is no, no free allowances, no threshold below which we would not have to pay any carbon tax. In essence, we've said these are, B, C and D each has a carbon tax and the full amount has been reflected into this.

So in answer to your, your question on A, A not only depicts the situation in which there's no tax, but it also would depict a situation in which -- because we are already so clean and we'll be even cleaner in terms of CO2 emissions as a portfolio in the future, that there is quite a possibility that we may have no incremental costs associated with carbon tax. It just depends on how the legislation is enacted, how the regulation is put forth and then how we mitigate it and respond to it.

Q Now the issue on A would be whether there's

incremental carbon taxes on account of the coal plants, is it not?

A The cost of the CO2 is applied in our analysis to the portfolio.

Q Okay.

A So everything in FPL's portfolio would pay irrespective of how much CO2 is emitted.

Q Right. And, again, this is the difference that would be caused by the coal plants.

A The resulting cost or the resulting -- the result is the difference between a plan that has the coal plants and a plan that does not have the coal plants.

Q And so A has no incremental carbon taxes whatsoever during the entire lives of the coal plants; is that right?

A That's correct.

Q And B is the low carbon tax forecast applied to all your plants?

A Yes. Or equally translated, it's reflective of a law that in terms of translating into an impact on FPL is low.

Q Okay. C is the medium forecast?

A Yes.

Q And D is the high forecast for carbon taxes?

A That's correct.

Q Okay. If you could, let's look at the medium forecast for fuel and the no carbon tax forecast for

compliance, which is 3A. Do you see that on your Exhibit 3?

A Yes.

Q In 3A you have in brackets the number 219. Do you see that?

A Yes.

Q Could you describe what that means?

A Yes. The numbers in brackets reflect that the plan with coal has a lower net present value revenue requirement over the life of the plant for the FPL portfolio than a plan that would not have coal. So in terms of what is lower in cost with the plan, the numbers in parentheses reflect that. So in this instance this is, this says that in cumulative present value revenue requirements the differential, rather the savings associated with adding the coal unit would be $219 million in 2006 dollars.

Q And if we were to look at 3C, which is the medium differential for fuel in the medium carbon tax forecast, there's a number of $1.466 billion. Do you see that?

A Yes.

Q What does that mean?

A That means that in that I would add again a partial result that doesn't really reflect the full comparison shown in RS-4. The plan without coal would be $1.466 billion lower in cost. Again, almost that entire amount is upset if we're going to maintain an equivalent level of inventory to back up gas at

the plant that would replace FGPP. So if you look at RS-4, that number is only $46 million net present value over about almost 50 years -- rather, I'm sorry, over a 40-year life of the plant.

Q So the $1.466 billion figure reflects the instance where you would build gas plants but would not build a liquid natural gas storage facility; is that right?

A That's correct. So it would be a, a far less reliable facility. Even, even when we built the other combined cycle units recently, we have been required essentially by the Commission to provide backup fuel inventory. This is only an extension of that in terms of the quantity of backup, where, where before we've only had three days of backup fuel. In this case since we have a coal plan that would have capability for 60 days of inventory, it would only be appropriate and fair to compare it to a gas plan that also carries 60 days capability of inventory.

Q And so if you add to the analysis the construction of a $1.4 billion liquid natural gas storage facility, then the numbers change as shown on your Exhibit 4 that you have behind you there; is that right?

A That's correct.

Q Has Florida Power & Light determined that it would build gas plants if it is not granted a certificate of need for the coal plants you've proposed?

A FPL has not reached a point where we would come tomorrow with a need determination for gas plants for this period in time simply because it's far enough ahead of time that we would not need to do that in order to have a gas plant-in-service in 2013.

But we have made the determination that there will be no choice in anything that we see at present or projected, and we have evaluated this coal plant against all possibilities, but we have found nothing that will avoid adding a similar amount of combined cycle capability during the same time frame.

Q What is the difference in lead time required for building a coal plant versus building a gas plant?

A In, in terms of building a, a gas plant, from the date in which we have made a final decision at the company level that that's the best choice it takes four years as a minimum, and that's what we've been able to do, from the day we decide until the day that it has to go into service.

In the case of a coal unit, that period is about seven years. And most of that -- if, if you want detailed information on that, Mr. Hicks and Mr. Yeager would be the right witnesses, but it has to do with a much longer construction period.

Q Okay. So Florida Power & Light hasn't specifically determined, you know, that it would build gas plants if it could not build the coal plants; is that right?

A We, we know that that's what we will build.

Q Okay.

A The timing of when we would issue an RFP consistent with the Bid Rule of the Commission and when we would ultimately come to the Commission with a determination of need with either a purchase or a self-build unit, that will be out in the future. But, but there's no doubt in my mind or anybody else at FPL that if it were not for FGPP, that is the only choice. And the only question is refinements in the technology: Is it a three-on-one or a two-on-one combined cycle unit or a four-on-one, is it a one size, a large one or two smaller ones at different times, or will it be purchases from, or a combination between purchases and FPL generation? That we haven't gone through. But the fact that it would be combined cycle and that it would be natural gas, there is no doubt in my mind.

Q And as far as siting is concerned, is it fair to say that it might or might not be located -- or gas plants -- if you went with the gas plant option, that it might or might not be located at the Glades facility?

A That would be fair to say, that it might or might not be.

Q Okay. And FPL has made no determination that if it went with a gas option, that it would need to, to build a $1.4 billion liquid natural gas storage facility.

A No. As I said, we haven't gotten to the detail of what the exact plan -- because of the Bid Rule and the normal proceeding, it might not even be us building the facility. But given the, given the increased dependence on natural gas where we would have 71 percent of our generation on natural gas, we would have to take some measures beyond what we already do in order to ensure reliability of some measure, not quite as much as what coal generation would give us, but some measure of reliability.

Q So would you also look at using third parties to provide Florida Power & Light additional storage capabilities?

A Yes, we could. But bear in mind that the biggest challenge there is the type of inventory capability we're looking for would be at the site or next to the site; in other words, not in Alabama or Mississippi, because part of the issue would be if there's an interruption in transportation.

Coal lets us have 60, the capability of 60 days of inventory at the site. And that's what the goal is, to have that kind of reliability that is not dependent on, on a transmission, a transportation system or a supply system that may have an interruption.

MR. BECK: Okay. Thank you, Mr. Silva. That's all I have.

CHAIRMAN EDGAR: Mr. Gross.

MR. GROSS: Thank you. I do have some questions on

cross.

I intend to question Mr. Silva with respect to two confidential documents. And I have copies for parties who are permitted to, to see these documents, copies for the Commission, the witness and, of course, FPL. I think the Krasowskis have signed a confidentiality agreement.

MR. LITCHFIELD: No. It's not our understanding that they have signed.

MR. GROSS: Oh.

MR. KRASOWSKI: Madam Chair.

CHAIRMAN EDGAR: Mr. Krasowski.

MR. KRASOWSKI: We have decided not sign the confidentiality agreement, so we won't be looking at that material. We perceive that this is not relevant to the positions that we're most interested in and will be communicating on.

CHAIRMAN EDGAR: I understand. Thank you.

MR. KRASOWSKI: Sure.

CHAIRMAN EDGAR: Ms. Brubaker? I just wanted to make sure that we were following the procedure we needed to follow, so.

MS. HELTON: I have no concerns if the, and I apologize if I say their name incorrectly, Krasowskis do not wish to look at the confidential information. Obviously they have not, as is reflected on the record, signed any kind of

agreement. So I think it would be inappropriate for them to have, be privy to the information that will be discussed this morning. They will hear the public testimony, as does everyone else in the room.

CHAIRMAN EDGAR: So, Mr. Gross, do you have copies to distribute?

MS. PERDUE: Madam Chair?

CHAIRMAN EDGAR: Ms. Perdue.

MS. PERDUE: Thank you. We have also not signed a confidentiality agreement and we do not wish to see the documents either.

CHAIRMAN EDGAR: Okay. Thank you. We'll note that for the record.

Ms. Helton.

MS. HELTON: And I guess I just should caution everyone to remember that we are in a public forum, so if there -- and this is kind of a difficult situation that we find ourselves in, but we try very hard at this Commission and have a history of not closing the hearings, and so we just need to work to keep the information confidential. And it makes it a little bit cumbersome, but the process can work that way.

CHAIRMAN EDGAR: Thank you. So we will all work together to keep that in mind with questions and answers.

Okay. I think copies have been distributed to everybody that needed to have a copy. Mr. Gross, we're ready,

if you are.

MR. GROSS: Thank you, Madam Chair.

CROSS EXAMINATION

BY MR. GROSS:

Q Mr. Silva, before I ask questions directly about the confidential exhibits I'd like to refer your attention once again to RS-04.

A Yes.

Q This document shows four different scenarios for carbon taxes, does it not?

A We preferred to call it four different projections and 16 scenarios overall.

Q Okay. What, what are the, what are the four projections for the cost per ton?

A The person to answer that question would be Mr. Kosky. I don't have that detailed information.

Q Okay. So is it fair to say that you have no idea what those costs are, the projected costs?

A The -- I know that there is one case in which there is no projected, projected costs, and then there is other relatively increasing levels of projected costs that rise over time that were used in the analysis. But I don't have the numbers, and it was Mr. Kosky that is ready to answer questions related to those.

Q Okay. All right. Thank you.

I'd like to first --

A Excuse me, Mr. Gross. I might add in reference to your last question that although I cannot talk about the numbers associated with these, in the evaluations that FPL did with its experts, with Mr. Kosky and with ICF, it was determined after much discussion that this constituted the correct and appropriate range of estimates for the cost of carbons, of CO2 in the future, and that that would be the appropriate range to use in the evaluation. And it was agreed after much discussion and evaluation that they would be able to describe that these were, in fact, the right alternatives to consider.

MR. GROSS: Well, I'm going to move on to -- away from these confidential documents since it appears that Mr. Silva is not aware of what the carbon tax projections were and these relate to that specific set of facts. So I'll reserve these at a minimum for my cross-examination of Mr. Kosky. He seems to be the appropriate witness for, for these two documents.

BY MR. GROSS:

Q Now, Mr. Silva, assuming that this Commission approves FPL's application for FGPP, FGPP would operate from 40 to 60 years; is that correct?

A I believe it would operate for at least 60 years -- 40 years is the projection.

Q Okay. Have you ever heard that the -- are you familiar with an organization called the Intergovernmental Panel on Climate Change?

A Not specifically by that name, no.

MR. GROSS: Okay. I'm going to get the document and show it to Mr. Silva and ask again if he's familiar with it.

THE WITNESS: I have not seen this document before.

MR. LITCHFIELD: And before we proceed further, I was under the impression that these would also be distributed. At least I'd like to see a copy of what you've put in front of Mr. Silva.

CHAIRMAN EDGAR: Go ahead. And if you would, one for the court reporter as well.

MR. GROSS: Yes, please.

CHAIRMAN EDGAR: Mr. Gross, do we need to mark --

MR. GROSS: I would like to mark it for identification, please.

CHAIRMAN EDGAR: Okay. I am on 160. Can you give us a title?

MR. GROSS: I'm trying to come up with a short one for this. Intergovernmental Panel on Climate Change, then Climate Change 2007: Impacts, Adaptation and Vulnerability.

CHAIRMAN EDGAR: That's the short version?

MR. GROSS: That's the short version. Right.

CHAIRMAN EDGAR: We'll work with it.

(Exhibit 160 marked for identification.)

BY MR. GROSS:

Q Okay. So, so I take it then your testimony is that you're not familiar with this document.

A I have not seen this document before.

Q Okay. Would you -- do you agree that climate change -- climate change is a very important issue in this docket, is it not?

A Climate change is a very important issue, period.

Q Okay.

A And we have reflected our recognition of that, not only in this docket but in our entire planning for portfolio and in the way we operate our system.

Q Okay. Well, I'd like to at least ask you some questions about some of the policy determinations that are reflected in this document.

MR. LITCHFIELD: Madam Chairman, I'd like to interpose an objection here.

CHAIRMAN EDGAR: Mr. Litchfield.

MR. LITCHFIELD: I don't think Mr. Gross has laid an adequate foundation to question Mr. Silva on this document.

CHAIRMAN EDGAR: Mr. Gross, at this point I agree.

MR. GROSS: Okay.

BY MR. GROSS:

Q Mr. Silva, are you familiar with the recent Supreme

Court ruling in Massachusetts versus EPA?

A I am somewhat familiar with it, yes.

Q And are you an attorney?

A No.

Q Okay. So I understand that any responses would be as, as a layperson.

Are you familiar, aware that the Environmental Protection Agency as a result of this decision has the authority to regulate greenhouse gas emissions?

A That was my understanding of the decision.

Q Now I'd like to refer you to Page 11, Lines 11 through 16, in your rebuttal testimony for Mr. -- where you rebut Mr. Schlissel's --

CHAIRMAN EDGAR: Mr. Gross, hold on. Mr. Litchfield.

MR. LITCHFIELD: I think we're getting a little far afield here. Mr. Silva will --

CHAIRMAN EDGAR: He will be up.

MR. LITCHFIELD: -- take the stand and he will be cross-examined on his rebuttal. But I think we're focused on his direct right now.

MR. GROSS: Okay.

CHAIRMAN EDGAR: We will look forward to seeing Mr. Silva again later in the proceeding.

BY MR. GROSS:

Q Now you believe that it's entirely likely that over

the 40- to 60-year operational life of the FGPP plants there could be no cost to its CO2 emissions whether through a CO2 tax cap-and-trade system or otherwise?

A My thinking is that the impact of the addition of FGPP has to be considered as part of the portfolio. And the question is is there going to be a difference and a significant difference in terms of what the cost of CO2 is going to be to the FPL portfolio with and without? And from that perspective I think that there are reasonable possibilities that that impact could be very small. Not knowing what the legislation is I cannot demonstrate exactly that it will, but I certainly could say that since on a net basis we're only adding 649 megawatts of coal generation to our portfolio and we have and are continuing to add so much gas generation to our portfolio, and depending on what we add in 2018, for example, if it's a nuclear unit that has no emissions, that in its totality the impact on FPL of whatever law and regulation is enacted could very well be very small even with the addition of FGPP. So, yes, it is very possible.

Q Now I'd like to refer your attention to Page 6 of your direct testimony.

A Yes.

Q You state that the FGPP is essentially a hedge -- well, this is on -- excuse me. I'll try to delineate the lines. Between Lines 5 and 16, and a specific reference on

Line 10.

A Yes.

Q Okay. You state the FGPP is essentially a hedge against the possibility of increases in natural gas prices; is that correct?

A It says that that is one of the benefits of FGPP, the other being the reliability benefit that, that offsets the risk of interruptions in gas and oil supply and transportation. But definitely in terms of pricing it does offer a significant hedge against a portfolio that would be totally or mostly based on oil and natural gas.

Q On Page 6, Line 7, of your direct testimony, I'd like you to refer to that.

A Yes. Line 7, Page 6.

Q Okay. And you state that FPL is not recommending approval based on the comparative economic result; is that correct?

A The, the statement begins on Page 5, and it says that it is, that our recommendation for approval is not based on any specific projected set of assumptions or comparative economic results.

I am, in fact, recommending approval based, among other things, on the fact that in combination, looking at all the possible results, this is the cost-effective alternative.

Q Okay. I'd like to refer your attention back to

Exhibit RS-3.

A Yes.

Q If we assume even modest CO2 regulation -- and, by the way, FPL supports CO2 regulation; is that correct?

A Yes.

Q Okay. If we assume even modest CO2 regulation, the FGPP project is only the more cost-effective option if the fuel differential is high except for one scenario on this exhibit, the shocked price low CO2 cost scenario; is that correct?

MR. LITCHFIELD: May I interpose an objection? Clarification really. What does counsel mean by "modest"?

CHAIRMAN EDGAR: Mr. Gross, can you clarify?

MR. GROSS: Well, I would say your, your low and medium projects. Well, actually let me rephrase that.

BY MR. GROSS:

Q Just looking at the projections, all the projections that are on this exhibit -- and I'll rephrase.

Looking at all the projections on this Exhibit RS-3, if we assume CO2 regulation, at least the ones where there is some CO2 regulation assumed, the FGPP project is only the more cost-effective option if the fuel differential is high, except for the one scenario, the shocked price low CO2 cost scenario; is that correct?

A I'm sorry. Could you repeat that question? Which, which scenario, which scenarios do you want me to look at?

Q Well, I'd like you to look at all the scenarios on Exhibit RS-3.

A All right. There are 16 scenarios.

Q Okay. And assuming that there is some degree or any degree of CO2 regulation, the FGPP project is only the more cost-effective option if the fuel differential is high except for one scenario, the shocked price low CO2 cost scenario.

A In this partial result of our economic analysis, which is not the final result and not reflective of the final economics of the comparison, there are four of these scenarios in which coal generation would be less, less cost-effective or not the lowest cost, while there are, the others are showing in this, again, partial result, that there is, the others are more favorable towards gas.

However, if we look at the correct full analysis, all the scenarios that have either the high differential in fuel prices or the shock differential in fuel prices and two that have the medium differential in fuel prices, all of those show favor towards the coal addition, and that's the correct way in which this should be seen.

Q So are you saying that this Exhibit RS-3 is not the final correct analysis?

A As I indicated in my direct testimony, RS-3 does not include the comparison of, that reflects the cost of inventory of gas so as to make it an apples-to-apples comparison. So it

is, RS-3 is a partial result, not the final result. And I express in my direct testimony that RS-4 contains the final results.

Q Assuming once again control -- CO2 control of some kind, two of three scenarios in the shocked fuel price category show FGPP as more expensive.

MR. LITCHFIELD: Madam Chairman, I think this has been asked and answered.

MR. GROSS: I think I'm phrasing this question differently.

CHAIRMAN EDGAR: I'll allow.

THE WITNESS: You're asking about the shocked price case?

BY MR. GROSS:

Q Yes.

A Okay. In the shocked price case, in the full result all the outcomes are favorable to the plan with coal. Even without equalizing the value of fuel inventory in the shocked case two of the four are favorable to coal, to the plan with coal.

Q And is it correct that all medium and low fuel price differential scenarios show FGPP as more expensive?

A We have four medium and four low price differentials, and of those on RS-4 two are favorable.

And I might add, Commissioner, that, Commissioners,

that as I have stated in my testimony and stated in response to a previous question, when we did the fuel price forecasts, we considered only what exists today. So it's a range of possibilities of fuel prices in the future based on the rules as they exist today or we know today will exist in the future. Even though when we go to the high, the medium or high or, for that matter, any type of CO2 legislation, we fully anticipate that those requirements on CO2 are going to cause gas prices to go up significantly. And we did not correct, go back and correct for the fuel prices to reflect that.

But, nevertheless, because this is a scenario analysis and we're looking at all the possibilities, not just what we consider to be more or less likely, but, nevertheless, in those cases where there is certainly a low fuel price differential, in our opinion that will not co-exist with any kind of carbon cost. So even though we've got 16 scenarios here and our results show that in ten of those cases the outcome for FGPP would be favorable, in fact, they're not equal in terms of the likelihood. So when we move to the right and the bottom of my Exhibit RS-2, there is very low likelihood that those combinations could possibly exist. For that reason, FPL gave less weighting in making its decision to go with FGPP to those outcomes.

Q These conclusions do not take into consideration what would happen if capital costs were higher than FPL anticipated;

correct?

A That is correct. The calculation was done on the best projection of capital costs that, that had been obtained.

Q And higher capital costs would favor an option without FGPP; would that be correct?

A Higher capital costs would move in that direction. Depending on how much higher the capital cost would be, it may or may not change the outcome. But I might add it is equally likely or possible that capital costs for FGPP will be lower, in which case the outcome would move in the other direction.

Q Please refer to your direct testimony, Page 36, Lines 13 to 16.

MR. LITCHFIELD: I'm sorry, Mr. Gross. What was the page number again?

MR. GROSS: Page 36.

MR. LITCHFIELD: Thank you.

MR. GROSS: Lines 13 to 16.

THE WITNESS: Yes.

BY MR. GROSS:

Q There you say that it is possible that at some point in the future someone may determine, and I'm paraphrasing somewhat here, that adding FGPP resulted in higher costs. Is that the substance of what you stated there?

A Yes.

Q Okay. And you base this conclusion in part on the

possibility of future legislative action to control CO2 emissions; correct?

A I base that on the combination of what CO2 costs might be and what the fuel price differential might be in the future. And I might add that this uncertainty, if you will, and the fact that someone could say this with perfect hindsight would also be true had we been here to ask for addition of a gas unit.

We think that it is far likelier that adding the coal unit will be the more cost-effective outcome. We're allowing for the fact that it may turn out not to be the case. But the inverse is equally true, in fact, I think more likely that if we were to only add gas generation, the cost and certainly the risk to the customer would be greater.

Q You've stated that you're aware that the U.S. Supreme Court just rejected EPA's position that CO2 is not a pollutant under the Clean Air Act. That is slightly different than the question I had asked you. But are you aware of that aspect of that same U.S. Supreme Court opinion?

A I, I don't recall that part of the decision that talked about whether it was a pollutant or not. I know that my reading of it was that the EPA, that their position that they were not authorized to regulate CO2 was -- that the Supreme Court disagreed with their position and directed them to look at CO2.

Q Okay. The U.S. Supreme Court decision also made a finding that global warming was a real present problem; is that correct?

A I would like to refer to the decision by the Supreme Court. I don't remember what the exact wording of it was. I know that, that they directed the EPA to look at global warming, but I don't remember the details.

MR. LITCHFIELD: And, Madam Chairman, the Commission has taken administrative notice of that decision.

CHAIRMAN EDGAR: Yes, Mr. Gross.

BY MR. GROSS:

Q Are you aware that the court also found that CO2 levels had not been this high for millions of years?

A That CO2 levels what?

Q That -- are you aware of the fact that the Supreme Court, U.S. Supreme Court also made a finding that CO2 levels have not been this high for millions of years?

A No, I don't --

MR. LITCHFIELD: Same objection.

THE WITNESS: -- I don't remember.

BY MR. GROSS:

Q Now you did not include, you did not include anywhere in your analysis the possibility of CO2 being regulated as a pollutant under existing provisions of the Clean Air Act; is that correct?

A I'm not sure by what you mean. But we did assume, as I've indicated, that there would be regulation in the form of a cost that would be applied to FPL's portfolio with and without the addition of FGPP, and that was an adequate proxy for any type of regulation that may be imposed.

MR. GROSS: I think I'm done, but I want to just consult with my co-counsel just a second.

CHAIRMAN EDGAR: Take a moment.

MR. GROSS: Thank you, Mr. Silva. That concludes my questioning for you.

CHAIRMAN EDGAR: Thank you.

Mr. Krasowski, do you have questions on cross for this witness?

MR. KRASOWSKI: Yes, Madam Chair, we do.

CROSS EXAMINATION

BY MR. KRASOWSKI:

Q Good morning, Mr. Silva.

A Good morning.

Q You mentioned in your testimony that this proposed Glades Power Plant would use coal largely produced in Central Appalachia; is that correct? 40 percent of it actually.

A I was going to say my, my recollection of my statement was that it was going to be a blend of Appalachian coal and foreign coal and petroleum coke.

Q And then some of the material, the coal will be

coming from Venezuela and Colombia?

A In principle, primarily Colombia is my view. I believe that Mr. Schwartz would be the person to talk to about detail regarding the source of the coal.

Q Okay. Very good.

And then also I had some questions that possibly Mr. Brandt would be best to ask. Will he be here today?

A He will be.

Q Okay.

A I, I can provide some response to a certain level, if you wish.

Q Okay. In regards to the Appalachian coal, are you familiar with the Ohio Valley Environmental Coalition's case against the Army Corps of Engineers as far as their practices in mountaintop removal and decimation of environmental streams in West Virginia that has been decided in favor of the plaintiff, the Ohio Valley Environmental Coalition?

MR. LITCHFIELD: Madam Chairman? Excuse me for interrupting, Mr. Krasowski.

CHAIRMAN EDGAR: Mr. Litchfield.

MR. LITCHFIELD: I think last evening it was requested by Mr. Krasowski that the Commission take administrative notice of this decision.

CHAIRMAN EDGAR: Which we did, and I believe a copy was distributed.

MR. LITCHFIELD: My understanding was that we had reserved that decision for today. We were going to review the decision last night. If I'm mistaken about that, I'll stand corrected. But I'm not opposed to having --

CHAIRMAN EDGAR: Ms. Brubaker.

MS. BRUBAKER: And actually I believe Mr. Litchfield may be right, and that's my error for not raising it this morning. My apologies.

CHAIRMAN EDGAR: All right. Well, then I apologize, Mr. Litchfield, for my cloudy memory.

MS. BRUBAKER: Yeah, and mine. Go ahead.

MR. LITCHFIELD: I think FPL's point of view is that this decision is fairly recent. It's a district court decision out of the State of West Virginia. The time for appeal has not yet run, so I think it would be premature at this point for the Commission to take administrative notice of it.

Having said that, we're not opposed to Mr. Krasowski asking our witnesses questions about it. Of course, they can answer to the extent that they have an appreciation or understanding of it.

CHAIRMAN EDGAR: Ms. Brubaker.

MS. BRUBAKER: I don't know that it's necessarily inappropriate to take official recognition of the case. We can also note that it is apparently on appeal and we are currently having somebody Shepherdize the case just to determine where in

the process it is. However, any reliance on the case, I think, must be on whoever is relying on it, their peril that it may be overturned on appeal.

MR. LITCHFIELD: Just to clarify, I'm not sure that it is on appeal, but the time for appeal has not yet run.

MS. BRUBAKER: Oh, okay. Okay.

CHAIRMAN EDGAR: Understand.

MS. BRUBAKER: But, again, the same notation that until the time for appeal has run and it has not been appealed -- or, you know.

CHAIRMAN EDGAR: Thank you for raising it, Mr. Litchfield.

Mr. Krasowski, you may continue.

MR. KRASOWSKI: This is a federal case in West Virginia if I'd make that point. And then also does this allow us to comment on this document when we do our brief after this hearing, Madam Chair?

MS. BRUBAKER: My suggestion would be -- I'm not entirely sure when the appeal period runs. But by the time we actually get to briefing, it may well be that that time has run.

MR. LITCHFIELD: If no appeal has been filed by the time that occurs, we would, we would consent to it being administratively taken notice of.

CHAIRMAN EDGAR: Understood. And so, Mr. Krasowski,

I guess my comment would be that you may comment in your brief however you choose to, but note Ms. Brubaker's comment about reliance.

MR. KRASOWSKI: Okay. Thank you very much.

BY MR. KRASOWSKI:

Q Mr. Silva, the point being that there are issues that have come up since your initial submission of your testimony that suggest that there are further complications in regards to the price of coal.

If in Virginia localities are allowed to object to mountaintop removal and if this case is decided in that way, it'll affect the price of coal. Have you factored in those complexities into your analysis of the price of coal?

A We have not reflected any possible impact that this decision could have had. My, my understanding is that it would not affect in any significant way the price of coal delivered to FGPP. However, if you wish to ask more detailed questions, Mr. Schwartz would be the person to ask.

Q Okay. Very good. And then as well, the, the issue of Venezuela was mentioned and our relationship with Venezuela is in flux as far as our dependability on, on them. Do you know who owns the coal that you'll be getting from Venezuela?

A No. But my sense is that the plan is, first of all, that the coal could come from a number of international sources, of which Colombia would be the primary one. And, and

even if some of it comes from Venezuela, the United States still imports very large amounts of oil from Venezuela, and so I don't anticipate that the current political situation is going to extend to the commercial aspect, especially in the case of, in the case of coal.

But, again, my sense is that, and Mr. Schwartz, Mr. Hicks could address this as to what exactly our mix is projected to be, but it's very flexible. I think it's certainly not limited to Venezuela or even Colombia.

Q Do you know -- I did read that the transfer point in Colombia would be Santa Marta. Do you know what region of Colombia the coal comes from? There was mention of an area but I didn't know where that was. Do you know if it's northwestern Colombia, central Colombia, southern?

A No, I can't answer that question. Perhaps Mr. Schwartz could.

Q Okay. Thank you very much.

A lot of -- here's a question. You mentioned that there was a six, you expected a 689 megawatt net increase in coal with this plant. Does that mean you'll be taking other coal plants offline when you build this plant?

A We -- in a way, yes, but not, not plants that are operated by Florida Power & Light. There are some plants, coal plants in existence that operate under contract to FPL and generate power and deliver it to us, and about 1,300 megawatts

worth of generation from those coal plants will no longer be used for FPL. My perception is that they will be used by somebody else. But, but in terms of what serves FPL and its customers, they will not be available.

Q Thank you for that answer.

Are these coal plants within the State of Florida or --

A One is and one is not.

Q Okay. Diversity is a big point here in this case, and I notice your comparisons here are from coal to, to, to gas. The, the alternative energies were not analyzed as thoroughly. Do you want to comment on that?

A The alternative energies are depicted in both charts under the other category. There's a mix of resources that include renewable generation, and the majority, of course, of that renewable generation today to FPL is municipal solid waste with some biomass and other sources.

We have done very significant evaluations of the potential for other renewable resources and find that they are very limited. And even in spite of our best efforts we don't think that they're going to amount to a significant way of deferring or diversifying our portfolio.

Q Okay.

A I might say that, just to, just to quantify my response, FPL has done a significant analysis to establish the,

the technical capability of several types of renewable resources that could provide capacity; in other words, provide capacity towards reserve margin and so forth, and that includes hydro, landfill, biomass and waste-to-energy.

And we have found that -- our estimate is that the maximum technical capability, meaning without worrying about whether it's going to be cost-effective to FPL's customers, would not be greater than 300 megawatts. We think that there is 16 megawatts potential of hydro that, that could be served to FPL, up to 68 megawatts of landfill gas generation, about 200 -- and then, and then in the state -- those would be about 84 megawatts together to FPL as potential.

In the state we have, we see the potential for about 200 megawatts of biomass and about 185 megawatts of waste, additional waste-to-energy facilities, which adds up to 385 megawatts for the state. If we were to take FPL's share to be roughly half of that together with a hydro and landfill, we'd wind up somewhere short of 300 megawatts maximum technical potential over the next ten years without taking into consideration whether somebody would actually develop it and at what cost and whether we'd be able to contract for that.

Certainly 300 megawatts of this type of generation over a ten-year period is not sufficient to meet the need of a system that is growing at the rate of 600 megawatts per year. We will continue to pursue this and, in fact, we are within a

week issuing a request for proposals for renewable generation to be delivered to FPL. And we're giving respondents a very broad time period of any time up to 2015, and even if it's beyond that time we say we'd like to know because we'd like to understand, you know, if, if there are, what exactly it is. But we've done extensive analysis and we are convinced that it is not going to be able to in any way defer the need for FGPP. But we really want to pursue renewable generation as we have done in the past through our contracting.

Q Very interesting information.

I mentioned that the DSM, I'd be asking Mr. Brandt questions. But there's -- DSM seems to be, and please help me understand this, a category of opportunities that you have to maximize efficiency. But the DSM that you involve yourself in is affected by the RIM standards, the economic standards where you pursue some, some conservation activities but not others because you perceive them as being not cost-effective.

So how would you explain to me, if you, if you can, that category of efficiencies that are available but not part of your DSM, which I will speak to, ask Mr. Brandt about, part of your DSM program activities? Do your efforts in that category --

MR. LITCHFIELD: Madam Chairman, I'll just interpose an objection to the form of the question. It's lengthy, it's compound. Subject to that objection, the witness may respond.

CHAIRMAN EDGAR: The objection is noted, and the witness can answer the question if the witness can answer the question.

THE WITNESS: I, I don't have personal knowledge of, of the programs, either the ones that we have adopted or, or those that may not be cost-effective and, therefore, not adopted.

But, you know, one, one point in terms of, of DSM is that by 2016 we will have avoided as a result of DSM altogether about 5,800 megawatts of capacity that would otherwise have been needed. And if you take resources overall, including DSM and generation, that constitutes about 20 percent of the resources that FPL applies towards demand. It's not an insignificant amount. It is larger, it is a larger contribution that coal would make, that coal makes now or that it will make even after FGPP. So what we depict here is the generation resource mix. But if we're talking about all the generation and we were to reflect here the, the demand-side management that we will achieve by that time, that would reflect 20 percent component for that, and it's a very significant amount.

BY MR. KRASOWSKI:

Q Very significant and very well done.

What percentage of the DSM that you are, that we are benefiting from now, what percentage of your customer base

participates in your DSM programs? And I'll get into more detail in each individual DSM program with Mr. Brandt, but --

A I think even that question you will have to ask Mr. Brandt. I cannot tell you what that percent is.

Q Would you agree that if, if we were able to increase DSM, then by doubling what we do have now -- well, I'll save that for Mr. Brandt.

Okay. Can I have a minute, just a minute?

CHAIRMAN EDGAR: Yes.

MR. KRASOWSKI: Thank you, Mr. Silva.

CHAIRMAN EDGAR: Thank you.

Commissioner Carter.

COMMISSIONER CARTER: Thank you, Madam Chairman. Madam Chairman, I've got a lot notes and I beg your indulgence.

CHAIRMAN EDGAR: Yes, sir.

COMMISSIONER CARTER: First, Mr. Krasowski asked you about this case, the Ohio Valley Environmental Coalition. It was filed in '06 and decided in March of this year. And I remember from your testimony that you're not an attorney.

Who at FPL would be responsible for tracking legislation, litigation, rather, of this nature around the country?

THE WITNESS: Commissioner, I'm not sure what name I would give you. I think that in general if it's federal legislation, we have a number of people that look at that.

And, and if it's related to the type of, I guess, judicial proceeding that would affect the supply of fuel, it would normally be the department that buys fuel that would be attuned to changes in that.

This particular decision apparently is so recent that I have not heard of any comment within our organization. However, I know that our expert witness, Mr. Schwartz, is, is knowledgeable about the legislation and its implications.

MR. LITCHFIELD: And, Madam Chair, I would suggest also that of the witnesses that are here in the case, Mr. Schwartz is probably the best one to, to put those questions to relative to this decision.

COMMISSIONER CARTER: Mr. Schwartz.

CHAIRMAN EDGAR: Thank you.

Next.

COMMISSIONER CARTER: Thank you. May I proceed, Madam Chair?

CHAIRMAN EDGAR: You may.

COMMISSIONER CARTER: I noticed in your discussion just kind of generally with Mr. Beck this morning you were into a discourse about these LNG. You weren't here yesterday, were you?

THE WITNESS: Yes, sir.

COMMISSIONER CARTER: Did you have an opportunity to listen to some of the public testimony?

THE WITNESS: Only some of it. But, yes, some of it.

COMMISSIONER CARTER: Only some of it? Were you here when there was, in some of the public testimony I think there was some testimony about the number of LNG ports that within the last couple of years have been created and built around Florida?

THE WITNESS: Yes, Commissioner. After the, after the end of the day I, in the limited time available I did check with our fuel department, and they were very surprised especially at the statement that a terminal, LNG terminal facility would be ready in Fort Lauderdale in, in a short period of time. We, we, we are aware of, of a couple of facilities that, that are being put in Georgia and, of course, there has been partial approvals for a number of others. But in terms of actual imminent facilities that are going to be built in Florida, we don't think that there's anything imminent in that regard.

COMMISSIONER CARTER: Just permission to follow up along this line, Madam Chairman.

CHAIRMAN EDGAR: Yes.

COMMISSIONER CARTER: What was the results of your investigation yesterday in terms of what's the status of the LNG port in Fort Lauderdale that you were able to ascertain?

THE WITNESS: Only that -- I guess to put it bluntly, we don't, we don't really know what the gentleman that spoke

was really alluding to because FPL --

COMMISSIONER CARTER: That's not my question though. My question is that you said you guys went and checked it out. So I'm saying what was the result of the investigation that you talked with your, your staff on yesterday afternoon, or are they still in the process of evaluating? If so, I can move on. I do have a lot of questions to ask you, sir. I'm not being rude, I just want to --

THE WITNESS: Yes, Commissioner, I understand. In essence, they will have to continue to investigate because they were surprised. They -- we have pursued, FPL has pursued three different, associations with three different entities that could bring LNG into Florida or, or have a facility offshore like on a ship to deliver LNG to Florida. And of those only one is known to us to be potentially viable even at this point, and none of them has ever talked about actually putting an LNG facility in Fort Lauderdale. It has not even been in the horizon. It hasn't been discussed. So none of the people that even have been involved directly in those negotiations have ever heard that there's a potential for an LNG facility in Fort Lauderdale. So we were really surprised and not knowing what this gentleman was referring to.

COMMISSIONER CARTER: And I do want to continue along this line, Madam Chairman, if you will permit me.

CHAIRMAN EDGAR: You may.

COMMISSIONER CARTER: Conceptually, conceptually you would agree that -- well, let me do this. I've got some other notes here for you. That's always dangerous. I'll come back to that particular point. But let me just do this.

This morning you spoke with Mr. Beck on a number of issues, and I think you talked about your RS-4 and RS-3. Do you remember those, that discourse? And I think in one of them, I think it was RS-4 you had $1.4 billion, which would be an LNG inventory facility; correct?

THE WITNESS: Yes, Commissioner.

COMMISSIONER CARTER: And that would be in the event that you were not successful in getting a need determination for a coal plant but for a gas plant.

THE WITNESS: That is correct.

COMMISSIONER CARTER: Right?

THE WITNESS: The idea, by the way, on that would be, I think, different in concept from what I heard in the public comment that you first alluded to. What we would be talking about here would be at the site, instead of trying to store gas in gaseous form, we would -- the idea would be bring it as gas through the normal pipeline from the Panhandle and Georgia and so forth, but then store it onsite by compressing it into an LNG. So that concept, that price that we were talking about is only for the storage facility and compressing it. It didn't relate, just to be clear, in bringing LNG into Florida. We had

-- we didn't cost that out in terms of this particular analysis, only the storage facility itself.

COMMISSIONER CARTER: And that gets -- Madam Chairman. And that gets to the, the discussion, the discussion you were having with Mr. Beck is that you're saying -- I think you talked about an amount of coal that you'd have onsite at any given point in time.

THE WITNESS: Yes.

COMMISSIONER CARTER: So you would have an LNG facility to have enough gas onsite for a given point in time.

THE WITNESS: That's correct.

COMMISSIONER CARTER: Wasn't that the context?

THE WITNESS: Exactly. For 60 days for an equivalent amount of generation.

COMMISSIONER CARTER: Okay. Good. And the RS-3, if I could direct your attention there, please, sir. RS-3, Scenario 3C, 1.466 billion; correct?

THE WITNESS: Just a moment while I get there.

Scenario 3C, 1.466. Yes.

COMMISSIONER CARTER: 3C. And just kind of hold your place there and flip over to RS-4.

THE WITNESS: Yes.

COMMISSIONER CARTER: That same Scenario 3C is 46. So I'm just doing my rough -- I don't do math, I do arithmetic, which is not of the same magnitude.

Basically it seems that the 1.4 billion taken out would be the cost for the facility to store the LNG for that 60-day supply --

THE WITNESS: Yes.

COMMISSIONER CARTER: -- necessary.

THE WITNESS: 1.42 billion. Right.

COMMISSIONER CARTER: Good. Now I like what you're saying on that because now I can understand where you're coming from.

Now in this context with me, just go with me momentarily, in this context then that this facility that you'll be spending, I'm just saying hypothetical based upon what you put here, is that this $1.4 billion that you would be spending, this facility would be necessary to provide enough fuel for a plant to provide the same megawattage from a gas plant that you would have from a coal plant.

THE WITNESS: Yes.

COMMISSIONER CARTER: Good. Good. Good. That's great. That's -- thank you, Madam Chairman. I'm still -- I've got a roll going here.

I do remember also in your discussion with Mr. Beck that you said that the, the lead time to build a gas plant versus a coal plant -- do you remember that discussion you had? The coal plant was seven years and the gas plant was four years.

THE WITNESS: Yes. Yes.

COMMISSIONER CARTER: And I think that in the context of that was 2015 is when you're expecting roughly to be able to begin construction for the, the coal plant, is that right, or am I, do I have my numbers mixed up?

THE WITNESS: The coal -- in terms of timing, the coal plant would, the first one would come in service in 2013.

COMMISSIONER CARTER: 2013.

THE WITNESS: So we would have to begin construction about four years earlier than that.

COMMISSIONER CARTER: Hang on. Let me count my fingers here. Let's see. So four years. Today is 2007; right? So that would be 2011 for the gas plant and 2013 for the coal plant. Is that what you're saying?

THE WITNESS: In, in -- excuse me. As far as the construction for the gas plant, we would begin in 2011. Correct.

COMMISSIONER CARTER: I had enough fingers for that one.

And I think that in your discussion with Mr. Beck you said that if you build the gas plant, you may or may not build it in Glades County; is that right?

THE WITNESS: The first gas plant that we would build, it might or might not be in the Glades County site. There are other sites and we would make a determination as to

which is the most cost-effective at the time we make a decision.

COMMISSIONER CARTER: I know that you weren't asked about this, and if you don't feel comfortable answering it, that's okay too. But would it -- that may be an unfair question. I won't ask you that.

I was going to ask you -- well, it's a fair question. I'm going to ask you anyway. Is that this footprint in Glades County, it just seems to me that the good people of Glades County have opened their doors and said, welcome to our community. And you have a site set aside for that. You also have, from what I've heard from the people in Hendry and the neighboring counties that in terms of the pertinent transmission lines and all would allow that. Why would you not build it in Glades County versus going someplace else and starting from scratch? Wouldn't that add to the cost? You've got a four-year time frame to build a gas plant, you've got a facility, you've got a space, you've got a geographical location, you've got a footprint, you've got all the transmission lines lined up. Would you -- I mean, wouldn't that be an extraordinary cost to put on the cost of a gas plant? So you really wouldn't be comparing apples with apples, would you? That's a convoluted question. If you don't feel like answering it -- you haven't testified to it, so it's okay.

THE WITNESS: I can, I can answer your question.

What I was thinking about was not do it at Glades or do it at some unknown site that we don't know anything about now that would have to be developed and so forth. What I was thinking about is that there are some existing sites that have been partially used that have the capability to add more generation and that, and where the transmission incremental costs might be lower than, than that at Glades County. And if that were the case, we, we might select and propose such a site as, as the first of, of gas additions.

Because, as I said in my testimony, whether we build the coal plant at FGPP or not, FPL is continuing and will continue to have to add some gas generation. So what I was only referring to was the first addition might not be at Glades County. Now Glades is a site, is a favorable site, and it will definitely continue to be considered, and it might be selected for, for other generation. But, but we just haven't done that analysis, and there could be others that are more cost-effective. Obviously we wouldn't go to one that is less cost-effective.

COMMISSIONER CARTER: Okay. This is my last question on this issue, Madam Chairman, as it relates to the gas issue.

And in the context of RS-3 and RS-4, the $1.4 billion, does that reflect that you would build the gas storage facility at one of your existing facilities or would you put it at the new facility at Glades? That's where I'm

trying to get. Do you follow me now?

THE WITNESS: I understand. I understand. The estimate -- my understanding of the estimate, and I must add that it was not prepared by me but by Mr. Yupp, but --

COMMISSIONER CARTER: Mr. Yupp.

THE WITNESS: But, nevertheless, I understand that the, that the estimate was based on siting the storage in the vicinity of the Glades County site.

COMMISSIONER CARTER: Okay.

THE WITNESS: All right? And when I say that the site might not be Glades, you know, I expect that it would be in relatively close proximity to that, to that area.

And I guess the, the other point that I wanted to make, Commissioner Carter, was that, as I said before, substituting a gas plant even with the storage that I'm speaking of would not provide the same level of fuel diversity because the gas would still come from the same sources in the Gulf of Mexico through the same pipelines and therefore be subject to many of the same interruptions that a hurricane could cause and things like that; whereas, building a coal plant would separate us completely from that process.

COMMISSIONER CARTER: And I heard all of that and I remember you testifying to that. But that's not what -- I was just zeroing in specifically on once the gas got here. I mean, no matter what you do, it's got to get here someplace. Because

we don't have natural gas in Florida, we don't have coal in Florida, we don't have -- it's got to get here someplace. So I just blew past that. Now I'm moving beyond natural gas, Madam Chairman, if you would permit me.

I've got -- you may or may not be the right person to answer this question, but, you know, that's never stopped me before.

Have you -- or do you know whether or not that FPL or any other utility in Florida has -- because you're the Director of Planning and -- what does this say here? You're the Director of Planning and Assessment; is that right? Am I close?

THE WITNESS: Yes, Commissioner.

COMMISSIONER CARTER: And you obviously have to not only consider what you do at FPL, you have to consider what's happening in the industry; right?

THE WITNESS: Yes, in general.

COMMISSIONER CARTER: Good. Good. Good. Thank you.

So, so have you given or have you given any thought to or have you heard anything about what it would cost to place solar panels on homes in your market area or in Florida and for hot water for the homes and hot water for pools, there are a tremendous number of pools in Florida, or other uses like that? And I know this is probably getting more into the DSM areas. And if you think I should ask it to someone else, I'll be glad

to. Let me know, I'll circle their name, and I'll be ready to talk to them when they get on the stand.

THE WITNESS: I can definitely give you a name on that, Commissioner. I would not be able, but if you ask the questions of Mr. Brandt, he would be able to tell you about the types of programs that we have considered and the potential that we see in those programs.

COMMISSIONER CARTER: Okay. Thank you. And --

THE WITNESS: I could tell you that I have, I have a little understanding of, of the issue of the limitations regarding solar as it pertains to using solar for electric generation.

COMMISSIONER CARTER: No. I'll ask him. That's okay.

THE WITNESS: Okay.

COMMISSIONER CARTER: I don't want -- thank you, Madam Chair. I've got a limited amount of time here, like I say.

I remember in one of the discussions you had, I forget who you were talking to this morning -- and I'm like Mr. Krasowski, I'm not really interested in the confidential stuff.

How do you factor -- there's been a lot of discourse, not just with FPL but a lot of the people from both public, both the parties, OPC and all like that talking about the NRDC,

Sierra Club and different organizations talking about future costs of emissions and things like that. How do you even factor -- in essence, how do you arrive at a cost of that? You know, like I say, I just do arithmetic. I'm not a math major. I don't do algorithms or trigonometry or anything. But what's the calculus? How do you even factor the cost of what future emissions would be? How do you factor that cost? I don't want anything confidential because, you know, I don't want to remember anything confidential.

THE WITNESS: I can tell you how we have done it up to this point and in this proceeding. For, for a number of the areas of emissions that, that we know of where there is SO2 regulation, NOx regulation, particulate regulation, et cetera, we, we project the amount of emissions that each type of generation in our system will produce, and then depending on the legislation the emissions are either limited or one can buy allowances. In many cases we, we don't emit too much so there's no cost. So based on simulation of the system into the future as to how we will operate, which plants will operate for how many hours, et cetera, we can project what those emissions are going to be in the future. And then based on the legislation that exists and the regulation that exists and on the projected costs for, say, allowances or whatever it is going to take for us to be able to operate the system, then we come up with an estimate. If, if there's these plants and this

is the load, this is going to be the emissions and this is going to be the cost.

Now in the case of CO2, of course, there is no legislation in place, there's no regulation in place. And rather than just like we do for the others, based, do the calculation based on what exists and will exist in the future that we already know, we have to say, well, what if? And we, we took from, from experts and, and consultants their views of what a logical range would be, and then we applied that range of what the legislation might be to FPL and then applied the same logic. If the regulation is this way, how would it affect the FPL portfolio, how many emissions of CO2 will the portfolio emit and, therefore, what is the cost going to be? And so in the same manner that we projected the others, we projected the cost of CO2, only in the case of CO2 we did it in four different cases because of the uncertainty associated with that. Did that answer your question?

COMMISSIONER CARTER: And that's, and that's how you got the RS-3 and RS-4 with the different scenarios?

THE WITNESS: Yes, Commissioner.

COMMISSIONER CARTER: Good. Thank you so kindly.

Madam Chairman, I'm just about done here.

In the -- did you hear the discussion yesterday on the amount of water or lack thereof or the type of water that will be used for a coal plant in Glades County? Were you here

for that?

THE WITNESS: I didn't, but -- although you haven't asked me if I can answer the question, but I would suggest that if you have questions related to that, then Mr. Hicks would be the right person to ask.

COMMISSIONER CARTER: Mr. Hicks. I think you've broken the code there.

Thank you for your indulgence, Madam Chairman. I'm just trying to look.

Okay. Does -- I've been dying to ask somebody this question. I don't know who would have the answer to this, but I probably could look it up, maybe Google it or something.

What is -- does anyone know the percentage or has anyone told you or have you read it anywhere about the percentage of CO2 emissions from the United, emitted in the United States from power plants versus from other countries?

THE WITNESS: I don't have that information. I'm sure that by the time you, you ask Mr. Kosky, he will be able to answer.

COMMISSIONER CARTER: Mr. Kosky. Mr. Kosky. Okay.

Thank you, Madam Chairman. Appreciate it.

CHAIRMAN EDGAR: Commissioner McMurrian.

COMMISSIONER McMURRIAN: Thank you. I have a few.

First I will follow up on a question that Mr. Beck asked earlier, and I think Mr. Carter took you down this same

line, too, regarding the location of the site. And I think you agreed if a gas plant were instead selected, instead of the coal plant that's proposed, it may or may not go at the Glades site. Would that be because of the proximity of the site to the gas pipeline or the existing sources, or is it other factors or some combination? Can you help me understand.

THE WITNESS: Yes, I certainly can. I will tell you that in terms of the expert in site selection, Mr. Hicks could give you chapter and verse; however, I think I can address your question. When we look at a site we look at a number of issues. First of all, the size and proximity to population, the availability of transmission facilities, near the site as well as from the site to the load center, as well as the ability to deliver fuel to the site. There may be other factors, but those are definitive factors.

In looking at Glades, it's a very favorable site, and it encompasses a number of these benefits. But just in terms of what the first gas plant that we would build, whether FGPP is built or not, and we certainly hope that it will, there might be a better site in terms of gas pipeline already be in the proximity, transmission capability being in the proximity, it being closer to the load center. And of course if there's water for a coal unit, there would be water for other types of generation at Glades, but those are the factors that we would take into consideration. And the other thing that we will take

into consideration if the Glades County site has potential for something other than natural gas, but another site that we might have control over only has potential for natural gas, that might be a factor as well.

COMMISSIONER McMURRIAN: Thank you, that helps.

And I think it would be the same type of analysis no matter what type of plant; but if it were an IGCC, would it be more likely that the Glades site would be more likely to be a favorable sight with an IGCC because it's more similar technology and both use coal.

THE WITNESS: I think that I haven't considered it from the IGCC perspective, and I think it would be perhaps preferable if you could ask Mr. Hicks that question.

COMMISSIONER McMURRIAN: No problem. Thank you.

And along a different line, Chairman.

This is a follow-up to one of the questions that Mr. Krasowski asked you regarding the coal contracts that I understand are expiring, and I think you discuss it in your testimony, I think Page 16. And perhaps it may be good to refer to, and I think you might have it there on the table, the Exhibit Number 155 that was marked, Staff's Second Composite Exhibit, it has a yellow sheet on the front, maybe over to your right. It should say Staff's Second Composite Exhibit. Do you have that?

On Bates stamped Page 2 there's a list of some of the

contracts there, and I'm not sure if this coincides with the 1312 megawatts that's referenced in your testimony, but --

THE WITNESS: No. The contracts that I'm alluding to, if I look at these -- well, one of them does, it's the UPS, but the period in which that contract would expire is after 2012. And that does expire in 2015, and that has -- at the time it expires, there would be 160 or so megawatts of coal generation. Now, if you see under the column that says type of facility/source, on the lines that says UPS, it says coal/coal and combined cycle.

COMMISSIONER McMURRIAN: Yes.

THE WITNESS: In 2010 that contract changes from being a totally coal contract of 930 megawatts to a coal to provide only 160 megawatts of coal. That was, in spite of our attempt to extend the contract in its original form, the supplier did not want to continue to market that output, and we were only able to extend 160 megawatts of the coal portion and then replace the rest with combined cycle generation from Georgia. And that was a contract that was presented to the Commission and discussed about a year and a half ago.

So in combination between now and 2015, the UPS contract first changes and then expires so that 930 megawatts of coal generation by 2015 will go away. The other component is not here, and that is in St. Johns River Power Park where we own 20 percent but we also purchase 30 percent of the output,

in 2015 by IRS regulations, we no longer can receive the purchased power component. So that 30 percent which amounts to 381 megawatts will go away, and we have to replace it with other generation. And those two, the 930 and the 381 are the totals that I'm talking about.

COMMISSIONER McMURRIAN: Okay, that helps. And I've got a follow-up. It sounds like obviously the 381 megawatts associated with the St. Johns River Power Park is completely off the table due to a change in law, it sounds like.

THE WITNESS: It's actually based on the restrictions imposed on the original financing of the plant that has tax implications, and it is not subject to the parties agreeing otherwise, it's by IRS rules.

COMMISSIONER McMURRIAN: Okay. And I think you see where I'm going. With respect to the 930 megawatts, do any of those contracts provide for reopeners or some type of renewal to be considered by FPL, or is that 930 megawatts going to be completely off the table in 2015?

THE WITNESS: In terms of coal generation, the difference between 930 and 160, let's see --

COMMISSIONER McMURRIAN: 770.

THE WITNESS: 770, yes.

COMMISSIONER McMURRIAN: Whether it's arithmetic or math, I'm not sure.

THE WITNESS: The 770 that will go away as far as

coal generation that is replaced with combined cycle, it was the decision on the part of Alabama Power who is the owner of the Miller plants that had served us for, it must be at least 15 years, that they were going to use that coal generation to serve their native load. When we entered into those contracts it was found that they were not needed to serve their native load, so they were not allowed in their rate base and that's the reason why we were able to purchase from them. But at this point, they determined that they are needed, that indeed like us, they are in search for something to diversify their fuel mix and get away from exclusively natural gas, so they have elected to keep that generation for their native load, therefore they were not willing under any circumstances to sell it to us.

COMMISSIONER McMURRIAN: Okay. I guess one final question. With respect to the 160 megawatts, and it sounds like that expires by 2015 as well, but is there a chance for some type of renewal on that amount?

THE WITNESS: We will continue to try. When we entered into the supply contract, we wanted to extend the whole purchase, including the combined cycle, and 2015 was as long as Southern Company was willing to extend that, and did not express any opening. But, of course, just like we are looking at other possibilities for purchasing coal generation from plants that are being built or have been built, we will

continue to look for that. I might add, for example, we even asked Seminole to tell us whether they were willing to offer generation. And they said, no, even if their new plant is built was their answer to us. And we are pursuing other cases, but there is a great deal of competition for coal generation these days for the same purpose that we think it is necessary to building FGPP for the purpose of fuel diversity.

COMMISSIONER McMURRIAN: Thank you.

That's all, Chairman; thank you.

CHAIRMAN EDGAR: Other questions from staff.

MS. HOLLEY: Staff has a few questions.

CHAIRMAN EDGAR: Just a few, or -- for timing.

MS. HOLLEY: Ten, fifteen minutes tops.

CHAIRMAN EDGAR: Why don't we take a very short break. We will come back -- and give the witness a chance to stretch, and maybe the rest of us as well -- and let's come back at five after, and we will take up questions for staff and redirect and see what we want to do about lunch break.

(Recess.)

CHAIRMAN EDGAR: Okay. We are going to go back on the record and continue. And, Mr. Gross, I meant before we went on break to ask if you would have somebody pick up the red folders. And I apologize, because I forgot to make that request. But before we get started, is that all right, because I would much prefer that they are your responsibility than

mine.

Okay. And just for planning purposes, I'm thinking that we will go ahead and finish the questioning and the redirect with this witness, and then maybe take the next witness, and after that take a longer break for lunch. So let me know if that will work. And so with that, questions from staff.

MS. HOLLEY: Thank you.

CROSS EXAMINATION

BY MS. HOLLEY:

Q Good afternoon, Mr. Silva.

I'd like to ask you a few questions regarding the potential rate impacts of the proposed FGPP. You should have in front of you what has been previously marked Staff's Exhibit Number 156, it's the blue-covered composite exhibit.

If you could, in that exhibit, turn to FPL's Response to Staff Interrogatory Number 99 which begins at Page 14.

A Yes, I have it.

Q And looking, actually, at Attachment 1 to that interrogatory response, which is Page 15 at that table, you would agree that this table was developed using Forecast Scenario 3B which you discussed previously, and shows the estimated impact of residential rates using the plan with coal versus the plan without coal.

A Yes, that's correct. And I might, just for

clarification, say that this did not reflect, in terms of the differential, the cost of gas storage. But rather -- so, in essence, it is consistent with my document RS-3 as opposed to my document RS-4.

Q Thank you for that. And looking at that table, specifically the column all the way to the right that should be highlighted in green?

A Yes.

Q You would agree that according to that column ratepayers would be paying an additional cost for having fuel diversity for approximately 16 years before any bill reductions would be realized?

A Yes. In this particular combination, which as we have indicated is done for illustrative purposes across the board, it would take a number of years where the price would be higher, especially at the beginning, of a little over $3.64 per thousand kilowatt hours, and then diminishing over time.

Q Thank you. Now turning to Late-filed Exhibit 2 to Doctor Sim's deposition which begins at Page 22 of the same exhibit.

A Yes.

Q And turning to Attachment 1 of that exhibit which is on Page 23?

A Yes.

Q You would agree that this table was developed using

Forecast Scenario 1A and also shows the rate impacts of the estimated residential rates using the plan of coal versus the plan without coal?

A That is correct. Again, in the same vein, without reflecting the cost of gas storage.

Q Okay. And, again, looking at the column to the far right highlighted in green, using this scenario ratepayers would realize rate reductions after the third year, correct?

A That's correct.

Q So based on these analyses, Forecast Scenario 1A would show the most savings regarding the FGPP, correct?

A Yes.

Q Staff is now going to hand out an additional document, what is being handed out is a copy of FPL Supplemental Response to Interrogatory Number 112. Are you familiar with this document?

A Yes.

MS. HOLLEY: Madam Chair, at this time we would like to have this exhibit identified, I believe Number 161.

CHAIRMAN EDGAR: We will so mark Exhibit 161.

MS. HOLLEY: And we can call it FPL's Supplemental Response to Interrogatory Number 112.

CHAIRMAN EDGAR: Okay.

(Exhibit 161 marked for identification.)

BY MS. HOLLEY:

Q Mr. Silva, you would agree that this interrogatory provides a sensitivity to the plan with coal, but replacing the FGPP with a comparable IGCC plant?

A Yes.

Q Turning to Page 5 of this interrogatory response. You would agree this table reflects the same rate impact analysis we discussed previously incorporating Forecast Scenario 1A, but, again, using an IGCC plant instead?

A Yes. And as the column on the right shows, the higher cost to the customer last longer than in Scenario 1A for FGPP.

Q Right. And, also, you would agree that the IGCC plant would result in a higher initial rate impact to the customers as well?

A That's correct.

Q Which is 295 for IGCC verse 247 for FGPP in the table we previously looked at?

A That's correct.

Q And as you noted, also, a longer period of time before the net benefit started to accrue?

A Yes.

Q And would you expect similar results if we compared the results of Forecast Scenario 3B also using the substituted IGCC plant?

A Yes.

Q Great.

A The IGCC has been shown to be a higher cost alternative across the board in every scenario we have tested.

Q And now turning to the last page of this exhibit, Page 11, could you just briefly explain what this chart is intended to show?

A I will tell you how I understand it, and it may be appropriate for more detailed questions to be posed to Doctor Sim, who prepared this.

Q Thank you.

A But, in essence, this is what we referred to as the screening analysis, and it simply looks at an individual plant separate from the portfolio or how it behaves in FPL's portfolio or how it would dispatch, and it simply says how would the dollars per megawatt hours produced compare, this is reflecting capital costs, fuel costs, et cetera, how would they compare at different capacity factors.

So no judgment is made as to whether they would be base loaded or partial, but at each point along the way, what would an individual unit addition do? And what it shows here is we show four IGCC cases. And what I'm not absolutely sure about is the variation among the IGCC cases that Doctor Sim can explain, but they are the four IGCC cases showing a higher cost than the advanced technology coal. And I believe that the 50/50 has to do with the type of emission, but I would ask that

you ask Doctor Sim that. But, in any event, all four variations of an IGCC screening analysis at every capacity factor shows a higher, significantly higher cost than the advanced technology coal at FGPP.

MS. HOLLEY: Thank you. And we'll follow up with Doctor Sim as appropriate. That concludes my questions.

CHAIRMAN EDGAR: Thank you. Redirect.

REDIRECT EXAMINATION

BY MR. LITCHFIELD:

Q Mr. Silva, in response to questioning from Mr. Krasowski, I think you referenced a figure of 5800 megawatts as the amount of capacity that FPL will have deferred by the year 2015 through its DSM efforts. Is my recollection accurate?

A Yes, that would have been avoided, yes.

Q Would have been avoided. Thank you. And can you put that in some context for us in terms of the number of power plants that would or will have deferred -- excuse me, will have avoided?

A Well, the 5800 megawatts is equivalent, approximately, to three times the size of the proposed FGPP. So, in essence, through the accumulated DSM we will have avoided FGPP three times by 2016.

Q Now, in response to questions from Mr. Beck and also Mr. Gross, you were focused on RS-4 at various points, do you

recall that discussion?

A Yes.

Q That is the exhibit on the white board behind you as well?

A That's correct.

Q I want to focus you on column number four, and tell me if I'm right about this, the columns represent the differential between forecasted price of coal and natural gas?

A I'm sorry could you repeat the question.

Q Yes. The reference to different differential in the columns here, one through four, that refers to the difference between the price of gas and coal does it not?

A Yes, that is correct.

Q Now, if carbon regulation occurs, what is your view as to the impact of that on the price of natural gas?

A Our view is that any imposition of a carbon cost on the industry will cause the price of gas to increase because generators will have choices, and one of those choices will be to reduce the amount of coal generation and increase, to the extent possible, the amount of gas generation, at least until the two are made equivalent in cost, so to speak. Including, of course, for coal the cost of the fee, or the tax, or whatever form of the legislation. So it will increase the demand for natural gas, it likely will reduce the demand for coal, so the differential between the two is likely to increase

as a result of any level of carbon legislation.

Q In the event of carbon regulation, therefore, what does that say to you with respect to the probability of the scenarios in column four occurring?

A As I indicated in answer to a prior question, I would believe that the last three numbers on column four, the bottom three numbers on column four, which depicts a carbon fee and a very low differential between natural gas and coal prices are very unlikely to occur. I believe that if there is any imposition of a carbon tax that the definite outcome will be that gas prices will increase relative to coal prices and, therefore, we will in actuality move towards the left in this matrix. Therefore, the last three -- in the last column, the bottom three outcomes are very, very unlikely, in my opinion.

Q Just to be clear, those are the figures 1250, 2184, and 2617?

A That's correct.

Q Then given that, how many scenarios on this matrix would reflect a negative or noncost-effective outcome for FGPP?

A There would only be three that I would consider possible out of the remaining 13, with ten being favorable.

Q And what can you say about the relative magnitude in terms of outcomes, the three outcomes that show FGPP as not cost-effective versus the ten outcomes that show FGPP as cost-effective?

A Well, in these remaining three scenarios that are unfavorable to FGPP, the magnitude of the differential is much, much smaller that in the majority of the cases that are favorable to FGPP.

Q Now, you were asked a few questions from staff relative to Exhibit 156. Do you still have that in front of you. It's the one with the blue cover.

A Yes.

Q And, specifically, I think, you were focused on Page 15 of that exhibit initially, is that right?

A Page 15, yes.

Q Now, you indicated that this -- well, let me ask this as a threshold question. This was prepared at the request of staff or was it prepared at FPL's instance?

A It was prepared in response to an interrogatory from staff.

Q And you indicated in your response to staff that this chart does not reflect the economic impact reflected on RS-4, is that correct?

A That's correct.

Q If the chart were to reflect that economic impact, do you have any sense for how that would affect the net cost savings numbers in the far right column?

A If the cost of gas inventory were reflected, then the period of time in any scenario in which the cost of the plan

with coal would be higher would be much shorter, and, of course, the magnitude of that difference unfavorable to coal would be much smaller, as well.

Q Are there any other benefits associated with FGPP that would not be quantified on this table?

A Well, definitely as I have said in my testimony, what FGPP provides is a balanced portfolio and, in essence, prevents FPL from being almost uniquely an oil and gas utility, which would make our customers much more vulnerable to interruptions, in particular, in fuel deliveries, as well as other factors like. For example, there are benefits in fuel diversity from not having everything have the same technology because there could be from time-to-time a particular component of a turbine or some other piece of equipment that affects a generic type of generation. Like, for example, combined cycle units. Well, by having a different fuel and a different technology, then we also avoid that type of risk. I have already mentioned about diversifying fuel sources and delivery methods as well as the benefit of inventory, which is addressed by RS-4.

Q Now, you were also focused on Page 23 of this exhibit, correct?

A Yes.

Q Without me having to ask you each of the same questions, are you able to address generally the context of the discussion that we had with respect to Page 15, but relative to

this spreadsheet shown on Page 23?

A Yes. Again, reflecting the cost of gas inventory, the period of time in which the net cost would be unfavorable to coal would be even shorter than it is shown here, and it would essentially show a favorable outcome for FGPP throughout its life.

MR. LITCHFIELD: That's all the redirect I have.

CHAIRMAN EDGAR: Okay. Let's look at exhibits. Let's start with Exhibits 4 through 8. And seeing no objection, we will enter 4, 5, 6, 7, and 8 into the record.

(Exhibits 4 through 8 admitted into the record.)

CHAIRMAN EDGAR: And then, Mr. Gross, you had what we marked as Exhibit 160.

MR. LITCHFIELD: And FPL would object to 160 on the grounds that there was no foundation laid. In fact, ultimately, I don't think the witness was asked any questions of the document.

CHAIRMAN EDGAR: And that is my memory, as well, Mr. Gross. So we will not enter Exhibit 160. And then we had Exhibit 161.

MS. HOLLEY: We would request that be moved into the record.

CHAIRMAN EDGAR: Any objection?

MR. LITCHFIELD: None with respect to 161.

CHAIRMAN EDGAR: Okay. Seeing no objection, we will

enter 161 into the record.

(Exhibit 161 admitted into the record.)

CHAIRMAN EDGAR: And so, this witness is excused with the understanding that we will see you back later in the proceeding. Thank you.

THE WITNESS: Thank you.

CHAIRMAN EDGAR: Mr. Litchfield.

MR. LITCHFIELD: I will give the seat up to Ms. Smith, who will call our next witness.

CHAIRMAN EDGAR: Okay.

MS. SMITH: FPL will call Doctor Leonardo Green.

CHAIRMAN EDGAR: And, Doctor Green, you will need to be sworn. So when you get settled, if you would stand with me.

(Witness sworn.)

Whereupon,

LEONARDO E. GREEN, Ph.D.

was called as a witness on behalf of Florida Power and Light Company, and testified as follows:

DIRECT EXAMINATION

BY MS. SMITH:

Q Would you please state your name and business address?

A My name is Leonardo Green. The business address is Florida Power and Light, 9250 West Flagler Street, Miami, Florida 33174.

Q By whom are you employed and in what capacity?

A I'm employed by Florida Power and Light. I'm the Load Forecast Manager.

Q Have you prepared and caused to be filed 17 pages of prefiled direct testimony in this proceeding?

A Yes, I have.

Q Do you have any changes or revisions to your prefiled direct testimony?

A No changes.

Q If I asked you the same questions contained in your prefiled direct testimony, would your answers be the same?

A Yes, they would.

Q Are you also sponsoring any exhibits to your direct testimony?

A Yes, I am.

MS. SMITH: First, I would ask that Doctor Green's prefiled direct testimony be inserted into the record as though read.

CHAIRMAN EDGAR: The prefiled direct testimony will be entered into the record as though read.

MS. SMITH: Thank you.

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

FLORIDA POWER & LIGHT COMPANY

TESTIMONY OF LEONARDO E. GREEN

DOCKET NO. 07____-EI

JANUARY 29, 2007

Q. Please state your name and business address.

A. My name is Leonardo E. Green, and 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) as the Manager of Load Forecasting within the Resource Assessment and Planning Business Unit.

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

A. I am responsible for the development of FPL's peak demand, energy, economic, and customer forecasts.

Q. Please describe your educational background and professional experience.

A. I earned a Doctor of Philosophy Degree in Economics from the University of Missouri-Columbia in 1983. Prior to joining FPL, I was employed by Seminole Electric Cooperative as the Load Forecasting Supervisor in the Rates and Corporate Planning Department. In April of 1986, I joined FPL's Research, Economics and Forecasting Department, as a Senior Forecasting Analyst. My responsibilities included preparation, review, and presentation of the economic, customer, and load forecasts for FPL. In August of 1986, I was promoted to

Supervisor of Economics and Forecasting within the Research, Economics and Forecasting Department. In 1991, I became Manager of Load Forecasting within the Resource Assessment and Planning Business Unit. I am responsible for coordinating the entire economic and load forecasting effort at FPL.

In addition, I have held several Assistant Professorships of Economics and Statistics as well as research and teaching positions with the University of Missouri, Florida International University, and the University of South Florida.

Q. Are you sponsoring an exhibit in this case?

A. Yes. I am sponsoring an exhibit consisting of fourteen documents, Document Nos. LEG-1 through LEG-14, which is attached to my direct testimony.

Q. Are you sponsoring any sections in the Need Study?

A. Yes. I am sponsoring the load forecast portion of Section V and Appendix D "Load Forecast" of the Need Study. I also co-sponsor Appendix C "Computer Models Used in Resource Planning."

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to describe FPL's load forecasting process, identify the underlying methodologies and assumptions, and present the forecasts used in the Need Study submitted by FPL in this proceeding. I will also explain how these forecasts were developed and why they are reasonable.

DESCRIPTION OF FPL'S EXISTING CUSTOMER BASE

Q. Please describe FPL's service territory.

A. FPL's service territory covers approximately 27,650 square miles within peninsular Florida, which ranges from St. Johns County in the north to Miami-Dade County in the south, and westward to Manatee County. FPL serves customers in 35 counties within this region.

Q. How many customers receive their electric service from FPL?

A. FPL currently serves more than 4.4 million customers, as shown on Document No. LEG-1, and a population of more than 8 million people.

FPL'S LOAD FORECASTING PROCESS AND RESULTS

Q. Please describe FPL's forecasting process.

A. FPL relies on econometrics as the primary tool for projecting future levels of customer growth, energy sales, and peak demand. An econometric model is a numerical representation, obtained through statistical estimation techniques, of the degree of relationship between a dependent variable, e.g., the level of energy sales, and the independent (explanatory) variables, which I describe in the following paragraph. A change in any of the independent variables will result in a corresponding change in the dependent variable. On a historical basis, econometric models have proven to be highly effective in explaining changes in the level of customer or load growth. These models have consistently been used

by FPL for various planning purposes and the modeling results have been reviewed and accepted by this Commission in past regulatory proceedings.

Predicting the level of the dependent variable in future years requires assumptions regarding the levels of the explanatory variables. Explanatory variables include assumptions on the future number of customers, projected economic conditions, weather, and the price of electricity, each of which is obtained from various sources. For example, the future number of customers is based on population projections produced by the University of Florida's Bureau of Economic and Business Research (BEBR). The projected economic conditions are secured from reputable economic forecasting firms such as Global Insight (formerly known as DRI-WEFA). The weather factors are obtained from the National Oceanographic and Atmospheric Administration (NOAA). The price of electricity reflects the Commission-approved base rates and adjustment clauses.

Q. Does FPL assess the reasonableness of the explanatory variables?

A. Yes. FPL has reviewed and assessed the assumptions regarding the explanatory variables and has concluded they are reasonable. This ensures that the forecast of customers, energy sales, and peak demand are both realistic and rational. A comparison of the historical growth in Real Personal Income for Florida corresponding to different periods with Global Insight's projected Real Personal Income is shown on Document No. LEG-8. The comparison clearly indicates that the forecast may not be in line with history. Based on this analysis, FPL concluded that the projected growth in Real Personal Income for Florida produced

by Global Insight was overly optimistic and would lead to incremental needs in capacity that may not be realistic. To account for this fact, in preparing this load forecast FPL used an annual growth in real personal income for Florida identical to the growth observed during the last five years, which averaged 3.2% per year.

FPL'S CUSTOMER GROWTH FORECAST

Q. Please explain the development of FPL's customer growth forecast.

A. The growth in customers in FPL's service territory is the primary driver of the growth in the level of energy sales and peak demand. In order to project the growth in the number of customers, FPL relies on population projections produced by BEBR. Once a year, BEBR updates its population projections for the state of Florida on a county-by-county basis. FPL's customer growth forecast is based on BEBR's population projections for counties in FPL's service area, released in April of 2006. BEBR includes the potential effects of depressed customer growth as a result of the 2004 and 2005 hurricane seasons.

Q. What is FPL's customer growth forecast?

A. FPL is projecting an annual average increase of 88,217 new customers for the next ten years as shown on Document No. LEG-1. The annual average projected growth of 88,217 in new customers is slightly higher that the historical annual average of 85,683 for the years 1996-2005. These historical customer growth numbers reflect the effect of the 2004 and 2005 hurricanes.

Q. In addition to population changes, what other factors are considered in projecting FPL's customer growth?

A. Factors such as the performance of Florida's economy, affordability index, job opportunities, and international conflicts are also important determinants of growth in FPL's service territory. Florida is experiencing a period of robust growth in population and this expansion has resulted in a surge of construction of new homes to house this population. Anecdotally, it is also mentioned that baby boomers are taking advantage of the low mortgage rates to secure housing for their upcoming retirement. In addition, the value of the dollar vis-à-vis the Euro suggests that Florida's real estate market is attractive for foreign investors. This expanded demand for housing and the jobs created are responsible in part for the recent growth in the number of FPL customers. This increased demand, coupled with low mortgage rates, has driven up the price of housing in Florida, raising drastically the cost of living and affordability index for Florida. This increase in the affordability index and higher inflation, primarily as a result of higher fuel prices, are limiting the potential growth in customers to a certain extent. This explains why projected customer growth is only slightly higher than the customer growth experienced in recent years in the face of a more favorable state economy.

Q. What is FPL's most current customer forecast?

A. FPL's most current customer forecast is shown in Documents LEG-1 and LEG-7. For the years 2013 and 2014, the customer forecast is higher by 119,088 and 125,477, respectively, than the 2006 West County Energy Center 1 and 2 Need Determination forecast for the years 2009 and 2010, respectively. This is a result

of an updated projection of population from BEBR as well as observed recent history of customer growth in FPL service territory.

Q. Is FPL's customer growth forecast reasonable?

A. Yes. The forecast incorporates the most recent available projections made by the University of Florida at the time the forecast was developed.

FPL'S PEAK DEMAND FORECAST

Q. What is FPL's process to forecast summer peak demand?

A. The rate of absolute growth in FPL system load has been a function of a larger customer base, weather conditions, continued economic growth, changing patterns of customer behavior (including an increasing stock of electricity-consuming appliances) and more efficient heating and cooling appliances. FPL developed the peak demand models to capture these behavioral relationships.

The summer peak forecast is developed using an econometric model. The model is a per-customer model that includes: the real price of electricity, Florida real personal income as an economic driver, average temperature on peak day and a heat buildup weather consisting of the sum of the cooling degree hours during the peak day and three prior days. The forecasted summer peak usage per customer is shown on Document No. LEG-3. The forecasted summer peak usage per customer is multiplied by the projected total customers to derive FPL's system summer peak as shown on Document No. LEG-2.

Q. What is FPL's process to forecast winter peak demand?

A. Like the system summer peak model, the winter peak model is also an econometric model. The winter peak model is a per-customer model that includes two weather-related variables: the square of the minimum temperature on the peak day and Heating Degree Hours from the prior day until 9:00 a.m. of the peak day. In addition, the model also has an economic term, Florida real personal income. The winter peak usage per customer is shown on Document No. LEG-5. The projected winter peak load per customer value is multiplied by the total customers to derive FPL's system winter peak as shown on Document No. LEG-4.

Q. What is FPL's process to forecast monthly peak demands?

A. The forecasting process consists of the following:

- Development of the historical seasonal factor for each month by using ratios of historical monthly peaks to seasonal peak (Summer = April-October; Winter = November-March).
- Application of the monthly ratios to their respective seasonal peak forecast (summer and winter peaks) to derive the peak forecast by month. This process assumes that the seasonal factors remain unchanged over the forecasting period.

Monthly peak forecasts are used in generation planning and also provide information for the scheduling of maintenance for power plants and fuel budgeting.

Q. What were FPL's actual peaks during 2006?

A. FPL experienced a summer peak of 21,819 MW in 2006, which is 457 MW lower than the all time record peak for FPL's service territory of 22,276 MW experienced in 2005. This equates to a decrease of 2.1 percent from the 2005 summer peak, and is shown on Document No. LEG-2. The winter peak for 2005/2006 was only 19,682 MW, well below the all time high winter peak of 2002/2003, which was 20,190 MW, as shown on Document No. LEG-4.

Q. Please summarize the peak demand forecasts.

A. The ten year summer peak demand is projected to grow from 21,819 MW in 2006 to 26,772 MW by the year 2015 or 4,953 MW in absolute terms as shown in Document No. LEG-2. By the years 2013 and 2014, the projected summer peak should reach 25,590 MW and 26,100 MW, respectively, a growth of 3,771 MW and 4,281 MW relative to 2006. The winter peak grows from 19,682 MW in the winter of 2005/2006 to 26,048 MW in the winter of 2014/15 or 6,366 MW in absolute terms as shown in Document No. LEG-4. For the winter of 2012/2013 the winter peak demand is estimated to reach 24,952 MW and for the winter of 2013/2014 it is projected to be 25,416 MW, or a growth of 5,270 MW and 5,734 MW, respectively. The apparent accelerated growth in the winter peak forecast is a reflection of the fact that in the 2005/2006 winter season, FPL's service territory did not experience a "normal" winter peak, which diminishes the base value against which these projected peaks are compared.

Q. What estimated impact did the 2005 Energy Policy Act have on FPL summer peak demand forecast?

A. In 2005, Congress passed the Energy Policy Act mandating certain appliance efficiency standards and insulation for new construction, which is expected to reduce energy demand in the future. FPL estimated the 2005 Energy Policy Act would reduce the projected peak demand from approximately 133 MW in 2006 to as much as 1,256 MW in the year 2014. The annual estimated impact of the 2005 Energy Policy Act is shown on Document No. LEG-13. To arrive at FPL's projected peak demand values used in the Need Determination, the estimated impacts were deducted as line item adjustments from the originally projected peaks for the corresponding years.

Q. What weather assumptions does FPL assume for the summer peak projections?

A. In putting together the summer peak demand forecast, FPL relies on a normal weather outlook. Normal weather is defined as an average of the hourly temperatures for summer peak days over the years 1948 through 2005. The actual temperature values for 1985 to 2006 and those projected from 2007 onward are shown on Document No. LEG-6.

Q. How does FPL's projected rate of growth in summer peak demand in the current Need Study compare to the projected rate of growth used in the 2006 proceeding to Determine Need for West County Energy Center Units 1 and 2 Electrical Power Plant?

A. The comparisons of the forecasts from the current Need Study and the 2006 Determination of Need are shown in Document No. LEG-7. In terms of summer peak, the current forecast for the year 2013 is higher by 531 MW (2.1 percent) than what was projected in 2006 Petition to Determine Need for West County Energy Center Units 1 and 2 for the same year. The primary reason for this difference between the two forecasts of summer peak is that the customer forecast is higher as shown in Document No. LEG-7, resulting from BEBR updating its population forecast upwards. The full impact of the increased number of customers is somewhat dampened as a result of the higher price of electricity as shown in Document No. LEG-12.

Q. Is FPL's need for power driven by the demand forecast, the sales forecast, or both?

A. FPL's need for power, i.e., the amount of resources needed, is driven by the peak demand forecast because FPL's needs are currently determined by a reserve margin criterion of 20%. While FPL uses both a reserve margin and Loss of Load Probability reliability criteria, the reserve margin criterion driven by the peak load forecast has established the magnitude of the resource need for many years. This fact is addressed in the Need Study.

Q. How does FPL's growth in Energy Sales compare to Peaks?

A. FPL's Energy Sales and Peaks are growing at the same pace. This is best reflected by the changes in the load factor. A load factor is defined as a ratio of average load in kilowatts supplied during a designated period to the peak or maximum load in kilowatts occurring in that period. FPL's load factor has remained relatively steady over the last few years as shown on Document No. LEG–14. The relatively steady load factor reflects that the growth in energy sales and peaks are of similar magnitude.

Q. Is FPL's load forecast reasonable for planning purposes?

A. Yes. FPL's load forecast is based on reasonable assumptions, is consistent with historical experience, and is consistent with methodologies previously approved by the Commission.

FPL'S ENERGY SALES FORECAST

Q. Please describe the process FPL used to forecast energy sales.

A. The forecast of energy sales consists of three steps. First, an econometric model is developed for total Net Energy for Load (NEL), which is energy generated net of plant use. An econometric model for NEL is more reliable than models for billed energy sales because the explanatory variables can be better matched to usage. This is so because the NEL data does not have to be attuned to account for billing cycle adjustments, which might distort the real time match between the production and consumption of electricity.

Next, a line loss factor and a billing cycle adjustment are applied to the NEL to arrive at total use of electricity by the customer. Finally, revenue class models are developed to distribute the forecast of total end-use sales of electricity to the different revenue classes, i.e., residential, commercial, and industrial.

To project energy sales by revenue class, separate models for the residential, commercial, and industrial revenue classes are developed. These revenue class models are developed to obtain an objective allocation of the total energy sales among FPL's different revenue classes. The sum of the sales for all revenue classes will result in total energy sales. The energy sales for each revenue class are then adjusted to reflect the total energy sales derived from the NEL model.

Q. What are the primary inputs to determine the growth in energy sales?

A. The growth in energy sales comes from the overall growth in the number of new customers as shown on Document No. LEG-1 and use per customer as shown on Document No. LEG-9. The product of per capita use and the number of customers yields the NEL for a given period as shown in Document No. LEG-10. The per capita use of electricity and the increased number of new customers are both linked directly to the performance of the local and national economies. When the economy is booming, the use of electricity increases in all sectors. A strong economy creates new jobs that attract new customers. Under these conditions, new households develop, including those of retirees from other states. However, the reverse also holds true. If the economy is performing poorly, customers with reduced incomes are more apprehensive as to expenditures and

tend to restrict their consumption of goods and services. Electricity demand and sales slacken when incomes fall. Job contractions reduce the number of new customers coming to Florida seeking employment opportunities, and new household formations are postponed. FPL relies on the outlook for the state and national economy produced by Global Insight.

Q. What were the basic economic assumptions included in the forecast?

A. Florida's economy has continued to grow at a strong pace and is expected to continue this trend into the foreseeable future. The strong population growth is largely due to baby boomers approaching retirement and the availability of jobs. Florida has been outperforming the national economy, as shown in Document No. LEG-11, and that pattern is projected to continue. The strong population growth will result in increased demand for various services and new homes; thus, these two sectors are leading the growth for Florida's economy. This forecast also reflects that, as a consequence of the hurricanes in 2004 and 2005, there will still be substantial reconstruction activity and infusion of insurance funds into the local economy. Furthermore, the reconstruction activity fuels the manufacturing sector to service this reconstruction with construction material, furniture and transportation equipment.

Q. What is the price of electricity assumed in the forecast?

A. The real price of electricity assumed is shown in Document No. LEG-12. The forecast is higher than the forecast used in the 2006 West County Units 1 and 2 Need Determination. The real price of electricity is substantially higher in the early part of the projected period, but the difference steadily declines thereafter

reflecting the projected fuel prices in both the West County and current Need Determination proceedings.

Q. What is the vintage of the Price of Electricity used in the Need Determination Load Forecast?

A. The price of electricity forecast used in the Peak and Energy forecast is based on a fuel forecast produced by FPL in August of 2006. The recent downward adjustment in the fuel component of the price of electricity, which was approved by the FPSC in November of 2006, occurred after this load forecast was prepared.

Q. What was FPL's actual net energy for load usage during 2005?

A. Net Energy for Load (NEL) in 2005 was 111,301 GWH, an increase of 3.0 percent from the 2004 NEL, as shown on Document No. LEG-10. The 3.0 percent growth in NEL is comprised of a 2.3 percent increase in customers and a 0.7 percent increase in use per customer.

Q. What is FPL's energy sales forecast?

A. In 2006, FPL's energy use per customer was projected to be 0.4% above 2005, with an increase of 1.1% in 2007, and 1.7% in 2008, as shown in Document No. LEG-9. The longer term compound annual average growth in use per customer is projected to be 1.2% annually after 2007. Customer growth was projected at 2.0% for 2006, 2.0% for 2007 and 2.1% for 2008 and then an average of 1.8% for the next seven years. Combining the energy use per customer and the growth in customers, yields a growth in energy sales estimated at 2.5% in 2006, 3.1% in 2007, and 3.8% in 2008, and then an average of 3.0% for the next seven years, as shown in Document No. LEG-10.

Q. Is FPL's forecast of energy sales reasonable?

A. Yes. A forecast is considered reasonable if good judgment is used in estimating (availing oneself of the appropriate and most credible assumptions on hand) and testing the model and if the results or outputs make sense when compared to prior similar situations. FPL followed this approach in preparing the forecast.

The models employed by FPL have good descriptive statistics with high degrees of statistical significance. FPL is confident that the relationship that exists between the level of energy sales and the economy, weather, customers, price of electricity, and other variables have been properly assessed and numerically quantified.

Q. Please summarize your testimony.

A. My testimony addresses FPL's summer and winter peak demand forecasts, the energy sales forecast and the customer forecast. I have explained how these forecasts are developed and why they are reasonable. My testimony also demonstrates that peak demand will continue to show strong growth in both summer and winter peaks. FPL is expected to add approximately 4,953 MW of summer peak demand and 6,366 MW of winter peak demand between 2006 and 2015. My testimony also shows that FPL is projecting continued strong customer growth in the next ten years, and for energy sales to increase by 2.5% in 2006, 3.1% in 2007, and 3.8% in 2008. Over the longer-term, 2009 to 2015, the annual average growth rate in sales is estimated to be approximately 3.0%.

Q. Does this conclude your direct testimony?

A. Yes.

BY MS. SMITH:

Q And do the exhibits consist of Documents LEG-1 through LEG-14?

A That's correct.

MS. SMITH: Madam Chairman, I would note that Doctor Green's exhibits have been premarked for identification as Exhibits 9 through 22.

CHAIRMAN EDGAR: Thank you.

BY MS. SMITH:

Q Have you prepared a summary of your testimony?

A Yes, I have.

Q Would you please provide your summary to the Commission.

A Good afternoon, Commissioners. My testimony addresses the load forecast that is used in this proceeding, the assumptions and the methodology that is used to produce this forecast. Florida and FPL's service territory has experienced a tremendous amount of growth in the recent past and it's projected to continue this growth into the future. This growth is driven primarily by tremendous growth in population and one of the best economies in the nation. As such, we expect that over the next nine years FPL will have to build over 4,950 megawatts of capacity to serve this growth.

FPL relies on econometrics as the primary tool for developing this forecast. The primary drivers, as I mentioned,

is population and the economy. The models that have been employed by FPL have been used in many planning proceedings and they have been approved by this Commission.

That concludes my summary.

MS. SMITH: Madam Chairman, Doctor Green is available for cross-examination.

CHAIRMAN EDGAR: Thank you. Ms. Perdue. No questions. Mr. Beck.

MR. BECK: No questions.

CHAIRMAN EDGAR: No questions. Mr. Gross.

MR. GROSS: No questions.

CHAIRMAN EDGAR: Mr. Krasowski.

MR. KRASOWSKI: Thank you, Madam Chair.

CROSS EXAMINATION

BY MR. KRASOWSKI:

Q Hello, Mr. Green.

A Hi.

Q Doctor Green, excuse me, sir.

A Thanks.

Q Doctor Green, on Page 5, Line 14, of your testimony, I'll just refer to it in general, sir, and if you can't remember saying it, then maybe you need to look. But you have referred to a 2006 Annual Report of the Florida Bureau of Business Research as being the basis of some of your assumptions?

A Yes.

Q Do you have a 2007 report?

A Yes. The first of April, the University of Florida released a new population forecast.

Q In the first of when, April?

A First of April of 2007.

Q Thank you. And do the trends represented in that report continue to provide you with the opinion that what you project in the future continues to be your projection?

A Yes, they did. Commissioners, the University of Florida released their new population forecast, and they increased the forecast that they had produced last year for the coming years by approximately, in the period that we are considering, approximately 80,000 more customers in Florida. In addition, the number of people that they saw in 2006 was 430,000 new people in the state of Florida, which is the second best growth in the last 15 or 16 years.

Q Interesting. Thank you. If I may, I know one of the components of your analysis is represented in what the various school districts use, and in the Collier County public school district their analysis, which includes the BEEBA (phonetic) report I referred to earlier, is projecting for a reduction in population. They are now experiencing a reduction in population of students that is shared with all of South Florida, especially the coastal regions.

Could you comment on that reduction, or maybe the change in the population type, that reduction of students. What do you see that to be?

A Yes. The public schools in South Florida have registered lower population of students. However, the private schools have registered an increase in the number of students. I'm here today to tell you that the population in South Florida is not shrinking. In fact, last year FPL added 101,000 new customers. We are adding approximately 450 to 500 customers a day, depending on whether it rains or not, considering holidays, and things like that. So the population is not disappearing. The population is there. It seems like there is a shift occurring away from public school towards private schools in South Florida.

Q Another question I would have of you is do you analyze energy use per customer to the extent that you look at the makeup of a family unit or a residential unit and understand the differential in usage between adults, families, baby boomers coming here to retire without their children, and what was experienced previously, families moving here with children and their energy use? Do you analyze it to that extent?

A Yes, we do, Commissioners. We look at the different components, and I will take it a step farther. We did a survey in 2002, and we did a survey in 2006, home size. In those four

years, the size of homes in our service territory has increased by 15.9 percent. It's very difficult, in spite of the efforts that FPL does in conservation, to try to compensate for the amount of energy that is used by homes that are almost 16 percent higher than just four years ago.

Q Sir, along those lines, what is the average home size?

A The average size depends. For FPL's service territory, it's approximately 1,800 square feet.

Q So am I right in assuming that you would disagree with the suggestion that the economy is slowing, that the housing market is falling off, there is a housing boom -- excuse me, there is an availability boom -- balloon. Excuse me, housing bubble. That everything we are hearing about this housing bubble, the slowing of building, the slowing of the economy is incorrect?

A I would disagree with the statement you said that the economy in Florida is slowing. We have one of the best economies in the nation, and the types of jobs that this economy is creating is not the hospitality type jobs. The jobs that we are creating in Florida, the biggest component of jobs that are being created in Florida, professional services. High paying jobs.

Yes, there is a problem with the amount of houses that exist today, but that will be corrected in a short period.

We estimate that between 12 to 18 months the oversupply of homes will have disappeared. And why we are so confident is because of the amount of customers that we see moving into our service territory. This year for the first three months we are doing better than last year in customer growth. Last year we did 101,000. This year we are doing better than last year, so we believe that that oversupply of homes will be absorbed.

Furthermore, there is a difference with the Florida market compared with other markets across the nation. It is estimated that approximately 1,000 World War II veterans are dying per day. A lot of that money is being funnelled as wealth to the heirs. It is estimated that in downtown Miami that has this glut of apartments, 80 percent of them have been sold without the mortgage. Paid up, okay. So it is not a typical bust as you would say like the rest of the country. Yes, we are going to see some slowdown for 12 to 18 months, which is probably a good thing. Maybe it is a market correction. But besides that, over 10 to 15 years, this has happened before. In the late 70s and '80s we had an overproduction of homes and it disappeared again.

Q Doctor Green, at least you have reassured me that I don't have to worry about selling my home, if nothing else. I was very nervous, but if what you saying is correct -- okay.

Can your stated increase in energy use per customers, which is predicted to be 1.2 percent annually after 2007, be

lessened by effective load management and energy conservation and efficiency? Can you speak to that or is that out of your realm?

A Yes. Historically, for the last ten years we have grown at only .8 percent per year. But if you were to adjust our numbers for the hurricanes that occurred in 2004 and 2005, that use per customer jumps to 1 percent per year. The forecast is 1.2 percent per year, and the reason why that is occurring is that we are seeing a tremendous amount of electrification in the homes in Florida. We are seeing the size of homes increasing by almost 16 percent just compared with four years ago. And we are also seeing that there is such a wealth in Florida, and use of electricity is closely associated with wealth. The wealthier the customer, the higher his consumption.

We have considered in our DSM programs all cost-effective programs, and this is the result of after considering all of those programs that FPL has implemented in the past that we would continue to grow at this rate. And as I would like to stress, even though we are number one in the nation, just by the mere size of the homes that we are building today, because of the electrification, it is very difficult to reduce that use per customer, or the rate of growth in the use per customer.

MR. KRASOWSKI: Thank you, Doctor Green. I have no

further questions.

CHAIRMAN EDGAR: Commissioner Carter.

COMMISSIONER CARTER: Good afternoon, Doctor Green.

THE WITNESS: Good afternoon.

COMMISSIONER CARTER: Let me just say up front that if I had you as a professor I probably would have gotten an MBA instead of going to law school. I got confused with that marginal compensity to consume, but you make it sound very -- I mean, I can understand it. So that is a complement, believe it or not.

THE WITNESS: Thanks.

COMMISSIONER CARTER: I like what you had to say in that I really understand what you are saying. First of all, you are saying that FPL needs 4900 megawatts over the next four years regardless of how they get it.

THE WITNESS: That's correct.

COMMISSIONER CARTER: And then this is notwithstanding DSM or anything like that, you still need 4900 megawatts due to growth?

THE WITNESS: That's correct.

COMMISSIONER CARTER: You were not here yesterday, but I remember someone saying -- and, Madam Chair -- somebody said yesterday something about enhanced energy efficiency in construction, about the over -- I think it is a seven-year time frame they said it would be a payback in the cost of different

kind of walls and the construction with different kinds of concrete, different kind of windows. What do you call it, solar hot water heaters, the fluorescent bulbs, and those kind of things. And listening to what you are saying, and the last time I was in South Florida I saw more cranes -- not the kind that fly, but the kind that build -- than I did anything. So I can see how the growth is there.

In that growth, is there any kind of perspective in the context of -- and you are probably not the DSM guy, so if I've got the wrong person just let me know -- of maybe recommending some kind of a collegial, for lack of a better word, partnership with developers in terms of being able to start at the ground level and putting in these kind of construction techniques that would enhance the efficiency, and assist -- I think I have heard a lot of discussion here today and yesterday about FPL's tremendous DSM program, and we commend them for that, as well as both the Office of Public Counsel and other people said. But is there some kind of perspective from your standpoint that FPL could maybe joint venture with some of these developers? When you have got a boom area, I think you said 80,000 new customers a year?

THE WITNESS: 100,000.

COMMISSIONER CARTER: 100,000 new customers a year. And you said that you don't see -- even though the real estate market is going to correct itself within 18 months, you don't

see the population diminishing, or the growth diminishing, or anything like that, right?

THE WITNESS: That's correct.

COMMISSIONER CARTER: So I'm asking you from the context of wouldn't it make sense, particularly I think you said in one of the comments, you said there is about an 16 percent increase in the average size of the home, average size. Wouldn't it make sense to maybe not so much joint venture, but certainly to have a meeting of the minds with a lot of these developers and enhance building code and things of that nature to come up with more and more savings?

THE WITNESS: Yes. And as you mentioned, Witness Dennis Brandt will address that specifically. However, I would like to tell you what we have done in addition to that in this forecast. In 2005, we passed the Energy Policy Act, and we kind of quantified it. What would it do to our service territory if we replaced over ten years all the air conditioners that we estimate have an efficiency of SEER of 10, and we replaced it with 13 that is mandated by the policy act.

If we changed the lights in the commercial establishments, if we changed chillers and things like that, we estimated that because of the policy act and the new codes, we are saving an additional 1250 megawatts, 1,250 megawatts that I have deducted, that I have made a line item adjustment to my forecast. Had I not done that, FPL would be today asking for

an additional 1,250 megawatts of capacity.

COMMISSIONER CARTER: Excuse me, Madam Chairman. And that would be -- give me one second here. That would be an additional -- what was the number you said?

THE WITNESS: 1,250 by 2015.

COMMISSIONER CARTER: Is that added onto the 4,900?

THE WITNESS: It's net of that. My forecast would have been higher by that amount. But I had my forecast and then I reduced it because of the effect of the Energy Act.

COMMISSIONER CARTER: Excuse me, Madam Chairman. Just bear with me momentarily. I'm trying to get these numbers together. So you reduced it by 1800 megawatts?

THE WITNESS: I'm sorry, by 1250.

COMMISSIONER CARTER: I'm sorry, 1250.

Thank you, Madam Chair.

CHAIRMAN EDGAR: Other questions from staff?

MS. BRUBAKER: None for staff.

CHAIRMAN EDGAR: Is there redirect?

MS. SMITH: No redirect.

CHAIRMAN EDGAR: Okay. Then we will go ahead, seeing no objection, and enter Exhibits 9 through 22 into the record.

(Exhibits 9 through 22 admitted into the record.)

CHAIRMAN EDGAR: The witness is excused. Thank you, Doctor Green.

THE WITNESS: Thank you.

CHAIRMAN EDGAR: And I think this looks like a good point for a lunch break. So it is ten to 1:00 by the clock on the wall. We will come back at 2:00 o'clock, and look, Ms. Smith, for you to call the next witness.

And I would ask again, as I did when we first sat down, if we would use the lunch break, too, to look at calendars and let's discuss a plan for going forward when we come back.

(Lunch recess.)

(Transcript continues in sequence with Volume 4.)

STATE OF FLORIDA)
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WE FURTHER CERTIFY that we are not a relative, employee, attorney or counsel of any of the parties, nor are we a relative or employee of any of the parties' attorneys or counsel connected with the action, nor are we financially interested in the action.

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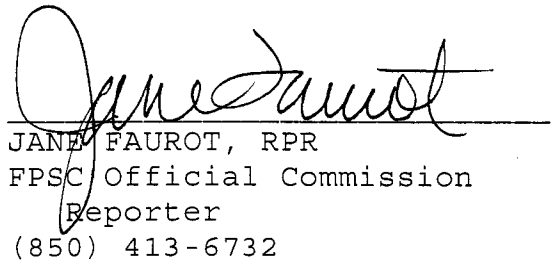

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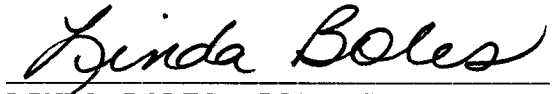

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