BEFORE THE
FLORIDA PUBLIC SERVICE COMMISSION

In the Matter of:

DOCKET NO. 110309-EI

PETITION TO DETERMINE NEED FOR MODERNIZATION OF PORT EVERGLADES PLANT, BY FLORIDA POWER & LIGHT COMPANY.

_____/

PROCEEDINGS:	HEARING
COMMISSIONER PARTICIPATING:	CHAIRMAN RONALD A. BRISÉ COMMISSIONER LISA POLAK EDGAR COMMISSIONER ART GRAHAM COMMISSIONER EDUARDO E. BALBIS COMMISSIONER JULIE I. BROWN
DATE:	Monday, February 20, 2012
TIME:	Commenced at 9:30 a.m. Concluded at 12:32 p.m.
PLACE:	Betty Easley Conference Center Room 148 4075 Esplanade Way Tallahassee, Florida
REPORTED BY:	JANE FAUROT, RPR Official FPSC Reporter (850) 413-6732

APPEARANCES:

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CHARLES MURPHY, ESQUIRE, FPSC General Counsel's Office, 2540 Shumard Oak Boulevard, Tallahassee, Florida 32399-0850, appearing on behalf of the Florida Public Service Commission Staff.

JON C. MOYLE, JR., ESQUIRE, Keefe Law Firm, 118 North Gadsden Street, Tallahassee, Florida 32301, appearing on behalf of the Florida Industrial Power Users Group.

CURT KISER, GENERAL COUNSEL, and MARY ANNE HELTON, Deputy General Counsel, Florida Public Service Commission, 2540 Shumard Oak Boulevard, Tallahassee, Florida 32399-0850, Advisor to the Florida Public Service Commission.

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P R O C E E D I N G S

CHAIRMAN BRISÉ: Good morning, everyone. Happy Monday morning this Presidents Day. We're going to go ahead and call this hearing to order; Docket Number 110309. Today is February the 20th, 2012. And at this time we're going to ask our staff to read the notice.

MR. MURPHY: We are here pursuant to notice for the hearing in Docket Number 110309-EI.

CHAIRMAN BRISÉ: Okay. At this time I'm going to take appearances.

MR. BUTLER: Good morning, Mr. Chairman. John Butler and Maria Moncada on behalf of Florida Power and Light Company.

CHAIRMAN BRISÉ: Thank you.

MR. MOYLE: Jon Moyle on behalf of the Florida Industrial Power Users, FIPUG.

CHAIRMAN BRISÉ: All right. Thank you.

And I understand that we may have the opportunity, if there is interest from the public, for individuals to speak. So at a time a little bit later we will provide that opportunity.

MR. MURPHY: Mr. Chairman.

CHAIRMAN BRISÉ: Staff.

MR. MURPHY: Charles Murphy on behalf of

Commission staff.

MS. HELTON: And Mary Anne Helton, Advisor to the Commission. I'd also like to make an appearance for the General Counsel, Curt Kiser.

CHAIRMAN BRISÉ: Thank you very much.

At this time we are moving on to our preliminary matters. Are there any preliminary matters that we need to deal with?

MR. MURPHY: I believe we would want to establish the scope of the case as you find it. And I think that staff would recommend that FIPUG be permitted to make an opening statement, to cross-examine the available witness, to participate in the proceeding as any party would, and to file a post-hearing brief if they are not agreeable to the stipulation in the case. And that's based on the Commission's latitude to grant that. It is broader than literally they took the case as they found it. However, in trying to give meaning to the notion that they can come in as a party, which they are entitled to do up to five days, I believe, before the hearing, absent this, it would be hard to participate as a party. So trying to give meaning to that, that is what staff would recommend.

CHAIRMAN BRISÉ: Okay. I'm sure there probably is divergence of opinion on that, so FPL.

MR. BUTLER: Thank you, Mr. Chairman.

FPL believes that FIPUG, at this point in the proceeding, is not in a position to take positions on issues in this case. You know, there was an order establishing procedure that made it very clear, as the Commission routinely does in these proceedings, that parties are to take a position on issues no later than the prehearing conference unless they can establish that they are unable to do so in spite of diligence and good faith attempt to take a position, and that there is no prejudice to the other parties from failing to take a position until later than that point.

We don't believe that FIPUG meets either component of that test. I mean, they are routinely involved in proceedings before this body. They certainly were aware of FPL's petition for this need determination that was filed in November of last year. The prehearing conference was noticed. The order establishing procedure was on the Commission's website. You know, they have not participated in any of the prehearing process, and we feel it would be appropriate for them to be held to no position consistent with the order establishing procedure.

If that is the case, if they have no position, this Commission has routinely, as recently as the

adjustment clause proceedings back in November of last year, approved stipulations where there is agreement between the staff and the utility and other parties take no position. We believe that's where this case stands.

We have no objection if you choose to allowing FIPUG to make an opening statement, but beyond that we think the prehearing order makes it pretty clear that the only purpose for which Mr. Silva is appearing today is to answer your questions, and we think that it would be appropriate to stay with that process.

If this were sort of an unfamiliar, uninformed, you know, pro se ratepayer who was here wanting to participate and didn't understand the process, we would certainly expect you to be accommodating to their unfamiliarity. But that absolutely is not the case for FIPUG. We think it is fair and in the interest of this proceeding to, you know, conduct it pursuant to the prehearing order without the exceptions that staff has described.

Thank you.

CHAIRMAN BRISÉ: All right. Thank you. FIPUG.

MR. MOYLE: Thank you.

We think staff is on the right track with respect to the ability of FIPUG to participate. And,

you know, my understanding of the prehearing order is it's designed to facilitate getting everybody here dressed up and ready to go for the hearing, but that the hearing is governed by Florida Statutes. It's a 120 hearing, and it's here to have evidence presented to you, and you will make a decision about whether to grant a need determination or not grant a need determination for Florida Power and Light's Everglades Plant.

I will argue the law, but before I do I just think, as a matter of policy, to the extent that the issue before you is a request for approximately 1,300 new megawatts and nearly 1.3 billion going into rate base, that a consumer voice should be heard to, I think, build-out a complete record and to maybe make some arguments and present some evidence that would suggest this is not the best way to proceed at this time. So we think it would fully develop the record, and I think staff is on the right page.

I would cite 120.57(1)(b), which in your notice you have said that this hearing is conducted under 120. It says, and I quote, "All parties," which, you know, FIPUG is now a party, there has been an order entered granting FIPUG party status, "shall have an opportunity to respond, to present evidence and argument on all issues involved, to conduct cross-examination and

submit rebuttal evidence, to submit proposed findings of fact in orders, to file exceptions to the presiding officer's recommended order, and to be represented by counsel or other qualified representative."

We think the law is clear under 120.57(1)(b) that we do have the ability to be here today to conduct cross-examination and to take issues in the case. I would also point out in your notice that was issued in this case, you said that -- this was the notice of meeting workshop hearing. I think it was filed on January 5th of 2012 in this docket, and under the section general subject matter to be considered at hearing it talks about the modernization of the Port Everglades Plant, and it says the proceeding, which the proceeding is today, the proceeding shall allow Florida Power and Light to present evidence and testimony, evidence and testimony in support of their petition for a determination of need of the proposed modernization of the Port Everglades plant; two, permit any intervenors to present testimony and exhibits concerning this matter; and, three, permit members of the public who are not parties to the need determination proceeding the opportunity to present testimony concerning this matter.

We think the law supports staff's position, and the public policy would support FIPUG being given an

opportunity to participate and conduct cross-examination. I mean, it doesn't, to my mind, make a lot of sense that the Commission can ask questions, but a party can't. I mean, if questions are going to be asked, we would respectfully ask the Commission to give us the ability to ask some questions, as well.

So thank you for your consideration.

CHAIRMAN BRISÉ: Thank you very much. I guess it's my call, right?

Commissioners, before I make a decision, I suppose I'll give you an opportunity to express an opinion, if you have an interest in doing so.

All right. Thank you.

(Laughter.)

CHAIRMAN BRISÉ: I think I understand the argument that FPL brings forward with respect to what it means to take the case as it is because there was ample opportunity prior to five days before we got to this point to intervene. But I think in an abundance of caution I am going to proceed the way staff has laid out for us to move forward, not foreclosing on the idea that we could arrive at a bench decision today and the process will flow the way it would with a bench decision, if we arrive at that point today.

So we will allow for an opening statement, we

will allow for cross-examination of the one witness, and participation as any other party would participate at this juncture today. And that is the way that we are going to proceed today.

All right. So at this time we are going to move forward with what needs to be in the record.

MR. MURPHY: Thank you.

In accordance with Section VI of the Prehearing Order, staff asks that the Prefiled Testimony of Witnesses Silva, Gnecco, Morley, Stubblefield, Kosky, and Enjamio and Modia -- I don't know how to pronounce it -- be inserted into the record as though read.

CHAIRMAN BRISÉ: Okay.

MR. MOYLE: Is this when it's being admitted, or is it going to be admitted later?

MR. MURPHY: I think it would be admitted now.

MR. MOYLE: Okay. I just, for the record, want to make an objection to it coming in. And I want to refer you to 120.569(2)(g). 120.569 is entitled, "Decisions which affect substantial interests," and FIPUG's substantial interests are being affected here. (G) says any evidence may be received in written form and all testimony of parties and witnesses shall be made under oath.

And in the case of BellSouth v. Unemployment

Appeals, 654 So.2d 292 out of the Fifth and others suggest that receiving -- what you, in effect, are receiving, you are receiving prefiled testimony, but it is hearsay. It's an out-of-court statement offered by someone for the truth of the matter asserted, and it's not proper and it's not under oath.

They would have a better argument if there had been a verified -- if it had been verified, then it would at least have been under oath, but now what you have is you have the statements coming in. I can't ask the person whether they were written by a lawyer, whether they're the truth, and I think the courts have been clear with respect to hearsay not being something that you can rely on for the purposes of making factual findings.

Hearsay is suspect for a number of reasons. It's not made under oath; there is no ability to judge the demeanor of the witness. When the witness is here, is the witness telling the truth, not telling the truth, you don't have that, and there is no opportunity for cross-examination. So FIPUG's objection would be to object to the hearsay statements, the prefiled testimony coming in as evidence that could be relied on for the basis of a finding of fact. So two-fold; object to it coming in, and if it does come in, it's hearsay and

cannot be used for the purposes of any factual findings in the case.

CHAIRMAN BRISÉ: Thank you.

FPL.

MR. BUTLER: Mr. Chairman, at this point FIPUG is simply trying to unwind entirely your prehearing order and the prehearing process in this docket. They had every opportunity to have participated early enough to have had their own witnesses, if they wanted to, to have said, no, we won't agree to the stipulation of these witness' testimony into the record, et cetera, whatever they wanted to do. They have chosen to come in at the very last moment after the process had already been put in place to have these witnesses stipulated and excused. They were excused. We got confirmation of that last Thursday. They are not here. This is the last day of the 90-day period to hold a hearing, and as you can see, at this point FIPUG is simply looking to throw grenades, throw landmines into this process.

They clearly could have participated at a point where none of this would have been a challenge for the Commission. I think that you should abide by your prehearing order. All of what Mr. Moyle is pointing to is rights that parties have if they, you know, timely and adequately exercise those rights. FIPUG has sat on

them until it is so late that they are not in a position to move forward, and their objection is, I think, entirely unfounded at this point.

CHAIRMAN BRISÉ: Thank you very much.

Staff?

MR. MURPHY: Well, I think at this point a little weight is due to taking the case as you find it. I mean, they have come in here in a case and admittedly very, very late, and witnesses have been excused. They are being allowed to cross-examine the witness that's here, to participate, to file a brief if need be, to take positions, and I think it's unreasonable to just destroy the hearing.

I mean, the Panda case, there was a request to defer the hearing so that they could have discovery, and that was found to be not required. So they are in here so late, I think that I would recommend that we go forward on just what we have.

Thank you.

CHAIRMAN BRISÉ: Mary Anne.

MS. HELTON: And I would just like to add, and refer you back to the order establishing procedure on Page 6. There is a separate subsection there that makes it very clear that if you want to strike any portion of prefiled testimony, you must do so by the time of the

prehearing conference. And, in effect, what Mr. Moyle is attempting to do is strike all the testimony that Power and Light has filed in this case, and I don't believe that that's appropriate, as has been expressed by Mr. Butler and Mr. Murphy.

MR. MOYLE: Can I respond just briefly?

CHAIRMAN BRISÉ: I think I've reached a point where I'm ready to make a decision.

MR. MOYLE: Okay.

CHAIRMAN BRISÉ: All right.

We are going to accept the testimony, prefiled testimony as prescribed by all the parties that have agreed and so forth. So, therefore, I'm going to overrule your objection, and we're going to continue to move forward.

MR. MURPHY: With respect to exhibits, staff has compiled a Comprehensive Exhibit List which includes the prefiled exhibits attached to each witnesses' testimony in this case, and staff's discovery which has been compiled as an exhibit. The list has been provided to the parties, the Commissioners, and the court reporter. This list should be marked as the first hearing exhibit, and the other exhibits should be marked as 2 through 40 as set forth in the chart.

CHAIRMAN BRISÉ: All right. Thank you very

much.

MR. MURPHY: Staff moves that Exhibits 1 through 40 be included in the record, as set forth in the Comprehensive Exhibit List.

CHAIRMAN BRISÉ: All right. We will move Exhibits 1 through 40. Any objections?

All right. Seeing none, 1 through 40 have been moved into the record.

(Exhibit Numbers 1 through 40 marked for identification and admitted into the record.)

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

FLORIDA POWER & LIGHT COMPANY

DIRECT TESTIMONY OF RENE SILVA

DOCKET NO. 11_____-EI

NOVEMBER 21, 2011

INTRODUCTION AND CREDENTIALS

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) as Senior Director, 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 quantifying the need for future resource additions, and analyzing the economic and other impacts to the FPL system from the addition of resource options.

Q. Please describe your educational background 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 any exhibits in this case?

A. Yes. I am sponsoring Exhibit RS-1, which is attached to my direct testimony.

Exhibit RS-1 Summary of Benefits of Modernization of FPL's Port Everglades Plant (PEEC Project)

PURPOSE

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

A. The purpose of my testimony is to support FPL's request that the Florida Public Service Commission (Commission) grant an affirmative determination of need for the modernization of FPL's Port Everglades Plant (Port Everglades).

Q. What does the proposed modernization of Port Everglades involve?

A. The proposed modernization, which is to be renamed the Port Everglades Next Generation Clean Energy Center (PEEC) and henceforth will be referred to in my testimony as the PEEC Project or the Project, consists of removing the existing four steam units at Port Everglades, which are currently in inactive reserve, and adding a new advanced combined cycle unit with summer peak rating of about 1,277 MW at the same plant site by June of 2016.

By replacing the old, far less efficient Port Everglades steam generating units with new, advanced, cleaner generation, the PEEC Project will enable FPL to

produce energy much more efficiently beginning in 2016. The Project will transform 1,187 MW of less efficient oil and gas-fueled steam generation into about 1,277 MW of highly efficient, state-of-the-art, environmentally sensitive advanced combined cycle generation.

Q. How is your testimony organized?

A. My testimony consists of the following eight sections:

- Section 1 outlines FPL's request before the Commission regarding the proposed PEEC Project.
- Section 2 introduces FPL's witnesses.
- Section 3 describes the criteria used by FPL to determine that FPL has a need for generation capacity in 2016 and explains why that need cannot reasonably be met by additional demand side management (DSM) or additional renewable resources.
- Section 4 describes the results of comparing FPL's resource plan with PEEC in 2016 (the "PEEC Resource Plan") to a resource plan that would, as an alternative to PEEC, return to service the four Port Everglades steam units, all of which have been placed in inactive reserve (the "Return to Service Resource Plan").
- Section 5 describes the results of comparing the PEEC Resource Plan to a resource plan that would, as an alternative to PEEC, add a new combined cycle unit at a greenfield site in 2016 (the "GFCC Resource Plan").
- Section 6 describes the results of comparing the PEEC Resource Plan to a resource plan that would add combustion turbines (CTs) in simple cycle

mode at a greenfield site in 2016 and thus defer PEEC to 2019 (the "GFCT Resource Plan").

- Section 7 discusses the unmatched advantages of the Project compared to possible alternatives that any third party could propose, based on which advantages FPL determined that PEEC is much more cost-effective than any viable third party offer could be.
- Section 8 presents the significant adverse consequences FPL and its customers would face if the Commission did not grant an affirmative determination of need for the PEEC Project, to be placed in service in 2016.

SUMMARY

Q. Please summarize your testimony.

A. FPL seeks an affirmative determination of need for the PEEC Project in 2016 because FPL has demonstrated that it has a need for new generation in 2016 based on FPL's FPSC-approved reserve margin reliability criterion, and because the resource plan that includes the PEEC Project in 2016 will result in significantly greater benefits to FPL's customers than the other resource plans that FPL has evaluated. These benefits fall into four categories:

- First, the PEEC Project in 2016 will result in lower costs to FPL's customers. As shown in Exhibit JEE-3 attached to the testimony of FPL witness Enjamio, the PEEC Resource Plan will result in

significant customer savings when compared to the two resource plans without PEEC. Specifically, the PEEC Resource Plan will produce savings of about $469 million, cumulative present value of revenue requirements in 2011 dollars (CPVRR) compared to the Return to Service Resource Plan; and savings of about $838 million (CPVRR) compared to the GFCC Resource Plan.

The PEEC Resource Plan will also result in savings when compared to a resource plan that would defer the addition of PEEC. Specifically, the PEEC Resource Plan will produce savings of about $425 million (CPVRR) compared to the GFCT Resource Plan. This result indicates that even a short delay in the addition of PEEC would unnecessarily increase costs to customers. In addition, if PEEC were to be deferred, the cost of building PEEC later would likely be greater than currently projected (especially if the economy improved and there were increased competition for the necessary labor and materials). Moreover, as discussed in the testimonies of Mr. Modia and Mr. Enjamio, a three year delay in adding generation in the Miami-Dade/Broward County area may not be feasible from a system reliability perspective due to the growing imbalance between demand and generation in that area, without substantial transmission upgrades, or without incurring additional costs to keep Turkey Point Unit 1 in service. Therefore,

the adverse consequence of a delay could be significantly greater than reflected above.

Further, only the PEEC Project, (or incurring the much higher costs for customers of returning to service the old steam units at Port Everglades to service), would enable FPL to avoid the need for a transmission upgrade costing approximately $638 million in 2016 dollars, to address the growing imbalance between firm generating capacity and load in Miami-Dade and Broward Counties.

The unmatched advantages of the PEEC Project compared to long-term purchases from existing generating facilities or from new generating units ensures that the PEEC Resource Plan would also result in significant customer savings relative to any other resource plan that would include a capacity purchase from a third party. FPL estimates, based on information presented in the testimonies of FPL witnesses Modia and Gnecco, that a new third-party generator built in Miami-Dade County or Broward County would have an initial capital cost between $900 million and $1 billion higher than that of PEEC, in 2016 dollars, not including the cost of water, due to the cost of land, transmission facilities and the gas pipeline system expansion. FPL estimates that a new third-party

generator built outside Miami-Dade and Broward Counties would have an initial capital cost between $950 million and $ 1.1 billion higher than that of PEEC, in 2016 dollars, not including the cost of water nor that of a gas lateral, due to the cost of land and transmission facilities, including the cost of the transmission upgrades that would be required to address the growing imbalance between generation and demand in Miami-Dade and Broward Counties. These higher capital costs do not reflect the very real possibility that third parties would have higher capital costs for generation equipment and construction at such greenfield units compared FPL's costs for PEEC, and they do not reflect costs for water that a third party likely would incur.

- Second, the PEEC Project will provide significant environmental benefits. Building PEEC instead of returning to service the existing Port Everglades Units 1-4 will enable FPL to reduce system air emissions during the analysis period for PEEC (2016 – 2047) as follows: carbon dioxide (CO_2) by about 22 million tons, sulfur dioxide (SO_2) by 41 thousand tons, and nitrogen oxide (NO_x) by 33 thousand tons. These emission reductions will help FPL meet whatever emission limits may be imposed in the future.

- Third, the PEEC Project will enable FPL to reduce fuel use. The estimated average base heat rate (a measure of fuel efficiency) for PEEC is 6,330 Btu/kWh, approximately 35% better than the Port Everglades units it will replace. With the PEEC Project, FPL's system average heat rate will improve to 8,042 Btu/kWh in 2017 after PEEC is placed in service, compared to 8,145 Btu/kWh under the Return to Service Resource Plan, an improvement of 1.3%. As a result, the PEEC Project will reduce FPL's use of natural gas and fuel oil. For example, natural gas use in 2017 through 2026 alone would be reduced by about 48 million MMBtu and fuel oil use would be reduced by about 5.3 million barrels, compared to the resource plan that returns to service the four Port Everglades steam units. This fuel efficiency gain will help offset, in part, the effects of projected rising fuel prices in the future.

- Fourth, the PEEC Project will provide societal benefits. The Project will enable FPL to increase system generation as required to maintain system reliability and also improve system fuel efficiency thereby reducing fuel costs, without using new land and without increasing the allocation of water resources to plant use. The Project will also avoid the need for new rights-of-way for transmission facilities and gas pipelines. In addition, because PEEC can receive backup fuel delivered via waterborne transport,

it will contribute to much greater system reliability in the event of a disruption in gas delivery than would be the case with inland plants that must rely solely on truck deliveries.

In summary, bringing the PEEC Project into service in 2016 is the best, most cost-effective alternative available, as part of FPL's strategic resource plan, to reliably meet the growing electricity needs of FPL's customers in this time frame, while also reducing CO_2 and other air emissions. The benefits of the PEEC Project discussed above are summarized in Exhibit RS-1, attached to my testimony.

Without the PEEC Project in 2016, FPL's customers would be served by a less efficient, more costly and less environmentally sensitive system. Also, without the Project, FPL would lose the opportunity to achieve significant near-term CO_2 emission reductions while also taking a major step toward compliance with any CO_2 emission limit that may be imposed by future laws or regulations, all in a highly cost-effective way. These factors support the conclusion that FPL should be granted an affirmative determination of need for the PEEC Project in 2016, because the Project is needed to meet the system reliability criteria considered essential by FPL and previously approved by the Commission, and it is the most cost-effective alternative available to enable FPL to provide adequate electricity at a reasonable cost to FPL's customers.

Q. Do all the resource plans presented in your testimony reflect the removal from generation service of Turkey Point Unit 1 by 2016?

A. Yes. All resource plans presented in this testimony to show the economic advantage of the PEEC Project in 2016 reflect the removal of Turkey Point Unit 1 from generation service by 2016. This is because, as FPL witness Enjamio discusses in his testimony, removing Turkey Point Unit 1 from service by 2016 results in reduced cost to customers under all resource plans. For example, the cost of the PEEC Resource Plan is $300 million CPVRR lower than the cost of the same plan modified only to reflect the inclusion of Turkey Point Unit 1. Conversely, if the PEEC Project were to be delayed, then to the extent that such a change were to require that transmission upgrades be implemented or that Turkey Point Unit 1 remain in service to address system reliability concerns, costs to FPL's customers would increase.

I. FPL'S REQUEST FOR COMMISSION APPROVALS

Q. Please explain the Commission decision that FPL seeks in this proceeding.

A. FPL seeks from the Commission an affirmative determination of need for the PEEC Project, with an in-service date of June 2016.

Q. What is the basis for FPL's requested need determination?

A. FPL has previously petitioned the Commission and received an exemption from the requirement of Rule 25-22.082(18), F.A.C., that a request for

proposals (RFP) be conducted for the modernization of Port Everglades. In its order granting the exemption, the Commission reached the following conclusions:

- FPL has demonstrated that the Project will likely increase the reliable supply of electricity to the utility's ratepayers by providing base load generation to the area of most concentrated electrical use on FPL's system;
- FPL has demonstrated that the Project will otherwise serve the public welfare by providing benefits beyond the provision of electric service; and
- It is unlikely that a respondent to an RFP could provide similar benefits.

Order No. PSC-11-0360-PAA-EI, dated August 26, 2011, at page 3.

FPL's request for an affirmative determination of need for this Project is the culmination of an extensive evaluation designed to identify the best, most cost-effective alternative available to meet FPL's resource need beginning in 2016. FPL's evaluation began with FPL's assessment of its customers' future generation capacity needs after cost-effective DSM measures and renewable resources were considered. FPL then compared the PEEC Project to the other alternatives that I described above, such as returning to service the existing Port Everglades steam units from inactive reserve, instead of building PEEC; building a new combined cycle unit at a greenfield site instead of building PEEC; or adding combustion turbines at a greenfield site in 2016, and thus

delaying PEEC to 2019. These comparisons resulted in the selection of the PEEC Project as the most cost-effective self-build option available to FPL.

FPL also examined the unmatched advantages of building PEEC at the existing Port Everglades site, which is located in the area of FPL's service territory with the highest concentration of load, and determined that there would be significant additional costs to FPL's customers if FPL were to enter into a long-term agreement to purchase power produced by a third party generator. The results of this evaluation confirmed that the PEEC Project is the best and most cost-effective alternative overall available to FPL to meet resource needs beginning in 2016.

Q. How much additional generating capacity will be needed to meet FPL customers' needs in 2016?

A. Based on FPL's September 2011 load forecast, FPL projects that despite demand reductions achieved through FPL's extensive DSM additions, in order to keep pace with population and economic growth in Florida, by 2016 FPL will have to add about 284 MW of new generation capacity over and above the capacity that will have been added through 2015, including the previously approved uprates at FPL's existing nuclear units and the modernizations of FPL's Cape Canaveral and Riviera Beach plants. FPL's resource need is projected to increase in subsequent years.

Q. Do new DSM and renewable resources diminish the beneficial effects of the PEEC Project?

A. No. There is no currently identified additional cost-effective DSM not already reflected in FPL's resource plan for the period through 2020. Therefore, additional cost-effective DSM cannot be relied on to contribute to system reliability, and there is no evidence to suggest that additional DSM could provide economic benefits to FPL's customers that could in any way diminish the unquestionable benefits provided by the PEEC Project.

Similarly, there are no known additional cost-effective renewable resources that could provide any significant amount of firm generating capacity prior to 2019, at the earliest. Therefore, renewable capacity cannot be counted on to contribute to system reliability in 2016 through 2018, as does the PEEC Project. Furthermore, any future renewable resources that could cost-effectively provide energy (but not firm capacity) would not compete with the benefits described above that will be provided by the PEEC Project, but rather would complement those benefits. Adding any such non-firm renewable resources that may prove available would be fully consistent with the PEEC Project.

Q. Has FPL selected a specific turbine design for the PEEC Project?

A. Not at this time. FPL is considering a number of advanced combustion turbine (CT) designs and has not yet made a final decision for the PEEC Project. However, for the purpose of FPL's analyses, we have used projected

costs and operating characteristics consistent with a 3x1 combined cycle unit with "J" CT technology.

Q. Will FPL continue to evaluate the type of equipment to be used for the PEEC Project?

A. Yes. As explained in the testimony of FPL witness Gnecco, FPL will continue to evaluate various advanced CT designs from different manufacturers to determine which design will provide the greatest benefits to FPL's customers.

Q. If FPL were to select a CT design other than the one assumed in FPL's analysis, how does FPL propose to address such selection as it pertains to the determination of need requested by FPL in this proceeding?

A. FPL requests that, as part of the Commission's Order granting an affirmative determination of need for the PEEC Project, the Commission provide that its determination is not predicated on the use of a particular CT design, thus ensuring that FPL has the flexibility through its analysis and negotiations to select the CT design that best meets customers' needs in terms of reliability and cost-effectiveness. Of course, FPL would select a different technology from that assumed in the analyses only if the analyzed CT technology did not prove to be technically viable or if projected costs to FPL's customers related to the PEEC Project, measured in terms of system CPVRR, would be lower as a result of using another CT design, taking into account any changes in the capital costs attributable to the choice of technology. FPL proposes that, in the event FPL finalizes a selection of a CT design other than the analyzed

technology for PEEC subsequent to the Commission having granted a determination of need for the Project, FPL would make an informational filing to the Commission that documents the projected comparative cost advantage of the CT design chosen.

II. INTRODUCTION OF FPL WITNESSES

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

A. There are seven FPL witnesses, including myself, who are submitting direct testimony.

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

A. FPL witness Dr. Rosemary Morley presents FPL's load forecasting process, discusses the methodologies and assumptions used in that process, and presents FPL's resulting load forecasts which were used in analyses performed related to the PEEC Project.

FPL witness Juan Enjamio describes FPL's IRP process, presents the need for new resources to meet customers' demand for electricity in 2016 through 2021, and explains the economic analyses FPL performed to evaluate the PEEC Project compared to other self-build alternatives. Mr. Enjamio also presents the results of FPL's analyses, and explains his conclusion that based

on FPL's evaluation, the PEEC Project constitutes the best, most cost-effective choice for FPL's customers. In addition, Mr. Enjamio presents the environmental compliance cost forecasts for SO_2, NO_x, and CO_2 developed consistent with information provided by ICF International and utilized by FPL in its analysis of the PEEC Project and available generation alternatives.

FPL witness Heather Stubblefield describes the fuel transportation plan to deliver natural gas and light oil to PEEC and testifies to the ready availability of natural gas for PEEC, as part of FPL's generation system. Ms. Stubblefield also supports the fuel price forecast used in FPL's economic analysis of PEEC and other generation alternatives.

FPL witness Kennard Kosky discusses the environmental benefits of PEEC, including projected reductions in emissions that will be realized as a result of PEEC. Mr. Kosky also supports FPL's use of the environmental compliance cost forecasts developed consistent with information provided by ICF International in FPL's economic analyses related to the PEEC Project.

FPL witness John Gnecco presents the engineering details of FPL's PEEC Project, which involves the removal of the existing steam units at Port Everglades, and the construction of a new state-of-the-art 3x1 combined cycle unit at the same site. Included in Mr. Gnecco's testimony are the capital and O&M costs, and the performance characteristics of the technology to be used

for the PEEC Project, which are reflected in FPL's economic analyses. Mr. Gnecco also provides cost estimates related to building new generating units (FPL or third-party) at a greenfield site.

FPL witness Pedro Modia presents the transmission requirements associated with the competing alternatives for meeting FPL's generation need in 2016 and also maintaining system stability, as well as the projected costs of meeting those transmission requirements. In addition, Mr. Modia explains why the projected future imbalance between generation resources and electricity demand in Miami-Dade and Broward Counties is a serious concern, lists the alternative courses of action that FPL has considered to mitigate that imbalance in the future, and explains why the PEEC Project is the best alternative from a transmission perspective.

III. NEED FOR GENERATION CAPACITY

Q. Please describe how FPL determined that there is a generation capacity need in 2016.

A. FPL evaluated the adequacy of existing and anticipated future resources to meet the projected future needs of its customers using FPL's current peak load electricity forecast, which is presented in the testimony of FPL witness Morley, and applying the two reliability planning criteria previously approved by the Commission. One planning criterion consists of maintaining a 20%

reserve margin; the other criterion consists of demonstrating that the Loss of Load Probability (LOLP) in FPL's system will remain lower than 0.1 days per year during the planning period. FPL witness Enjamio discusses the reliability criteria and how they were applied in FPL's generation reliability assessment for the PEEC Project.

Q. What was the result of FPL's current system reliability assessment?

A. As explained in the testimony of FPL witness Enjamio, FPL's reliability assessment completed in September of 2011 determined that -- based on projected future load growth, projected DSM additions through 2016, projected firm capacity purchases that will be in effect in 2016 (reflecting firm purchases from cost-effective renewable resources and the expiration or suspension of power purchases by 2016), and the addition by 2015 of previously approved generation projects now in construction -- FPL's total projected resource need in 2016 is 284 MW.

Q. What amount of DSM will be available by 2016?

A. FPL projects that it will add about 681 MW (summer MW at the generator) of incremental DSM in August of 2011 ~~through~~ to August of 2016, sufficient to avoid about 817 MW of new generating capacity in that period, based on FPL's 20% reserve margin requirement. However, this projected increase in DSM has already been reflected in the reliability assessment calculation FPL has performed, which identified a need for 284 MW of new generation capacity in 2016 above and beyond that DSM. Without any DSM additions, FPL's total generation capacity need in this period would be 1,101 MW. The

817 MW avoided through DSM additions are equivalent to almost 74% of that total capacity need.

It is important to note that, through 2010, FPL and its customers have avoided the need for approximately 5,245 MW of generation capacity as a result of cost-effective DSM programs. And it is estimated that an additional 109 MW of capacity will be avoided as a result of DSM additions in January through July of 2011, for a total of 5,354 MW of avoided capacity. Adding the 817 MW of capacity that will be avoided by DSM additions in August of 2011 through August of 2016, FPL and its customers will have avoided a total of 6,171 MW of generating capacity by August of 2016 as a result of DSM programs, equal to more than 23% of the projected total amount of FPL-owned generating capacity (almost 26,400 MW) that will be in operation by 2016.

Q. Has FPL identified cost-effective DSM adequate to avoid or defer the need for the PEEC Project?

A. No. FPL has not identified any additional cost-effective DSM beyond that already reflected in the reliability assessment calculations. FPL does not believe that sufficient additional cost-effective DSM is available to avoid or defer the need for the PEEC Project in 2016.

FPL will continue to evaluate DSM opportunities as part of its planning process. To the extent that FPL were to identify and implement additional

cost-effective DSM opportunities in the future, such additional DSM would help reduce the currently projected generation capacity need in the years after 2016.

Q. What amount of cost-effective generation capacity from renewable resources is available in 2016?

A. FPL currently projects that about 740 MW of firm generation capacity from renewable resources and Qualifying Facilities (QFs) will be available to FPL in 2016. However, FPL's resource plan already reflects all currently projected firm generating capacity from renewable resources.

Q. Is there additional cost-effective firm generating capacity available from renewable resources or QFs to avoid or defer the need for the PEEC Project?

A. No. As explained above, all the cost-effective firm generating capacity from renewable resources and QFs that FPL anticipates would be delivered to FPL in 2016 has already been reflected in FPL's resource plan. FPL is currently pursuing discussions that could lead to power purchase agreements for firm capacity and energy from biomass renewable resources potentially totaling up to 180 MW. However, if FPL enters into these agreements, it is unlikely that FPL would receive any firm capacity under them until the summer of 2019, at the earliest. Therefore, neither the need for, nor the benefits provided by, the PEEC Project would be diminished by DSM or renewable resources or QFs.

Q. Is the 20% reserve margin planning criterion appropriate for use in FPL's IRP process?

A. Yes. The 20% reserve margin reliability criterion is utilized in FPL's integrated resource planning process, and it has been reviewed and approved by the Commission. FPL believes that 20% is the minimum margin necessary to ensure reliable service for FPL's customers.

Q. Does FPL have concerns from a system planning perspective if a very large portion of the overall 20% reserve margin criterion is met with DSM as opposed to generation resources?

A. Yes. Both FPL and the Florida Reliability Coordinating Council (FRCC) have expressed serious concerns that, with the significant projected increases in DSM, the contribution of generation resources to overall reserves will continue to decrease to the point that DSM, and particularly load control (LC), may be providing most of the reserves in the future. This could lead to excessive use of LC, which based on history would likely result in many residential customers canceling their participation with no advance notice. FPL believes that specifying a minimum level of reserves to be provided by generation capacity, for example, 10%, would effectively address this concern and ensure that service reliability will be maintained throughout Florida for the benefit of all customers. FPL's analysis to determine the optimal minimum level of reserves from generation is still ongoing. However, I should note that without the addition of PEEC in 2016, FPL reserves from generation in 2016 would be only 6.3%. This means that generation would

provide less than a third of the total 20% reserve margin. This is of concern to FPL for the reasons previously stated.

COMPARISON OF THE PEEC PROJECT TO AVAILABLE ALTERNATIVES

Q. Please describe the process that FPL used to select the PEEC Project as the most cost-effective self-build alternative to meet FPL's need in 2016?

A. FPL compared the cost (CPVRR) to its customers of the PEEC Resource Plan that meets FPL's reliability criteria and includes the PEEC Project in 2016 to the cost of each of three alternatives that I have described previously: the Return to Service Resource Plan; the GFCC Resource Plan; and the GFCT Resource Plan. As described below and explained in greater detail by FPL witness Enjamio, the results of these economic analyses confirmed that the PEEC Resource Plan has the lowest cost (CPVRR) of any resource plan considered, and a much lower cost than resource plans that do not include PEEC. Therefore PEEC constitutes the best, most cost-effective choice to maintain system reliability for FPL's customers.

IV. EVALUATION OF THE PEEC PROJECT VS. RETURNING TO SERVICE UNITS IN INACTIVE RESERVE

Q. Why did FPL compare the PEEC Project to returning to service the Port Everglades units that have been placed in inactive reserve?

A. Because these two alternatives are mutually exclusive, it is important to confirm that the PEEC Project is more cost-effective than returning the existing steam units to service, before the existing Port Everglades steam units are permanently removed.

In addition, the PEEC Project and returning to service the existing steam units are the only currently available alternatives that would enable FPL to maintain a proper balance between generation capacity and electricity demand in Miami-Dade and Broward Counties and thereby avoid the need for significant transmission upgrades to increase the import capability of the FPL transmission system into this critical area of Southeast Florida, as discussed by FPL witness Modia.

Q. What advantages does the PEEC Project provide, compared to returning to service the existing Port Everglades steam units?

A. As explained by FPL witness Gnecco, the PEEC Project will place in service a new, cleaner, higher efficiency combined cycle generator instead of returning to service the four existing steam units at Port Everglades, which have been placed in inactive reserve. These existing units, which were built in the

1960s, have heat rates of approximately 9,800 Btu/kWh. In contrast, it is estimated that PEEC will have an average base heat rate of about 6,330 Btu/kWh, approximately 35% lower than that of the old steam units. This new combined cycle unit will use natural gas as the primary fuel, and will be capable of using light fuel oil as backup fuel.

As a result, the resource plan with this cleaner, high efficiency PEEC unit will reduce system emissions of CO_2, SO_2, and NO_x, reduce fuel use, and produce very significant fuel cost savings, which will contribute to large overall savings to FPL's customers. In addition, PEEC will use far less water for cooling per unit of electricity produced.

Q. Has FPL quantified the magnitude of the reduced emissions from the PEEC Project compared to returning to service the Port Everglades steam units?

A. Yes. FPL has compared the emissions of its PEEC Resource Plan to those of the Return to Service Resource Plan. As shown in Exhibit KFK-5 attached to the testimony of FPL witness Kosky, the results of this comparison indicate that during the projected life of PEEC, the PEEC Resource Plan will reduce system CO_2 emissions by as much as 22 million tons compared to the Return to Service Resource Plan. As a result, the PEEC Resource Plan will help FPL meet any CO_2 emission targets that may be imposed in the future. Also, as is presented in the testimony of FPL witness Enjamio, the PEEC Resource Plan

will reduce SO_2 emissions by about 41 thousand tons, and NO_x emissions by 33 thousand tons, during the projected life of PEEC.

Q. Has FPL quantified the reduction in fuel use that will result from the PEEC Project, compared to returning the old steam units to service?

A. Yes. FPL has compared the amounts of natural gas and fuel oil used in FPL's system under the PEEC Resource Plan to those under the Return to Service Resource Plan. As presented in the testimony of FPL witness Enjamio, the results of this comparison indicate that in 2017 through 2026 the PEEC Resource Plan will reduce natural gas use by about 48 million MMBtu compared to the Return to Service Resource Plan. Fuel oil use will also be reduced by about 5.3 million barrels. Reducing oil and gas use is a very important benefit to FPL's customers because of the projected rising cost of natural gas and fuel oil in the future, and further because of the risk that actual fuel costs in the future could be even higher than projected.

Q. How does the cost of the PEEC Resource Plan compare with the Return to Service Resource Plan?

A. FPL determined that the PEEC Project in 2016 will result in significant savings to its customers. Specifically, as discussed in detail in FPL witness Enjamio's testimony, the PEEC Resource Plan will result in system savings of $469 million (CPVRR) compared to the Return to Service Resource Plan. This result, combined with the other significant advantages of the PEEC Project, demonstrate that the Project is far better than returning to service the

four Port Everglades steam units to meet its customers' resource needs in 2016.

V. COMPARISON OF THE PEEC PROJECT VS. NEW FPL COMBINED CYCLE GENERATION AT A GREENFIELD SITE

Q. What advantages does the PEEC Project provide compared to adding a new combined cycle generating unit at a greenfield site?

A. FPL's PEEC Project will place about 1,277 MW of new generation in Broward County, which is in the area of FPL's service territory with the highest electrical load concentration, and with a growing imbalance between load and generation. FPL has not identified any viable greenfield sites in Miami-Dade and Broward Counties, so using a greenfield site would mean that the new generation would be outside the area with the highest load concentration and would contribute to, rather than help reduce, the load vs. generation imbalance. As stated earlier in my testimony, because of its advantageous location, the PEEC Project directly addresses the imbalance in Miami-Dade and Broward Counties, while new generation sited at a greenfield site outside this area would contribute to the need for significant transmission upgrades, estimated to cost approximately $638 million in 2016 dollars. Adding new generation outside the Miami-Dade County and Broward County area also would likely result in higher system transmission losses and, therefore, higher fuel costs than with the PEEC Project.

In addition, the PEEC Project provides benefits that cannot be matched by any generation addition at a greenfield site. This Project will increase FPL's generating capacity without increasing the water allocated to FPL's use. Also, there is no need for additional land for a new generating unit, nor are there new rights-of-way required for transmission lines or gas pipelines. Furthermore, because the PEEC Project will have the capability of receiving light oil delivered using waterborne transportation, this new generation facility will have much greater backup fuel supply reliability than any combined cycle unit located at a greenfield site away from the coast where the supply of light oil would be limited exclusively to truck delivery.

Q. How does the cost of the PEEC Resource Plan compare with the GFCC Resource Plan?

A. As explained in the testimony of FPL witness Enjamio, FPL's analysis results indicate that the cost of the PEEC Resource Plan will be $838 million (CPVRR) lower than the cost of the GFCC Resource Plan.

VI. COMPARISON OF THE PEEC PROJECT VS. NEW FPL SIMPLE CYCLE CTs AND THUS DEFER PEEC TO 2019

Q. How does the cost of the PEEC Resource Plan compare with the GFCT Resource Plan?

A. As also explained in the testimony of FPL witness Enjamio, FPL's analysis results indicate that the cost of the PEEC Resource Plan will be $425 million

(CPVRR) lower than the cost of the GFCT Resource Plan. In addition, if PEEC were to be deferred, the cost of building PEEC later would likely be greater than currently projected (especially if the economy improves and there is increased competition for labor and materials). Moreover, as discussed in the testimonies of Mr. Modia and Mr. Enjamio, a three-year delay in adding generation in the Miami-Dade/Broward County area may not be feasible from a system reliability perspective without substantial transmission upgrades, or without incurring additional costs related to keeping Turkey Point Unit 1 in service, due to the growing imbalance between demand and generation in that area. Therefore, the adverse consequence of a delay could be significantly greater than reflected above. These results confirm that proceeding with the PEEC Project for a 2016 in-service date is more cost effective than deferring the Project to 2019 by building simple cycle CTs.

VII. EVALUATION OF PEEC VS. POSSIBLE POWER PURCHASES FROM THIRD PARTIES

Q. Has FPL evaluated the benefits of the PEEC Project relative to possible market alternatives?

A. Yes. FPL considered the advantages of the PEEC Project relative to what a third party would be able to offer. Because the advantages of the PEEC project could not be matched by a third party offering, FPL does not believe

that there are any viable third-party alternatives that could substitute for the Project on favorable economic terms.

Q. What does FPL anticipate a third party could offer?

A. A third party could offer to sell to FPL capacity from an existing generator, or offer to build new generating capacity in the form of CTs in single cycle mode or a combined cycle unit at a greenfield site as the source of a firm capacity sale to FPL.

Q. Is there any existing generator owned by a third party in Miami-Dade or Broward County?

A. No. Any generating capacity that could be sold to FPL from an existing generator would be from a facility outside Miami-Dade and Broward Counties and would therefore not contribute to balancing load and generation in that critical area of FPL's service territory.

Q. Could a third party build a new generating unit at a site in Miami-Dade or Broward Counties to sell generating capacity to FPL?

A. In theory, yes. However, it is highly unlikely that it could actually be done, and even less likely that it could be completed by 2016. Furthermore, to the extent that a third party could obtain and license a site and construct a new generating unit by 2016, it would be very costly. A third party would have to obtain land and water for a new plant, new transmission facilities, including transmission lines to connect to the FPL system, and a substantially expanded natural gas transportation system to deliver natural gas to the plant. Building this generator in Miami-Dade County or Broward County would also require

permits to build the generating facility where no similar facility exists, as well as an approved transmission corridor for the transmission lines and an approved corridor for the gas pipeline expansion, both through the most densely populated area of Florida.

Q. Is FPL aware of any third party that owns or controls a site in Miami-Dade County or Broward County that could be used to build a new generating plant?

A. No.

Q. Is FPL aware of any third party that has requested studies related to siting transmission facilities or a gas pipeline expansion in Miami-Dade County or Broward County, or that has applied for access to water to operate a new generating plant in the area?

A. No.

Q. In the unlikely event that a third party could place in service a new generator in Miami-Dade County or Broward County by 2016, along with the necessary new gas delivery system and new transmission facilities, what are the advantages of the PEEC Project in 2016, relative to what a third party could offer?

A. The cost of the PEEC Project would be significantly lower than this hypothetical third party alternative, even assuming that the third party could build the generator at the same cost as FPL. This is because the PEEC Project would have no cost for new land, no cost for water access, no cost for a new gas pipeline to deliver fuel, and no cost for new transmission lines to connect

to the FPL system. These items would add very significant costs to any third party proposal, which would make such a proposal cost much more than the $1,185 million (2016 dollars) projected overnight construction cost of the PEEC Project described in FPL witness Gnecco's testimony. Based on information provided in the testimonies of FPL witnesses Modia and Gnecco, it is estimated that such a third-party plant would have higher capital costs of at least $900 million for land, transmission and an expanded gas transportation system, compared to PEEC. Also there would be additional cost for water.

Q. If a third party were to offer a capacity sale from an existing generator located outside Miami-Dade and Broward Counties, what inherent disadvantages would that offer have relative to PEEC?

A. Such an offer would result in higher fuel costs. Because there is no third party advanced combined cycle unit in Florida available to deliver generation to FPL, any offer from a Florida generator necessarily would involve using one or more combustion turbines in single cycle mode, which would have a much higher heat rate than PEEC. Also, generation from outside Southeast Florida would likely contribute to higher system transmission losses than would be the case with PEEC as part of the system. These two disadvantages would make energy costs much higher for any third-party alternative.

In addition, as explained in the testimony of FPL witness Modia, because of the growing imbalance between generation and demand in Miami-Dade and Broward Counties, unless a significant amount of generation (such as PEEC)

is added in that critical area prior to 2020, FPL would have to increase the electricity import capability into that area by 2020, by upgrading FPL's transmission system at a projected cost of approximately $638 million in 2016 dollars. Therefore, the cost of purchasing capacity from outside Miami-Dade and Broward Counties instead of adding generating capacity in the Miami-Dade and Broward County area would include the cost burden of upgrading the transmission system to allow greater electricity imports into that area. Based on information provided in the testimonies of FPL witnesses Modia and Gnecco, it is estimated that such a third-party plant would have higher capital costs of at least $950 million for land and transmission facilities compared to PEEC. There would also be additional cost for water and a gas pipeline lateral.

Q. Could a third party offer to sell capacity from a new advanced combined cycle unit located in Florida (but outside Miami-Dade and Broward Counties), or from an existing or new combined cycle unit located outside Florida?

A. Yes, and in this case it is possible that the third party's proposed unit would not have a heat rate disadvantage compared to PEEC. However, generation associated with these offers would still likely contribute to greater system transmission losses than would PEEC, especially those associated with offers from outside Florida, which could experience losses of up to 10% at peak.

In addition, because these third party generators would be located outside Miami-Dade and Broward Counties, they would not contribute to mitigating the growing imbalance in that area, and FPL would have to incur the cost of approximately $638 million in 2016 dollars, in transmission upgrades to increase electricity imports into the area. Therefore, all else equal, from the perspective of FPL and its customers, offers from such third party combined cycle generators would be burdened by an incremental cost of approximately $638 million in 2016 dollars mentioned above, compared to PEEC.

Q. Could a third party overcome the advantages described above for the PEEC Project in 2016 to the extent that such offer would be FPL's best, most cost-effective alternative?

A. FPL does not believe any third party could overcome these substantial economic advantages of the PEEC Project to offer FPL a power purchase on terms that would be competitive. It is unrealistic to expect that a third party could reduce the cost of any generator by an amount sufficient to offset the inherent advantages of PEEC. Therefore, FPL has concluded that the PEEC Project is more cost effective than any viable alternative that could be offered by a third party.

SUMMARY OF RESULTS OF ALTERNATIVE ANALYSES

Q. Is the PEEC Project the most cost-effective alternative to meet FPL's customers' needs for new resources?

A. Yes. As discussed earlier in my testimony and further explained in the testimony of FPL witness Enjamio, the PEEC Project is the best, most cost-effective self-build option available to meet the needs of FPL's customers in 2016. Specifically, this Project was determined to be the best, most cost-effective alternative compared to returning to service older units now in inactive reserve, adding a new combined cycle unit at a greenfield site, or delaying PEEC by adding CTs. Also, because of the significant unmatched advantages of the PEEC Project, FPL's evaluation of other possible resource alternatives that could be offered by a third party indicates that the Project would result in far lower costs to FPL's customers.

Furthermore, none of these alternatives offered any non-economic advantages over the PEEC Project. Therefore, FPL has established that the Project in 2016 is by far the best, most cost-effective alternative to meet FPL customers' needs for additional resources.

VIII. ADVERSE CONSEQUENCES OF DENYING FPL'S REQUEST FOR A DETERMINATION OF NEED FOR THE PEEC PROJECT

Q. Would there be any adverse consequences to FPL and its customers if the Commission were to not grant determinations of need for the PEEC Project in 2016?

A. Yes. If the Commission were to not grant the determination of need sought in this proceeding, FPL's customers will face significant adverse consequences related to the cost of electricity, air emissions, and other factors.

Q. Please describe the adverse consequences of denying FPL's petition in this proceeding.

A. FPL's analysis shows that without the PEEC Project in 2016 FPL's customers would incur higher costs. Through the analyses described above of the various alternatives, FPL has estimated the incremental cost to FPL's customers to range from at least $425 million to $838 million (CPVRR). Moreover, if natural gas prices and/or environmental compliance costs were to be higher than currently projected, the cost penalty to FPL's customers could be even greater. In other words, because of the very high fuel efficiency and low emission rates of the resource plan with PEEC, not approving the PEEC Project would remove a very effective hedge that would protect FPL's customers in the event that future environmental compliance costs or natural gas costs are higher than currently projected. Delaying the PEEC Project would also result in higher costs to FPL's customers.

Not granting a determination of need for the PEEC Project would result in higher system emissions of CO_2 (22 million tons), SO_2 (41 thousand tons) and NO_x (33 thousand tons) if FPL were to then meet its 2016 resource need by returning to service units that are now on Inactive Reserve. Rejecting the Project would also result in lower system fuel and/or system transmission efficiency and consequently much greater use of fuel oil and natural gas in the future.

In addition, if instead of proceeding with the PEEC Project, FPL were to build a new unit at a greenfield site, FPL would have to utilize new land and new Florida water resources and obtain new rights-of-way for transmission and gas pipeline facilities to achieve, with such new generation additions and at much higher costs, the same generation capacity increase that could be achieved without using new land or new Florida water resources, with PEEC. Furthermore, unless new generation is added in the Miami-Dade and Broward County area, FPL would have to implement very costly transmission upgrades to mitigate the growing imbalance between generation and load in that area. As I discussed previously, this would add approximately $638 million in 2016 dollars.

In summary, it is clear that FPL's customers would not benefit if the Commission were to deny an affirmative determination of need for the PEEC Project with a planned in-service date of June 2016 in this proceeding.

CONCLUSION

Q. What is your conclusion about the PEEC Project?

A. Building the PEEC Project to go into service in 2016 presents a unique opportunity to add generating capacity cost-effectively, with societal benefits, in the area of FPL's service territory with the greatest electrical load concentration. FPL has demonstrated that this Project is clearly the most beneficial choice among the available alternatives to meet FPL's customers' resource needs in 2016.

Because of these significant benefits, the Commission should grant an affirmative determination of need for the PEEC Project with a target in-service date of June 2016, based on a finding that this Project is the best, most cost-effective alternative to meet the needs of FPL's customers in 2016.

Q. Does this conclude your direct testimony?

A. Yes.

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

FLORIDA POWER & LIGHT COMPANY

DIRECT TESTIMONY OF JOHN C. GNECCO IV, P.E.

DOCKET NO. 11_____-EI

NOVEMBER 21, 2011

Q. Please state your name and business address.

A. My name is John C. Gnecco IV, P.E. My business address is Florida Power & Light Company, 700 Universe Boulevard, Juno Beach, Florida, 33408.

Q. By whom are you employed and what position do you hold?

A. I am employed by Florida Power & Light Company (FPL or the Company) as the Director of Project Development for fossil generation including the proposed Port Everglades Next Generation Clean Energy Center (PEEC).

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

A. I lead FPL's efforts to develop fossil generation including new plants and the modernization of older plants. I have overall responsibility for the modernization of FPL's plant at Port Everglades.

Q. Please describe your education and professional experience.

A. I received a Bachelor of Science in Civil Engineering from Merrimack College in 1980. Additionally, I am a Registered Professional Engineer in the State of Florida and a member of the American Society of Civil Engineers and the Structural Engineering Institute.

Throughout the 31 years of my career, I have been involved in the development, design, engineering, and construction of electric power plants, in which I have held numerous positions. Over the last 15 years I have been responsible for the design, engineering, and development of two advanced combustion turbine (CT) simple cycle projects and eleven combined cycle (CC) projects totaling over 13,000 MWs of electrical generating capacity. These projects include modernization projects at FPL's Fort Myers, Sanford, Cape Canaveral, and Riviera Beach sites, along with new CC plants located at FPL's Turkey Point, Martin, Manatee, and West County (Palm Beach County) sites.

Q. Are you sponsoring any exhibits in this case?

A. Yes. I am sponsoring Exhibits JCG-1 through JCG-9, which are attached to my direct testimony.

Exhibit JCG-1	Typical 3x1 CC Unit Process Diagram
Exhibit JCG-2	FPL Operational Combined Cycle Plants and FPL Combined Cycle Construction Projects in Progress
Exhibit JCG-3	Aerial View of Existing Facility
Exhibit JCG-4	PEEC Rendering
Exhibit JCG-5	PEEC Vicinity Map
Exhibit JCG-6	PEEC Power Block Arrangement
Exhibit JCG-7	PEEC Operating Characteristics
Exhibit JCG-8	PEEC Expected Construction Schedule
Exhibit JCG-9	PEEC Construction Cost Components

Q. What is the purpose of your testimony?

A. The purpose of my direct testimony is two-fold. First, I provide a summary of the generation alternatives that were evaluated in arriving at the decision to pursue the proposed PEEC Project and why the CC technology and modernization process was selected to meet FPL's need for generation capacity in 2016. Second, I describe the Project in detail, including a description of the site, the applied technology, water usage, air emissions, transmission tie-in, certification and permit plan, construction schedule, and the Project costs and benefits.

Q. Please summarize your testimony.

A. FPL plans to modernize the existing Port Everglades power plant site, which currently includes four steam units dating from the 1960s into a modern, highly efficient, lower-emission next generation clean energy center using the latest CC technology. The proposed modernization will result in increased power generation without using any additional land or water sources, while incurring only minimal electrical and fuel infrastructure costs. PEEC is expected to have an in-service date of June 2016.

The modernized plant will deliver low cost, highly efficient, and cleaner energy to FPL's customers. The plant will use approximately 35% less fuel for an equivalent amount of energy production. The plant will be configured with three of the latest generation CTs and three heat recovery steam generators (HRSGs) combined with one steam turbine generator. Using

natural gas CC technology is accepted by the Florida Department of Environmental Protection (FDEP) and the United States Environmental Protection Agency (EPA) as the Best Available Control Technology (BACT) for controlling air emissions. Per the direct testimony of FPL witness Kosky, the plant will minimize air emissions and will be among the cleanest fossil fueled power plants in Florida. No additional water sources will be required. The modernized plant will continue to draw water from existing sources and will not exceed existing permitted water limits.

As stated in the direct testimony of FPL witness Enjamio, this Project will result in significant economic and non-economic benefits to FPL's customers. The site aesthetics will improve significantly, greatly benefiting this waterfront area where one of the primary industries is tourism. The existing 343 foot tall stacks will be replaced with new stacks lower than 150 feet, and the number of stacks will be reduced from four to three. PEEC will also result in a number of significant public welfare benefits, including the creation of an estimated 650 direct jobs at its peak and an estimated $20 million in new tax revenue to local governments and school districts.

The new CC units will use natural gas as the primary fuel and also will be capable of burning a light fuel oil, more specifically an ultra-low sulfur distillate with a maximum sulfur content of 0.0015%, as a back-up fuel. Due to its location on the coast of Florida, the plant will be able to receive back-up

fuel from waterborne deliveries and trucks, a significant advantage compared to inland plants which are restricted to only truck deliveries. The ability to receive waterborne deliveries is particularly valuable in emergency situations.

FPL has significant experience building and operating CC plants to achieve the best possible efficiencies. Further, FPL has proven its ability to modernize older plants and construct new plants on time and on budget to achieve greater efficiencies and cost savings for its customers. Accordingly, FPL is confident of the accuracy of its construction cost estimates and projected unit capabilities.

I. SELECTION OF GENERATION TECHNOLOGY AND DECISION TO PURSUE PLANT MODERNIZATION

Q. Please describe the term "modernization."

A. Modernization involves the dismantlement of one or more existing generation units, while leaving intact certain components such as the cooling water intake and discharge infrastructure, followed by the installation of a new CC generation unit.

Q. Please describe the generating alternatives which were considered and evaluated by FPL to meet FPL's need for generation capacity in 2016.

A. As discussed in the direct testimonies of FPL witnesses Silva and Enjamio, four alternatives exist, three of which meet FPL's long term generation

requirements. These alternatives include the modernization of the Port Everglades site, bringing gas/oil fired steam generators out of Inactive Reserve and returning them to active service, or construction of a new CC unit at a greenfield site (FPL or third-party built). However, construction of a new CC unit at a greenfield site at a non-coastal location would yield 15 MW less overall capacity than the PEEC plan due to the need for construction and operation of cooling water towers.

The remaining alternative, building a greenfield CT facility, only defers the need to construct one of the three alternatives discussed in this testimony.

Q. What considerations were used in determining if a new CC unit at a greenfield site (FPL or third party built) was a viable alternative?

A. FPL built or a third party built greenfield site CC units were removed from consideration as viable alternatives for multiple reasons, including the initial capital cost if built within FPL's Southeast Florida area and the added transmission infrastructure costs if built outside of FPL's Southeast Florida area. The Southeast Florida area of FPL's transmission system is the region south and east of, and including FPL's Corbett Substation; geographically, this includes a portion of southern Palm Beach County and all of Broward and Miami-Dade Counties.

Based on FPL's own investigation into the availability of other viable sites (FPL built or third party built facility), it was determined that there are no

viable sites located within the proximity of FPL's Southeast Florida area that have the attributes and resources of the Port Everglades site. Initial capital costs associated with building a greenfield site within FPL's Southeast Florida area would greatly exceed that of the proposed PEEC Project due to the increased costs associated with (1) adequate land size and zoning, (2) access to fuel transportation infrastructure (gas pipeline), (3) transmission facilities, and (4) water supply.

Meeting the necessary supply capacities and pressures to operate a greenfield CC facility in the Southeast Florida area would require a pipeline extension by one of the two gas transporters into this region of the state at a cost in excess of $600 million. This estimate is based on conceptual pipe sizing, routing, and field studies conducted by independent pipeline engineers and constructors along with FPL engineers, environmental specialists, and construction personnel. The conceptual routing was selected so as to avoid highly congested areas, along with paralleling and co-locating with existing linear facilities, while also including the necessary compression to supply gas at a western Broward County site.

FPL identified in a siting study a total of three (3) 100-acre plus sites that could be acquired and developed by a third party with zoning for industrial use, suitable for power generation, and central to FPL's Southeast Florida area in Broward County. These sites all have values that exceed $20 million. Such

sites would also need to acquire a viable water source and need to interconnect into the existing transmission system. FPL estimates the transmission interconnection cost to be as much as $75 million and generic integration costs in the range of $290 to $406 million in order to bring to FPL's system the required generation to match the reliability of the generation located at the Port Everglades site, as described in the direct testimony of FPL witness Modia.

Also, if either PEEC or a greenfield facility is not built in FPL's Southeast Florida area by 2020, there will be an imbalance of FPL customer demand versus FPL generation capacity that will require an estimated $638 million in transmission infrastructure build-out. FPL has performed extensive analyses to determine these costs, as discussed in the direct testimony of FPL witness Modia.

FPL has performed extensive analyses to develop all of the cost estimates provided in the Petition, my testimony, and the testimonies of other FPL witnesses. Unless otherwise specified, the costs are presented in 2016 dollars.

Q. Why was bringing gas/oil fired steam generators out of Inactive Reserve and returning them to active service not considered the best alternative?

A. Bringing traditional oil or natural gas fired steam generator technologies out of Inactive Reserve was removed from consideration for multiple reasons, including the initial capital cost, increased operation and maintenance costs,

and the environmental impacts. First, due to the current condition of these vintage units, multiple upgrades, rebuilds, or equipment replacements would be necessary to improve their reliability necessary for additional extended operation. Second, FPL has performed extensive analyses to determine the cost to bring these units out of Inactive Reserve as well as the cost associated with their operation for the next 15 to 30 years. In addition to the added operation costs associated with steam generation over CC generation, there is a higher fuel cost associated with operating these steam units due to their low fuel efficiency. New CC units (such as the PEEC unit) will be approximately 35% more fuel efficient than steam units. Lastly, the environmental profile for gas and oil steam generators is less desirable than for natural gas fired CC generators of similar size, as discussed in the direct testimony of FPL witness Kosky.

Q. Please describe why the modernization of the Port Everglades site was found to be the best alternative to meet FPL's need for generation capacity in 2016.

A. FPL selected modernizing Port Everglades with CC technology as the best generation alternative because of its multiple advantages. Site specific advantages include location in the Southeast Florida area, land size, zoning, existing natural gas infrastructure, existing electrical transmission infrastructure, and water access. Economic advantages include low capital costs, fuel costs, and operations and maintenance (O&M) costs.

Q. Please describe the combined cycle technology that will be used for PEEC.

A. As shown in Exhibit JCG-1, a CC unit is a combination of CTs, heat recovery steam generators (HRSGs), and a steam-driven turbine generator (STG). Each of the CTs compresses outside air into a combustion area where fuel, typically natural gas or light fuel oil, is burned. The hot gases from the burning fuel-air mixture drive a turbine, which, in turn, directly rotates a generator to produce electricity. The exhaust gas produced by each turbine, where the temperature is approximately 1,200°F, is passed through a HRSG before exiting the stack at less than 200° F. The energy extracted by the HRSG produces steam, which is used to drive an STG. The recovery of waste heat from the CTs for utilization in an STG improves the overall plant efficiency beyond that of just CTs or just conventional steam electric generating units.

Each CT/HRSG combination is called a "train." The number of CT/HRSG trains used establishes the general size of the STG. For the proposed PEEC Project, three CT/HRSG trains will be connected to one STG, giving rise to the characterization of the Project as a "three on one" (3x1) CC unit.

Q. What level of operating efficiency is anticipated for the Project?

A. In general, modern CC plants can be expected to achieve a fuel to electrical energy conversion rate (heat rate) of less than 7,000 Btu/kWh, as opposed to values in the 10,000 Btu/kWh range for conventional steam-electric generating units. FPL anticipates that the modernized unit will have an

average base heat rate as low as 6,330 Btu/kWh (based on an average ambient air temperature of 75°F) over the life of this Project. The proposed 3x1 CC unit will therefore produce the same amount of energy as a similarly sized conventional steam plant using approximately 35% less fuel. As discussed in FPL witness Silva's direct testimony, the addition of this highly efficient unit to the FPL system is projected to improve the overall system heat rate by approximately 1.3% when compared to returning the old steam units to service.

Q. Are there operational advantages to utilizing a multi-train (multiple CTs combined with a singular ST) combined cycle technology?

A. Yes. An advantage of the multi-train CC arrangement is that it allows for greater flexibility in matching unit output to generation requirements over time. This is possible because each of the CTs and the ST can be independently controlled allowing the unit greater flexibility in matching the load requirements at any given point in time.

Q. Does FPL have experience in building and operating combined cycle power plants similar to the proposed PEEC facility?

A. Yes. FPL has extensive experience in building CC plants on time and under budget. FPL's first CC plant (Putnam Units 1 & 2) went into service in 1976. As shown in Exhibit JCG-2, FPL has 12,685 MW (net summer) of CC capacity in service, and the addition of the Cape Canaveral Next Generation Energy Center (June 2013) and the Riviera Beach Next Generation Energy Center (June 2014) will add another 2,422 MW, for a total of over 15,000

MW.

FPL's current CC plants utilize CTs from various manufacturers. These include 30 General Electric (GE) 7FA CTs, 9 Mitsubishi M501G CTs, 4 Mitsubishi/Westinghouse 501F CTs, and 4 Westinghouse 501B CTs.

In addition to its CC operating experience, FPL has extensive experience operating simple-cycle CTs, which comprise the "front end" of the CC "train" (i.e., no HRSG or STG). FPL has operated ten GE 7FA CTs in simple-cycle mode at its Fort Myers and Martin plant sites in Florida. FPL also has been operating 48 smaller simple-cycle gas turbine units for approximately 41 years.

Q. Please describe FPL's track record in building and operating combined cycle units.

A. FPL has consistently demonstrated its ability to cost-effectively construct reliable and efficient plants that save money for customers over the project lives. For example, in 1994 FPL began commercial operation of two new CC units at FPL's Martin plant and, just two years later, FPL was awarded Power magazine's Power Plant of the Year Award for world-class performance in operation and maintenance (O&M) and availability for those units. Other FPL CC projects have been recognized. Both the Fort Myers Repowering Project and Sanford Repowering Projects were recognized by Power magazine as "Top Plant" of the year in 2003 and 2004, respectively. The Turkey Point

Expansion Project (Turkey Point Unit 5) was recognized by Power Engineering magazine as the "Best of the Year" gas-fired project in 2007. The West County Energy Center was also recognized as a "Top Plant" in 2010 by Power magazine.

To ensure ongoing best-in-class performance in today's highly competitive electricity generating industry, FPL focuses on excellence in people, technology, business, and operating processes. FPL promotes a shift team concept in its power plants that emphasizes empowerment, engagement, and accountability, with an understanding that each employee has the necessary knowledge, skill, and motivation to perform any required task. This multifunctional, team-driven, and well-trained workforce is the key to FPL's ability to consistently meet and often exceed plant performance objectives.

With world-class operational skills from which to draw, FPL maximizes the value of its existing and new assets by employing the best practices that underlie its industry leading positions. FPL's fossil-fueled fleet continues to achieve an Equivalent Availability Factor (EAF) of 92.7% averaged over the past 10 years compared with the U.S. industry average EAF of 87.1%.

Q. Please describe how FPL monitors the operational performance of its power plant.

A. FPL uses technology to optimize plant operations, gain process efficiencies, and leverage the deployment of technical skills as demand for services

increases. For example, the Company's Fleet Performance and Diagnostics Center (FPDC) in Juno Beach, Florida, provides FPL with the capability to monitor every plant in its system, including PEEC. FPL can compare the performance of like components on similar generating units, determine how it can make improvements, and often prevent problems before they occur. Live video links can be established between the FPDC and plant control rooms to immediately discuss challenges that may arise, thus enabling FPL to prevent, mitigate, and/or solve problems. In 2001, FPL earned an Industry Excellence Award from the Southeast Electric Exchange for the FPDC.

Q. Please describe FPL's record in the modernization of older power generation facilities to modern, state-of-the-art units.

A. FPL has been recognized by the industry for its capabilities in modernizing older generation units to state-of-the-art high-capacity, high-efficiency CC units. Since 1993, FPL has modernized older generation units at Lauderdale (1993), Ft. Myers (2001), and Sanford (2003) and is in the process of modernizing Cape Canaveral (2013) and Riviera (2014). The modernization of all of these projects has resulted in the improvement of the system-wide efficiency resulting in costs savings to FPL's customers.

II. PEEC PROJECT

Q. Please describe the existing facilities at the Port Everglades plant site.

A. The Port Everglades power plant is located on 92.5 acres, southwest of the

Port Everglades Inlet within the Port of Port Everglades jurisdictional boundaries shown in Exhibit JCG-3. The plant currently consists of two nominal 200 MW (Units 1 and 2) and two nominal 400 MW (Units 3 and 4) conventional dual-fuel fired steam boilers, along with a bank of twelve 30 MW aero derivative gas turbines used for supplying quick start peak power to the grid. Each of the four conventional steam boilers can burn #6 fuel oil and natural gas. The four Port Everglades steam units have a combined peak summer rating of 1,187 MW and a winter rating of 1,193 MW with an average heat rate of approximately 9,800 Btu/kWh. Due to the age and efficiency of these units, they currently see limited usage.

Q. Please describe the proposed PEEC Project in more detail.

A. As previously indicated, the generation facilities at Port Everglades will be renamed the Port Everglades Next Generation Clean Energy Center or PEEC. Upon modernization, PEEC will be a 3x1 CC plant consisting of three advanced CTs, each with dry-low NO_x combustors and three HRSGs, which will use the waste heat energy from the CTs to produce steam to be utilized in a new steam turbine generator. The aesthetics of the plant, and consequently the surrounding areas, will improve significantly, as shown in Exhibit JCG-4. The four existing 343 foot stacks will be replaced with three stacks with heights of less than 150 feet. The location and power block arrangement of PEEC are shown on Exhibit JCG-5 and Exhibit JCG-6, respectively.

Each CT unit is projected to utilize inlet air evaporative cooling. Evaporative

coolers achieve cooling using water evaporation to remove heat from the inlet air. This allows additional power to be produced during periods of high ambient air temperature.

The evaporative coolers normally would be utilized when the ambient air temperature is greater than 60° F. Given an average annual temperature for the FPL system of approximately 75° F, the output and heat rate benefits of evaporative cooler operation are included in the summer peak capacity of about 1,277 MW for PEEC and a base operation heat rate as low as 6,330 Btu/kWh.

PEEC, with a summer peak capacity of about 1,277 MW from the base operations mode, will be among the most efficient electric generators in Florida. The unit will have an estimated equivalent availability factor of approximately 95.4%, an estimated average forced outage factor of approximately 1.1%, and a planned outage factor of 3.5%. The expected operating characteristics are shown in Exhibit JCG-7. As discussed in the testimonies of FPL witnesses Silva and Enjamio, the construction of PEEC in 2016, with its resulting efficiencies and fuel cost savings, will result in savings to FPL customers ranging from $425 million to $838 million CPVRR over the life of the plant when compared to the alternative resource plans.

The advancements in the performance of CTs continue to evolve in the market

place. FPL is considering a number of advanced CT designs and has not yet made a final decision for the PEEC Project; the actual CT selection will be based on a competitive bid process, ensuring the greatest cost benefit to the customer. However, for the purpose of FPL's analyses, we have used projected costs and operating characteristics consistent with a 3x1 combined cycle unit with "J" CT technology. In the event FPL finalizes a selection of a CT design other than the "J" class technology, FPL would make an informational filing to the Commission, as discussed in the direct testimony of FPL witness Silva.

Q. Please describe the types of fuel PEEC will be capable of using and how they will be supplied.

A. The Project will use natural gas as the primary fuel source and will be capable of using light fuel oil, more specifically a distillate fuel oil with a maximum sulfur content of 0.0015%, as a back-up fuel. The existing natural gas pipeline will be used, but additional gas compression infrastructure will be required, costing an estimated $48 million. PEEC will be able to receive light fuel oil from waterborne deliveries, which is a significant advantage over inland plants. In addition, back-up fuel can be trucked to the site and stored on-site. Back-up fuel will be stored in sufficient quantities to allow operation, at full capacity, for seventy-two (72) hours of continuous operation in the event of a natural gas supply disruption.

Q. Please describe the projected air emissions for PEEC.

A. PEEC will result in cleaner electricity production, as discussed in the direct

testimony of FPL witness Kosky. The use of natural gas as a primary fuel source with light fuel oil, as described above, as a back-up fuel combined with combustion control technologies will minimize air emissions from the unit and ensure compliance with applicable emission limiting standards. Using these fuels minimizes emissions of SO_2, particulate matter, and other fuel-bound contaminants. Combustion controls similarly minimize the formation of NO_x, and the combustor design will limit the formation of carbon monoxide and volatile organic compounds. When firing natural gas, NO_x emissions will be controlled using dry-low NO_x combustion technology and Selective Catalytic Reduction (SCR). Water injection and SCR will be used to reduce NO_x emissions during operations when using light fuel oil as back-up fuel. These design alternatives are accepted by the FDEP and EPA as the Best Available Control Technology for air emissions. Modernization will minimize emissions while balancing economic, environmental, and energy impacts. Taken together, the design of PEEC will incorporate features that will make it among the most efficient and cleanest power plants in the nation.

Q. What are the water requirements for PEEC and how will they be met?

A. There will be no additional water sources required as a result of this Project. Under its current permit issued by the FDEP, water from Port Everglades (*i.e.,* the Intracoastal Waterway) is and will continue to be used for once-through cooling. After modernization, the amount of cooling water required will be reduced to approximately one half of the current level, ensuring the new facility will not exceed current permit limits. In addition, the existing

municipal water supply will be used for industrial processing water, service water, and potable water.

The EPA is currently reviewing Clean Water Act section 316(a) and 316(b) requirements, further detailed in the direct testimony of FPL witness Kosky. While FPL does not expect these requirements to significantly affect PEEC, there is a possibility that changes may occur and that these changes may affect PEEC as well as other FPL generating facilities. FPL will continue to monitor the progress of these issues. In the event of any applicable changes, FPL would assess the most cost-effective means of complying with the new requirements.

Q. How will the PEEC Project be interconnected to FPL's transmission network?

A. After the modernization, two of the PEEC CTs will be connected to the existing Port Everglades 138 kV system switchyard. The third CT and the STG will be connected to the existing Port Everglades 230 kV system switchyard, as discussed in the direct testimony of FPL witness Modia.

Q. What is the current status of the certifications and permits required to begin construction?

A. FPL intends to pursue FDEP site certification under the Florida Electrical Power Plant Siting Act (PPSA). No local rezoning with Broward County is required for this Project. Concurrently, FPL will file for federal regulatory approvals through submittal of an air construction permit application and

application for modification of the existing Industrial Wastewater Facility permit. No other major federal approvals will be necessary in order to commence construction.

Q. What is the proposed construction schedule for the PEEC Project?

A. A summary of estimated construction milestone dates is shown on Exhibit JCG-8. FPL will commence the modernization upon receipt of the necessary regulatory approvals, which FPL anticipates will occur by March 2013. FPL also anticipates that demolition of the existing four units and construction of PEEC will require approximately 36 months in total, and that the Project will achieve commercial operation by June 2016.

Q. In addition to the fuel savings and environmental benefits, what other public welfare benefits will PEEC provide?

A. PEEC will result in a number of significant public welfare benefits. First, the proposed modernization will result in certain economic benefits associated with the construction and operation of the new plant. The construction of the new plant would create an estimated 650 direct jobs at its peak and also support numerous local businesses, and the operation of the new plant will enable FPL to provide more capacity to meet the needs of businesses that seek to expand. In addition, in the new plant's first full year of operation, PEEC is estimated to provide more than $20 million in new tax revenue to local governments and school districts.

Q. What does FPL estimate that the PEEC Project will cost?

A. A summary of estimated costs is shown on Exhibit JCG-9. FPL estimates that

the total cost will be $1,185.2 million. Principal components include the power block at $1,041.1 million, transmission interconnection and integration at $32.5 million as discussed in the direct testimony of FPL witness Modia, and allowance for funds used during construction (AFUDC) at $111.6 million. FPL will annually report to the Commission's Director of Economic Regulation updates to the budgeted and actual cost of PEEC, compared to the estimated total in-service cost.

III. CONSEQUENCES OF DELAY

Q. What are the likely consequences if the need determination for PEEC is delayed?

A. FPL has set an in-service date of June 2016 for PEEC. FPL anticipates commencing site work following the receipt of all necessary approvals, anticipated by April 2013, which includes an affirmative final order from the Commission and Site Certification from the FDEP. If the approvals are delayed, FPL's customers will be denied efficient and cost-effective capacity and energy and the previously discussed public welfare benefits. FPL's customers would also incur the impacts from generation shortfalls that affect service reliability.

In addition, if PEEC were to be deferred, the cost of building PEEC later would likely be greater than currently projected (especially if the economy

improved, and there were increased competition for the necessary labor and materials). Therefore, the adverse consequence of a delay could be significantly greater than reflected above.

Approval without delay will result in customers receiving the cost-savings benefits, emission reductions, and other public welfare benefits described in my direct testimony and the direct testimonies of FPL witnesses Silva, Enjamio, and Kosky.

Q. Does this conclude your testimony?

A. Yes.

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

FLORIDA POWER & LIGHT COMPANY

TESTIMONY OF DR. ROSEMARY MORLEY

DOCKET NO. _____-EI

NOVEMBER 21, 2011

Q. Please state your name and business address.

A. My name is Rosemary Morley, and my business address is Florida Power & Light Company, 700 Universe Boulevard, Juno Beach, Florida, 33408.

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

A. I am employed by Florida Power & Light Company (FPL) as the Director of Load Forecasting and Analysis.

Q. Please describe your duties and responsibilities as FPL's Director of Load Forecasting and Analysis.

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

Q. Please describe your educational background and professional experience.

A. I hold a bachelor's degree (B.A.) with honors in economics from the University of Maryland and a master's degree (M.A.) in economics from Northwestern University. In 2005, I earned a Doctorate in Business Administration (D.B.A.) from Nova Southeastern University. I began my career with FPL in 1983 as an Assistant Economist. I have since held a variety of positions in the forecasting, planning, and regulatory areas. I assumed my current position in 2007. I have

received designation as a certified professional forecaster (CPF) from the Institute of Business Forecasting and Planning and am a member of the National Association of Business Economists.

Q. Are you sponsoring any exhibits in this case?

A. Yes. I am sponsoring Exhibit Nos. RM-1 through RM-9, which are attached to my direct testimony.

Exhibit RM-1	Florida Population
Exhibit RM-2	Total Average Customers
Exhibit RM-3	Summer Peak Weather Variables
Exhibit RM-4	Weighted Real Per Capita Income
Exhibit RM-5	Energy Efficiency Standards (MW)
Exhibit RM-6	Real Price of Electricity (cents/kWh)
Exhibit RM-7	Summer Peak Load (MW)
Exhibit RM-8	Winter Peak Load (MW)
Exhibit RM-9	Calendar Net Energy for Load (GWh)

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 review the results of FPL's most current (September 2011) forecasts. These forecasts include long-term forecasts of customers, peak demands, and net energy for load through 2050. The September 2011 forecasts have replaced the forecasts that were presented in FPL's 2011 Ten Year Site Plan. The results of these updated forecasts have been

utilized in the analyses discussed by FPL witnesses Enjamio and Silva in their direct testimonies.

Q. Please summarize your testimony.

A. My testimony addresses FPL's customer forecast, summer and winter peak demand forecasts, and the net energy for load forecast. My testimony explains how these forecasts are developed and why they are reasonable. As discussed in my testimony, FPL is expected to experience moderate growth in its customer base through 2021. By 2019 the number of FPL customer accounts (customers) is expected to surpass the five million mark and by 2021 the cumulative increase in customers from 2011 is expected to reach almost 640,000. Summer peak demands are also projected to increase at a moderate rate. Although the percentage growth rates projected for the summer peak are somewhat slower than those experienced historically, the absolute increases will remain significant. By 2021 the summer peak is projected to reach 25,960 MW, an increase of 4,341 MW relative to the 2011 summer peak which equates to a cumulative increase of approximately 20%. Finally, my testimony explains that a 20% cumulative increase in FPL's net energy for load is also expected between 2011 and 2021, a net increase in excess of 21,900 gigawatt-hours (GWh).

I. 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 thirty-five counties within this region.

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

A. FPL currently serves over 4.5 million customers, as shown on Exhibit RM-2. This amounts to a population of almost nine million people.

Q. Geographically, where is the largest concentration of FPL's load?

A. The largest concentration of load is in Southeast Florida. Although FPL's service area covers thirty-five counties, two counties, Miami-Dade and Broward Counties have recently accounted for 44% of the company's summer peak load.

1. 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, net energy for load, 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 net energy for load, and the independent (explanatory) variables. 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. FPL has consistently relied on econometric models for various forecasting purposes and the modeling results have been reviewed and accepted by this Commission in past proceedings.

Q. How does FPL determine the independent variables that should be used to forecast customer growth, net energy for load, and peak demand?

A. FPL has found that population growth, the economy, appliance standards, and weather are the primary drivers of future electricity needs. Accordingly, the models used to forecast customer growth, net energy for load, and peak demand rely on independent variables representing these various drivers.

Q. What sources does FPL rely on for projections of these independent variables?

A. FPL relies on leading industry experts for projections of these independent variables. Population projections are produced by the University of Florida's Bureau of Economic and Business Research (BEBR) in conjunction with the Office of Economic and Demographic Research (EDR) of the state legislature. The projected economic conditions are from IHS Global Insight, a reputable economic forecasting firm. Estimates of appliance standards are provided by ITRON, one of the leading consultants on energy issues.

2. CUSTOMER GROWTH FORECAST

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

A. The growth of customers in FPL's service territory is a primary driver of the growth in the level of net energy for load and peak demand. In order to project the growth in the number of customers, FPL utilized the August 2011 population projections from EDR, the most current projections available at the time the forecast was developed.

Q. How do EDR's August 2011 population projections compare with its prior forecast?

A. Exhibit RM-1 shows that while short-term growth rates are somewhat lower, long-term percentage growth rates are generally in line with projections used in the 2011 Ten Year Site Plan forecast. The population growth rate projected for 2012 reflects a continuation of the low rates of population growth Florida has experienced since the start of the recession, followed by modestly higher rates of growth in 2013 and 2014. Increased population growth is projected beginning in 2015.

Q. What is FPL's projected customer growth?

A. The number of customers is expected to increase moderately, averaging a 1.3% rate of increase between 2011 and 2021. As can be seen in Exhibit RM-2, by 2019 the number of customers is expected to surpass the five million mark and by 2021 the cumulative increase in customers from 2011 is expected to reach almost 640,000.

Q. How do FPL's projected customer growth rates compare with the growth rates experienced historically?

A. Customer growth is projected to average close to 64,000 per year between 2011 and 2021, somewhat lower than the 66,000 customers per year FPL has averaged over the last 20 years. Nevertheless, the projected customer growth is considerably higher than the level of customer growth experienced between 2007 and 2010. Between 2007 and 2010, customer growth averaged less than 8,000 customers a year. Thus, the forecasted growth in customers represents a return to more historically typical growth rates following the recent economic downturn.

Q. Is FPL's customer forecast reasonable?

A. Yes. The forecast incorporates the most recent EDR population projections available at the time the forecast was developed, relies on the forecasting methods previously reviewed and accepted by the Commission, and is consistent with historical trends in customer growth.

3. SUMMER PEAK DEMAND FORECAST

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

A. Growth in FPL's peak demand has been a function of a larger customer base, weather conditions, economic growth, energy efficiency standards, and changing patterns of customer behavior. FPL has developed a peak demand per customer model to capture these relationships.

Q. What weather information does FPL utilize?

A. FPL utilizes information from four weather stations scattered throughout its service territory. Composite estimates of the hourly temperatures representative of the FPL system as a whole are developed by weighting the values by weather station with the proportion of sales served in that area.

Q. How are weather conditions incorporated into the summer peak per customer model?

A. The summer peak per customer model is calibrated using historical data on two weather series: the maximum temperature on the day of the summer peak and the sum of the cooling degree hours during the day prior to the peak day. In forecasting these weather variables, FPL relies on a normal weather outlook. Normal weather is based on historical averages over the last twenty years. Exhibit RM-3 shows the actual and forecasted values for the two weather variables included in the summer peak per customer model.

Q. How are economic conditions incorporated into the summer peak per customer model?

The impact of the economy is captured through a composite variable based on Florida real per capita income and the percent of the state's population that is employed. Thus, this composite economic variable encompasses two of the primary drivers of the economy: employment and income levels. Florida's real personal income and employment levels are provided by IHS Global Insight. The population forecast is provided by EDR. Exhibit RM-4 shows the actual and forecasted values for Florida real per capita income weighted by the percent of the

population employed. Due to heavy employment losses during the recession, this composite variable declined between 2007 and 2010. With a modest improvement in the economy, a small increase in this variable is estimated for 2011, followed by stronger growth in 2012. Between 2011 and 2021, Florida real per capita income weighted by the percent of the population employed is expected to increase at an average annual rate of 2.6%. By contrast, Florida real per capita income weighted by the percent of the population employed only increased at an annual rate of 1.9% between 1982 and 2011. The projected growth in Florida real per capita income weighted by the percent of the population employed is influenced by the low starting value for this series as a result of declines experienced during the recent recession. Indeed, the 2.6% projected annual increase in this series between 2011 and 2021 suggests a fairly modest pace of recovery relative to the growth rates in the 1980s and 1990s which frequently exceeded 4% to 5% a year.

Q. How is the impact from energy efficiency standards incorporated into the summer peak per customer model?

A variable is included for the impact of energy efficiency standards based on end-use estimates developed by ITRON, a leading expert in this area. Included in ITRON's estimates are savings from federal and state energy efficiency standards, including the 2005 National Energy Policy Act, the 2007 Energy Independence and Security Act, and the savings occurring from the use of compact fluorescent bulbs. As shown in Exhibit RM-5, ITRON's estimates indicate that by 2021, the savings from energy efficiency standards are expected to reach 3,365 MW. It

should be noted that the savings from energy efficiency standards discussed here do not include the impact from utility sponsored demand-side management (DSM) programs. The impact of incremental DSM is addressed in the resource planning process.

Q. What assumptions regarding the price of electricity were used in the summer peak per customer model?

The real price of electricity was developed based on fuel factors filed for approval with the Commission in September 2011. The price of electricity is also consistent with budgeted projections of clause-recoverable costs and with FPL's long-term resource plan. Exhibit RM-6 shows the historical real price of electricity along with its forecasted values.

Q. How is the output from the summer peak per customer model incorporated into the summer peak forecast?

A. The output from the summer peak per customer model is multiplied by the forecasted number of customers. The result is a preliminary estimate of the forecasted summer peak. Incremental wholesale loads are then added to this preliminary estimate of the forecasted summer peak.

Q. Why is the forecast adjusted to include incremental wholesale loads?

A. The forecast is adjusted for incremental wholesale loads in order to reflect additional load not otherwise reflected in FPL's historical load levels resulting from new or modified wholesale contracts. The largest of these contracts is the power sales contract to Lee County, a not-for-profit electric distribution cooperative serving a five-county area in Southwest Florida. In August 2007, the

parties came to an agreement by which FPL will become Lee County's power supplier in two phases. In the short-term phase, FPL began providing partial requirements service to two of the three Lee County delivery points, which together serve approximately 25 percent of Lee County's load, for the term January 1, 2010 through December 31, 2013. In the long-term phase, which commences in January 2014, FPL will serve Lee County's full retail load. Based on information provided by the customer, Lee County's contribution to FPL's summer peak is expected to increase from 233 MW in 2012 to 833 in 2014, growing annually thereafter. Projections of Lee County's contribution to the summer peak are included as a line item adjustment increasing FPL's forecasted summer peak. To avoid any issue of double-counting, Lee County's contributions to FPL's 2010 and 2011 summer peaks are removed in developing the summer peak per customer model.

Q. Are adjustments made for any other new or expanded wholesale contracts?

A. Yes. FPL has been serving the Florida Keys Electric Cooperative under a partial requirements service agreement since January 1992. Effective May 2011, FPL began serving the Florida Keys Electric Cooperative as a full requirements customer. FPL is expected to serve approximately 35 MW of additional load as a result of the Florida Keys Electric Cooperative's change from a partial requirements customer to a full requirements customer. This additional load from the Florida Keys Electric Cooperative is also included as a line item adjustment to the summer peak forecast. In addition, FPL anticipates providing full requirements service to the City of Wauchula effective October 2011. Service to

the City of Wauchula is expected to add an additional 13 MW to the summer peak between 2012 and 2016. Finally, FPL will begin making sales to the Seminole Electric Cooperative in June 2014 under a long-term agreement. Sales to Seminole Electric Cooperative under this agreement are expected to add an additional 200 MW to the summer peak.

Q. Are adjustments also made to reflect the expected termination of any existing wholesale contracts?

A. Yes. Existing contracts with the City of Key West and Metro-Dade County are scheduled to terminate in 2013. The termination of these contracts is expected to reduce the summer peak by approximately 46 MW.

Q. Are there any other adjustments to the summer peak forecast in addition to those for incremental wholesale load?

A. Yes. FPL includes an adjustment for the incremental load resulting from plug-in electric vehicles as well as adjustments for the new and incremental load resulting from its Economic Development Rider and Existing Facility Economic Rider.

Q. Why is an adjustment being made for plug-in electric vehicles?

A. The forecast is adjusted for plug-in electric vehicles in order to reflect additional load not otherwise captured in FPL's historical load levels. The current load from plug-in electric vehicles is estimated to be less than 1 MW. However, the long-term load contribution from plug-in electric vehicles is likely to be many times this level.

Q. How is the load from plug-in electric vehicles projected?

A. Projections on the number of plug-in electric vehicles in FPL's service territory were developed by the company's Customer Service Business Unit. Projections of the U.S. market for plug-in electric vehicles were first developed based on a review of multiple forecasts from leading experts and discussions with knowledgeable professionals in the automotive industry. FPL's share of the U.S. market for plug-in electric vehicles was then estimated based on the share of U.S. hybrid electric vehicles (excluding plug-in electric vehicles) that is currently located in FPL's service area. The contribution to the summer peak load from plug-in electric vehicles was then derived from the vehicle forecast, an estimate of vehicle demand, and the proportion of vehicles expected to be charged during the summer peak. The load from plug-in electric vehicles is expected to be 30 MW by 2016, and to reach 163 MW by 2021.

Q. Why are adjustments being made for the Economic Development Rider and Existing Facility Economic Rider?

A. Under both the Economic Development Rider and Existing Facility Economic Rider, customers are provided discounts for adding new or incremental load. To qualify for either rider, customers are required to verify that the availability of the rider was a significant factor in their location or expansion decision. The Economic Development Rider was modified in July 2011 to allow customers with new or incremental load of at least 350 kW to qualify for the rider. Customers had previously been required to have at least 5000 kW of new or incremental load to qualify for the rider and there was very limited customer participation. The

lower threshold is expected to result in a significant increase in customer participation on the rider. Effective July 2011, the Commission also approved a new rider specifically for customers adding at least 350 kW of new load by occupying a currently vacant premise. The Economic Development Rider and Existing Facilities Economic Development Rider are expected to add incremental load to the summer peak between 2013 and 2016. Based on estimates developed by FPL's Economic Development group in conjunction with the Customer Service and Regulatory Business Units, the Economic Development Rider and Existing Facilities Economic Development Rider are projected to add about 13 MW to the summer peak beginning in 2013. This figure is expected to rise to about 51 MW by 2016.

Q. Have adjustments to the summer peak forecast been incorporated into prior forecasts?

A. Yes. The 2011 Ten Year Site Plan forecast incorporated adjustments for incremental wholesale load and new load resulting from plug-in electric vehicles. In fact, these adjustments have been incorporated into FPL's long-term forecast since the 2009 Ten Year Site Plan. Because the changes to the Economic Development Rider and the addition of the Existing Facilities Economic Development Rider were only recently approved, their impact was not incorporated into prior forecasts.

Q. What is FPL's projected summer peak demand?

A. As shown on Exhibit RM-7, FPL is projecting an annual increase of 1.8% in the summer peak demand between 2011 and 2021. While the projected percentage

growth is lower than the long term rate experienced historically, the absolute level of growth remains very large. An annual increase of 434 MW is projected between 2011 and 2021. By 2021, the summer peak is projected to reach 25,960 MW, a cumulative increase of 4,341 MW relative to the 2011 summer peak.

Q. How does FPL's summer peak demand forecast compare with that developed for the 2011 Ten Year Site Plan?

A. As shown in Exhibit RM-7, under the current forecast the summer peak is expected to grow at an annual rate of 1.8% between 2011 and 2021, somewhat lower than the 2.2% annual growth rate projected in the 2011 Ten Year Site Plan. The lower growth relative to the 2011 Ten Year Site Plan is primarily a result of lower customer growth and a less robust economic outlook.

Q. Is FPL's summer peak demand forecast based on an econometric model with a strong goodness of fit and a high degree of statistical significance?

A. Yes. Goodness of fit refers to how closely the predicted values of a model match the actual observed values. FPL's summer peak model has a strong goodness of fit as demonstrated by the model's adjusted R square of 92.6%. This means that 92.6% of the variability in the summer peak per customer is explained by the model. In addition, the coefficients for all of the variables have the expected sign (+/-) and are statistically significant. This indicates that the variables influencing the summer peak demand have been properly identified and their predicted impact is statistically sound. Finally, the model has a Durbin-Watson statistic of 2.045 indicating the absence of significant autocorrelation. The absence of significant

autocorrelation is a desirable quality in a well constructed model. Overall, the summer peak model has excellent diagnostic statistics.

Q. Is FPL's projected summer peak demand reasonable?

A. Yes. FPL's projected summer peak demand is based on assumptions developed by industry experts, is consistent with historical experience, and relies on the forecasting methods previously reviewed and accepted by the Commission. The model employed by FPL has a strong goodness of fit and a high degree of statistical significance. FPL is confident that the relationship that exists between the level of summer peak demand and the economy, weather, customers, energy efficiency standards, and other variables have been properly assessed and numerically quantified.

4. WINTER PEAK DEMAND FORECAST

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 minimum temperature on the peak day and the square of heating degree hours from the prior day until 9:00 a.m. of the peak day. In addition, the model also includes a term for peaks occurring during the weekends as these tend to be lower than weekday peaks. The projected winter peak load per customer value is multiplied by the total number of customers to derive a preliminary estimate of the forecasted winter peak.

Q. Are the same line item adjustments made to the summer peak forecast also made to the winter peak forecast?

A. Yes. The winter peak forecast is adjusted for incremental wholesale loads, new load resulting from plug-in electric vehicles, and incremental load resulting from the Economic Development Rider and Existing Facilities Economic Development Rider.

Q. How are energy efficiency standards treated in the winter peak forecast?

A. ITRON developed end-use estimates of the energy efficiency standards impacting the winter peak, similar to the estimates developed for the summer peak. As is the case in the development of the summer peak forecast, energy efficiency standards do not include utility-sponsored DSM programs as these are addressed in the resource planning process. Rather, energy efficiency standards refer to national and state efficiency standards as well as the savings resulting from compact fluorescent bulbs. The historical levels of the winter peak are first increased to remove the historical level of energy efficiency standards. The winter peak per customer model is based on these adjusted historical levels. The future impact from energy efficiency standards is then treated as a line item adjustment reducing the level of the winter peak forecast.

Q. What is FPL's projected winter peak demand?

A. As shown in Exhibit RM-8, the winter peak is projected to increase at an annual rate of 1.3% between 2011 and 2021. The annual growth in the winter peak between 2011 and 2021 is expected to be 283 MW a year. By 2021 the winter

peak is expected to reach 23,952 MW, an increase of 2,826 MW over the 2011 winter peak.

Q. Why are FPL's projected winter peaks low relative to the 2010 winter peak?

A. The 2010 winter peak was the result of the extraordinary period of sustained cold weather experienced in January 2010. The day prior to the peak, January 10, 2010, was the third coldest day on record in the FPL service area based on records going back to 1948. Moreover, the cold weather had already been experienced almost continuously for more than a week prior to the January 2010 peak. Indeed, January 2010 holds the record for having the highest number of consecutive days below 40 degrees. Due to this period of sustained cold weather, a record peak of 24,346 MW was recorded on January 11, 2010. Projected winter peaks are based on the weather normally experienced on the day of the winter peak, as opposed to the record cold experienced in January 2010. As a result, the projected winter peaks through 2021 are not expected to exceed the 2010 winter peak.

Q. Is FPL's winter peak demand forecast based on an econometric model with a strong goodness of fit and a high degree of statistical significance?

A. Yes. Goodness of fit refers to how closely the predicted values of a model match the actual observed values. FPL's winter peak model has a strong goodness of fit as demonstrated by the model's adjusted R square of 80.2%. This means that 80.2% of the variability in the winter peak per customer is explained by the model. In addition, the coefficients for all of the variables have the expected sign (+/-) and are statistically significant. This indicates that the variables influencing the winter peak demand have been properly identified and their predicted impact

is statistically sound. Finally, the model has a Durbin-Watson statistic of 1.904 indicating the absence of significant autocorrelation. The absence of significant autocorrelation is a desirable quality in a well-constructed model. Overall, the winter peak model has excellent diagnostic statistics.

Q. Is FPL's winter peak demand reasonable?

A. Yes. FPL's projected winter peak demand is based on assumptions developed by industry experts, is consistent with historical experience, and relies on the forecasting methods previously reviewed and accepted by the Commission. The model employed by FPL has a strong goodness of fit and a high degree of statistical significance. FPL is confident that the relationship that exists between the level of winter peak demand, the weather, customers, energy efficiency standards and other variables have been properly assessed and numerically quantified.

5. NET ENERGY FOR LOAD FORECAST

Q. How does FPL forecast energy sales?

A. FPL forecasts energy sales using an econometric model for total net energy for load, which is energy generated net of plant use. An econometric model for net energy for load is more reliable than models for billed energy sales because the explanatory variables can be better matched to usage. This is so because the net energy for load data do 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.

Q. What inputs does the econometric model used to forecast net energy for load rely on?

A. FPL has found that the customer base, the economy, weather, and energy efficiency standards are the principal factors influencing net energy for load. Accordingly, a net energy per customer model has been developed incorporating these variables.

Q. How are weather conditions incorporated into the net energy per customer model?

A. The weather variables included in the net energy for load per customer model are cooling degree hours using a base of 72 degrees and winter heating degree days using a base of 66 degrees. In addition, a second measure of heating degree days is included using a base of 45 degrees in order to capture the additional heating load resulting from sustained periods of unusually cold weather as occurred in January 2010.

Q. How are economic conditions incorporated into the net energy per customer model?

A. Consistent with its use in the summer peak model, a composite variable based on Florida real per capita income weighted by the percent of the state's population employed is used as a measure of economic conditions. The net energy per customer model also includes a variable designed to measure the health of the housing industry based on the ratio of inactive to active meters. Finally, the detrimental impact higher energy prices have on electricity consumption is

measured by the Consumer Price Index for energy prices, as forecasted by IHS Global Insight.

Q. How is the impact from energy efficiency standards incorporated into the net energy per customer model?

A. A variable is included for the impact of energy efficiency standards based on end-use estimates developed by ITRON. The impact of weather sensitive energy efficiency standards has been estimated by month based on the expected number of cooling degree hours by month and ITRON's annual estimates.

Q. Are the same line item adjustments made to the summer and winter peak forecasts also made to the net energy for load forecast?

A. Yes. The net energy for load forecast is adjusted for incremental wholesale loads, new load resulting from plug-in electric vehicles, and incremental load resulting from the Economic Development Rider and Existing Facilities Economic Development Rider.

Q. What is FPL's projected net energy for load?

A. As shown in Exhibit RM-9, FPL is projecting a 1.8% annual growth rate in net energy for load between 2011 and 2021. This projected annual growth in net energy for load reflects a somewhat slower rate of customer growth combined with additional load from Lee County. Owing to a larger customer base, the absolute level of increase in gigawatt-hours (GWh) is expected to be higher than that experienced historically. The forecast shows an annual increase in net energy for load of 2,191 GWh between 2011 and 2021, resulting in a cumulative increase of 21,911 GWh.

Q. How does FPL's projected net energy for load compare with the 2011 Ten Year Site Plan forecast?

A. As shown at the bottom of Exhibit RM-9, the projected long-run percentage growth rates are slightly lower than those of the 2011 Ten Year Site Plan. The current forecast shows a 1.8% annual growth rate in net energy for load between 2011 and 2021 whereas the 2011 Ten Year Site Plan showed a 2.0% annual growth rate during the same period. The reduction in the forecasted growth in net energy for load is driven in part by slower customer growth combined with lower expectations for the economy.

Q. Is FPL's net energy for load forecast based on an econometric model with strong goodness of fit and a high degree of statistical significance?

A. Yes. Goodness of fit refers to how closely the predicted values of a model match the actual observed values. FPL's net energy for load model has strong goodness of fit as demonstrated by the model's adjusted R square of 99.4%. This means that 99.4% of the variability in net energy for load per customer is explained by the model. In addition, the coefficients for all the variables have the expected sign (+/-) and are statistically significant. This indicates that the variables influencing net energy for load have been properly identified and their predicted impact is statistically sound. Finally, the model has a Durbin-Watson statistic of 2.062 indicating the absence of significant autocorrelation. The absence of significant autocorrelation is a desirable quality in a well-constructed model. Overall, the net energy for load model has excellent diagnostic statistics.

Q. Is FPL's net energy for load forecast consistent with the forecasts for summer and winter peak demands?

A. Yes. All three forecasts rely on the same set of assumptions regarding population and economic growth and rely on similar modeling techniques. Moreover, the summer peak and net energy for load forecasts are both projecting a 1.8% annual rate of growth between 2011 and 2021. Slower long-term growth is projected for the winter peak which tends to be more volatile and weather dependent.

Q. Is FPL's projected net energy for load reasonable?

A. Yes. FPL's projected net energy for load is based on assumptions developed by industry experts, is consistent with historical experience, and relies on the forecasting methods previously reviewed and accepted by the Commission. The model employed by FPL has a strong goodness of fit and high degrees of statistical significance. FPL is confident that the relationship that exists between the level of net energy for load and the economy, weather, customers, energy efficiency standards, and other variables have been properly assessed and numerically quantified.

Q. Does this conclude your direct testimony?

A. Yes.

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

FLORIDA POWER & LIGHT COMPANY

DIRECT TESTIMONY OF HEATHER C. STUBBLEFIELD

DOCKET NO. 11_____-EI

NOVEMBER 21, 2011

Q. Please state your name and business address.

A. My name is Heather C. Stubblefield. My business address is 700 Universe Boulevard, Juno Beach, Florida, 33408.

Q. By whom are you employed and what position do you hold?

A. I am employed by Florida Power & Light Company ("FPL") as Manager of Project Development in the Energy Marketing and Trading division.

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

A. I am responsible for evaluating gas transportation alternatives for FPL's gas-fired generation expansions. This includes evaluating proposals from pipeline companies, negotiating terms and conditions, and executing transportation agreements which are in the best interest of FPL's customers.

Q. Please describe your educational background and professional experience.

A. I graduated from Auburn University with a Bachelor of Arts degree in Business Administration in 1986. I joined El Paso Corporation (formerly Sonat Corporation) in 1988, where I held various positions in Human Resources, Internal Auditing, and the Sonat Marketing Company. In 2003, I joined FPL Group Resources as the Director of Marketing for liquefied natural gas

initiatives. In 2005, I transferred to the Energy Marketing and Trading division of FPL where my duties include evaluating gas transportation alternatives for FPL's gas-fired generation expansions. This includes evaluating proposals from pipeline companies, negotiating terms and conditions, and executing gas transportation agreements that are in the best interest of FPL's customers.

Q. Are you sponsoring any exhibits in this case?

A. Yes. I am sponsoring Exhibit HCS-1, FPL's Fuel Price Forecast, which is attached to my direct testimony.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to present and explain: (1) the fossil fuel price forecast used in the evaluation of FPL's Port Everglades Next Generation Clean Energy Center ("PEEC"); and (2) the proposed fuel and fuel transportation plan for PEEC.

Q. Please summarize your testimony.

A. FPL's fossil fuel price forecast reflects the projected commodity and transportation costs for fuel oil, natural gas, and coal. FPL's long-term fossil fuel price forecast is reasonable for the evaluation of PEEC.

PEEC will burn natural gas as its primary fuel. PEEC currently has access to gas transportation pipeline infrastructure and will require minimal infrastructure upgrades, primarily associated with adding the compression necessary to meet the delivery pressure requirements of the plant. Regardless of the addition of PEEC, FPL will need additional natural gas supply and transportation to meet its

overall system requirements. FPL is currently preparing a Request for Proposals ("RFP") to meet these future gas transportation needs.

Finally, PEEC will utilize a form of light fuel oil known as ultra-low-sulfur distillate as a backup fuel source in the event of a natural gas supply disruption. Light fuel oil will be stored in sufficient quantities to allow PEEC to operate at full capacity for seventy-two (72) hours of continuous operation and can be re-supplied with both waterborne and truck deliveries.

I. FUEL FORECAST

Q. Have you provided FPL's forecasts for the price of fuel oil, natural gas and coal?

A. Yes. FPL's forecasts for the price of fuel oil, natural gas and coal are provided in Exhibit HCS-1.

Q. What fossil fuel price forecast was used in the evaluation of FPL's proposed Project?

A. FPL's August 1, 2011 long-term fossil fuel price forecast was used in the evaluation of PEEC.

Q. What was FPL's methodology for developing the forecast for fuel oil, natural gas, and coal?

A. For fuel oil and natural gas commodity prices, FPL's forecast applied the following methodology: (1) for 2011 through 2013, FPL used the August 1, 2011 forward curve for New York Harbor 1% sulfur heavy oil, U. S. Gulf Coast

1% sulfur heavy oil, light fuel oil, and Henry Hub natural gas commodity prices; (2) for the following two years (2014 and 2015), FPL used a 50/50 blend of the August 1, 2011 forward curve and projections from The PIRA Energy Group; (3) for the 2016 through 2025 period, FPL used the annual projections from The PIRA Energy Group; and (4) for the period beyond 2025, FPL used the rate of escalation from the Energy Information Administration. In addition to the development of commodity prices, price forecasts were also prepared for fuel oil and natural gas transportation costs. These transportation costs, when added to the projected commodity prices, resulted in the delivered price forecasts used to evaluate the cost-effectiveness of PEEC. Coal prices were based on mine-mouth and transportation costs provided by JD Energy, Inc. This methodology is consistent with the approach to fuel forecasting used in previous filings, including FPL's 2011 Ten Year Site Plan.

Q. Please identify the key drivers that affect the future price of fossil fuels.

A. Future fuel oil and natural gas prices, and to a much lesser extent coal prices, are inherently uncertain due to a significant number of unpredictable and uncontrollable drivers that influence the short and long-term prices. These drivers include worldwide demand, production capacity, economic growth, environmental legislation, and politics.

Q. Is FPL's long-term fossil fuel price forecast reasonable for the evaluation of capacity options such as PEEC?

A. Yes. FPL's long-term fossil fuel price forecast is reasonable for the evaluation of PEEC. FPL's fuel price forecasts reflect the projected supply, demand and

price for fuel oil, natural gas, and coal, as well as the transportation of these fuels to the existing and proposed sites.

II. FUEL TYPE AND FUEL TRANSPORTATION

Q. What is the primary fuel type that will be utilized in PEEC?

A. PEEC will burn natural gas as the primary fuel source.

Q. Does FPL currently have natural gas delivery capability to the Port Everglades site?

A. Yes. Under FPL's current gas transportation contracts with Florida Gas Transmission Company ("FGT"), FPL has the ability to deliver natural gas to the Port Everglades site via FGT's existing pipeline system; however, incremental compression will have to be added to provide the necessary delivery pressure that will be required for PEEC. As presented in the direct testimony of FPL witness Gnecco, the cost of the infrastructure upgrades associated with the addition of compression are significantly lower than the cost of building new pipeline infrastructure (which would also include compression) into other locations in Broward County. As previously stated, regardless of the addition of PEEC, FPL's overall system requirements will necessitate the addition of gas supply and transportation capacity. FPL is currently preparing an RFP to meet these future system gas transportation requirements and to ensure the reliability and diversity of FPL's gas transportation portfolio.

Q. Will PEEC have a backup fuel source in the event of a natural gas supply disruption?

A. Yes. PEEC will be capable of burning light fuel oil in the event of a natural gas supply disruption. PEEC will be able to receive light fuel oil from waterborne deliveries, which is a significant advantage over inland plants. In addition, light fuel oil can be trucked to the site and stored on-site. There will be sufficient storage to allow the site to operate at full capacity for seventy-two (72) hours of continuous operation, and the two delivery alternatives will allow for rapid and flexible re-supply of light fuel oil to PEEC.

Q. Does this conclude your testimony?

A. Yes.

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

FLORIDA POWER & LIGHT COMPANY

DIRECT TESTIMONY OF KENNARD F. KOSKY

DOCKET NO. 11_____-EI

November 21, 2011

Q. Please state your name and business address.

A. My name is Kennard F. Kosky, and my business address is 6026 NW 1st Place, Gainesville, Florida 32607.

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

A. I am employed by Golder Associates Inc., an engineering consulting firm specializing in ground engineering and environmental services as a Principal in the firm's Gainesville office. I am involved primarily in the environmental aspects of electric power plants, including managing and directing multidisciplinary environmental licensing projects and air pollution and noise studies.

Q. Please describe your educational background and professional experience.

A. I received a Bachelor of Science degree in Engineering from Florida Atlantic University, and a Master of Science degree in environmental engineering from the University of Central Florida. I also completed one and half years of doctoral-level course work in the engineering Ph.D. program at the University of Florida.

Over the last 35 years, my primary activities have involved the siting and licensing of electric power plants. I have worked on over 50,000 megawatts (MWs) of new and existing generation, including nuclear generating units, conventional coal, oil, and gas-fired steam generating units, combined cycle units, integrated coal gasification combined cycle (IGCC) units, simple cycle units, municipal solid waste (MSW) fired units, biomass-fired steam generating units, and diesel units. My experience also includes five FPL modernizations or repowering projects where combined cycle units replaced older steam generating units. These projects were the FPL Lauderdale, Fort Myers, and Sanford Repowering Projects, the Cape Canaveral Energy Center modernization project, and the Riviera Beach Energy Center modernization project. My primary technical activities have involved developing air emission inventories, evaluating air pollution control technologies, and performing air quality impact evaluations of these facilities. I also served as either the project director or project manager for environmental licensing of those modernizations and repowering projects. A copy of my curriculum vitae is attached as Exhibit KFK-1 to my testimony.

Q. Please describe any professional registrations or certifications that you hold in your field of expertise.

A. I am a registered Professional Engineer in mechanical engineering in the State of Florida. I have been practicing as a registered Professional Engineer since 1976.

Q. Could you please describe your responsibilities for the proposed modernization of FPL's existing Port Everglades Plant to combined cycle

technology, to be renamed the Port Everglades Next Generation Clean Energy Center (PEEC)?

A. I have the responsibility for directing the preparation of the Site Certification Application that will be submitted for the project to the Florida Department of Environmental Protection (FDEP). This application addresses local and state environmental requirements and includes copies of separately filed applications for federally approved programs, such as the Prevention of Significant Deterioration (PSD)/Air Construction Permit application and Industrial Wastewater Facility Permit application.

Q. Are you sponsoring any exhibits in this case?

A. Yes, I am sponsoring the following exhibits, which are attached to my direct testimony.

Exhibits KFK-1	Curriculum vitae of Kennard F. Kosky
Exhibit KFK-2	Sulfur dioxide (SO_2), nitrogen oxides (NO_x), and Particulate Matter (PM) emissions (tons/year) – Existing and Port Everglades Next Generation Clean Energy Center (PEEC)
Exhibit KFK-3	SO_2, NO_x, and Particulate Matter emission rate (lb/MWh) – Existing and PEEC
Exhibit KFK-4	Carbon dioxide (CO_2) emission rate (lb/MWh) - Existing and PEEC
Exhibit KFK-5	Cumulative CO_2 reductions in FPL's system with PEEC

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to provide the Commission an overview of the key environmental aspects of PEEC. Because electric power plants constructed in Florida must comply with environmental regulations, the costs of compliance are part of the overall project costs that the Commission considers in its need determination.

Based upon my training, experience, and analysis conducted in relation to this project, I reach the following key conclusions in my testimony: (i) the selection of advanced combined cycle technology and environmental controls for PEEC not only meets, but is better than the existing environmental regulatory requirements; (ii) the technology selected for PEEC is the best available alternative from an environmental perspective; and (iii) the project includes design features that can meet anticipated future environmental requirements and the environmental compliance costs evaluated by FPL to meet future environmental requirements reflect an appropriate estimate of possible future costs.

Q. Please summarize your testimony.

A. My testimony provides an overview of the key environmental aspects of modernizing the Port Everglades Plant. My testimony demonstrates that the use of natural gas, the cleanest fossil fuel, together with advanced combined cycle technology and state-of-the-art air pollution control equipment for PEEC, will meet or be better than the environmental regulatory requirements. Modernizing this plant with advanced combined cycle technology will reduce overall emissions

of particulate matter (PM), sulfur dioxide (SO_2), and nitrogen oxides (NO_x), as well as carbon dioxide (CO_2) emissions in FPL's system. CO_2 constitutes the vast majority (99%) of greenhouse gases (GHG) that are emitted when combusting natural gas and oil. GHGs are gases in the atmosphere that trap heat. GHGs in the atmosphere are both naturally occurring and emitted by man-made activities, and include CO_2, methane, nitrous oxide (N_2O), and man-made fluorinated gases. PEEC together with other system improvements will reduce FPL's overall system CO_2 emissions by millions of tons over its future operation.

Regulation of GHG/CO_2 emissions has just begun to be implemented by the United States Environmental Protection Agency (EPA) through the Prevention of Significant Deterioration (PSD) program of the Clean Air Act and GHG regulation is likely to continue into the future as will be addressed later in my testimony. Implementation of some form of new GHG/CO_2 regulations favors modernization of the Port Everglades Plant, since there is a significant reduction in CO_2 emission rates with PEEC. This reduction in the CO_2 emission rate coupled with the benefits resulting in FPL system wide CO_2 reductions, are advantageous with regard to possible future GHG/CO_2 regulations.

Together, the implementation of future regulation of hazardous air pollutants, NO_x and SO_2, and the possible GHG/CO_2 legislation favors PEEC because of its contribution to FPL system wide emission reductions. The future environmental

compliance costs considered by FPL in its analyses are reasonable and appropriate.

FPL expects to use the existing cooling water source and infrastructure, which will allow FPL to add up to 1,277 MW of capacity but with reduced water impacts. The cooling water requirements for the proposed combined cycle units are less than one-half that of the existing facility. This amount is still more than sufficient to provide a warm water refuge for manatees during the winter months. The modernized plant will have a much lower profile with three stacks no higher than 150 feet and low profile heat recovery steam generators, while the existing Port Everglades Plant has four approximately 340 foot-high stacks and accompanying large boilers.

Q. How is your testimony organized?

A. My testimony is divided into three sections. Section I provides an overview of the major environmental requirements for modernizing the Port Everglades Plant. Section II presents information on how PEEC will not only meet, but be better than these requirements. Section III describes existing and possible future environmental requirements and their potential impact on future environmental compliance requirements and costs. In this section, I describe how these existing and possible future environmental costs were included in FPL's analysis.

SECTION I: ENVIRONMENTAL APPROVALS AND REQUIREMENTS

Q. What environmental approvals are required for the PEEC?

A. FPL is required to obtain local, state, and federal environmental approvals for PEEC. The key FDEP environmental approvals will include the site certification under the Florida Electrical Power Plant Siting Act and approvals for issuance of Air Construction Permit and modification to the Industrial Wastewater Facility Permit, which are part of federally delegated programs. Another key approval will be from the EPA for the PSD review of the emissions of GHGs. The project will also have to demonstrate conformance with local environmental land use and zoning requirements.

Q. Please summarize the major requirements for the environmental approvals for PEEC.

A. Environmental approvals for PEEC require the assembly of technical information on the environmental aspects of the project along with historical data on the existing Port Everglades Plant. This assembled information is included in the Site Certification Application submitted to FDEP and other federal environmental applications needing approval. PEEC will result in significant improvements in environmental performance when compared to returning less efficient and higher emitting existing steam units to service. The environmental regulatory agencies will evaluate these environmental improvements for the project against the historical operation of the plant and make a determination regarding the

construction and operation of the new combined cycle unit at the Port Everglades Plant.

Q. What are the general timeframes for approvals?

A. The environmental approvals will likely take about 12 months after applications are submitted. Approvals can be challenged and may cause project delays. The amount of additional time required to address any challenges that might arise is uncertain, but challenges historically have extended decisions on regulatory approvals by months.

SECTION II: ENVIRONMENTAL COMPLIANCE AND BENEFITS

Q. What general features of PEEC serve to meet environmental requirements?

A. The proposed modernization of the existing Port Everglades Plant with advanced natural gas fired combined cycle units is an ideal opportunity to use an existing power plant site and infrastructure to achieve site-specific and overall system environmental improvements. The Port Everglades Plant provides the infrastructure for a new combined cycle unit that includes an existing developed site dedicated to generation of electricity, existing cooling water systems, existing gas delivery infrastructure, and access to the FPL transmission system. This infrastructure will minimize the environmental impacts of adding new generation. Air emissions will be minimized by the use of the cleanest fuels (natural gas and ultra-low sulfur distillate oil), advanced combined cycle technology, and installation of state-of-the-art air pollution control equipment for emissions of

NO_x. In contrast, the existing Port Everglades Plant's use of older technology and heavy fuel oil contributes to significantly higher air emissions than a new combined cycle unit.

Combined cycle technology also minimizes the use of cooling water relative to the existing steam cycle units. The existing steam generating units at the Port Everglades Plant require cooling water flow for all the electric generation produced because all of the generation is by steam turbine-generator requiring cooling water. In contrast, the new combined cycle unit requires cooling water for less than half of the electric generation produced because most of the electric generation is by combustion turbines that do not require cooling water. After the modernization of the Port Everglades Plant is complete, the total generation will have a small increase in output but significant improvements in environmental performance and decreased fuel use when compared to returning the old steam units to service.

Q. Will FPL's environmental compliance plan for PEEC meet the applicable environmental requirements?

A. Yes. PEEC will meet all applicable local, state, and federal environmental requirements and standards. Indeed, many of the environmental controls will be better than the requirements and standards because they are based on clean fuels and low-emission technologies.

Q. What environmental benefits will result when PEEC is operational?

A. There will be considerable reductions in the air emissions of PM, NO_x, and SO_2. PM in this context includes particulate matter with an aerodynamic diameter of 10 microns (PM_{10}) and particulate matter with an aerodynamic diameter of 2.5 microns ($PM_{2.5}$). Exhibit KFK-2 shows the reduction from actual air emissions for PEEC. As shown, the air emissions of PM, NO_x, and SO_2 before the modernization are about 600 tons/year, 4,300 tons/year, and 9,500 tons/year, respectively. In contrast, the air emissions of PM, NO_x, and SO_2 after the modernization are 221 tons/year, 344 tons/year, and 190 tons/year, respectively or about a 95 percent reduction in the emissions of these pollutants. More importantly, the amount of generation associated with the new combined cycle unit reflected in Exhibit KFK-2 is more than 3 times higher than that associated with the existing Port Everglades Plant due to an assumed capacity factor of 90 percent for PEEC, while the existing capacity factor is less than 30 percent. The reductions directly attributable to PEEC will provide a significant environmental benefit for FPL's customers and Florida's future.

Q. How will PEEC affect FPL's overall emission rates before and after the modernization?

A. PEEC will further reduce FPL's already low emission profile compared to all other utilities in the United States. The use of highly efficient combined cycle units results in emission rates in pounds per megawatt hour (lb/MWh) that are significantly lower than the existing emission rates for PM, SO_2, and NO_x. Exhibit

KFK-3 shows the lb/MWh emission rates of the Port Everglades Plant before and after the modernization is complete.

Q. How will PEEC affect FPL's SO_2 and NO_x emission rates as they compare to other utilities?

A. Of the 119 utilities in power control areas in the U.S., FPL in 2007 ranked 77th and 87th lowest in average lb/MWh emissions of SO_2, and NO_x. FPL's average lb/MWh emission rates for SO_2, and NO_x were 53% and 64% lower than the national utility average. As shown in Exhibit KFK-3, the lb/MWh emission rates significantly decrease with PEEC. This will further reduce FPL's system emission profile for all of these air emissions by displacing emissions from less efficient units.

Q. What effect will PEEC have on FPL's CO_2 emission rates?

A. The lb/MWh CO_2 emission rate after the modernization of the Port Everglades Plant is complete will be less than one-half of the existing CO_2 emission rate. This reduction in CO_2 emission rate is a result of the efficiency of advanced combined cycle technology and the use of natural gas. PEEC will be among the most efficient natural gas fired generating units in Florida and the country, which will displace generation produced by less efficient units in FPL's system and concomitantly reduce the amount of CO_2 emissions. The increased efficiency can be shown by a comparison of lb/MWh CO_2 emission rates. Exhibit KFK-4 shows the lb/MWh emission rates before and after the modernization of the Port Everglades Plant to combined cycle technology. As shown in this exhibit, the CO_2 emission rate for the new combined cycle unit will be less than 800 lb/MWh,

while the actual CO_2 emission rate for the existing FPL Port Everglades Plant is about 1,740 lb/MWh, or more than twice as high. PEEC, among other measures, will continue FPL's major efforts to reduce CO_2 emissions in its system.

Q. What effect would PEEC have on FPL's system emissions of CO_2?

A. PEEC will reduce FPL's system emissions of CO_2 by about 22 million tons from 2016 through 2047 as shown in Exhibit KFK-5 compared with returning to service Port Everglades Units 1 through 4. The exhibit shows that there will be significant long-term reduction in CO_2 emissions in FPL's system as a direct result of PEEC.

Q. How will PEEC affect FPL's CO_2 emission rates as they compare to other utilities?

A. FPL has one of the lowest CO_2 emission rates in the country. Of the 119 utilities in power control areas, FPL ranks 98th lowest in CO_2 emissions with an average lb/MWh CO_2 emission rate 45% lower than the national average. PEEC will continue the reduction in GHG/CO_2 emissions. This represents top quartile performance.

Q. Are there any laws regulating GHG/CO_2 that are applicable to PEEC?

A. Yes. The EPA adopted a regulation on June 10, 2010 that requires PSD review of greenhouse gases emitted from the project, which are primarily CO_2. The PSD review involves the establishment of an emission limit determined to be Best Available Control Technology (BACT). The new PEEC 3-on-1 combined cycle unit will have to undergo this BACT determination since the criteria for review is based on a comparison of past actual emissions of the existing Port Everglades

Plant that operated at less than 30 percent capacity factor to future potential emissions of the modernized plant operating at 100 percent capacity. While there is a significant reduction in the emission rate of CO_2, as demonstrated in Exhibit KFK-4, the net CO_2 emissions increase is higher than the EPA PSD review threshold solely due to the capacity factor difference between the existing plant and PEEC.

Q. In your opinion, does PEEC meet the requirements for BACT under the EPA's CO_2 regulations?

A. Yes. The EPA has provided guidance for determining BACT. In its guidance, the EPA emphasized efficiency in minimizing emissions of CO_2. PEEC will use highly efficient combined cycle units resulting in much lower lb/MWh CO_2 emission rates as demonstrated in Exhibit KFK-4. In addition, as demonstrated in Exhibit KFK-5, there will be a significant reduction of total CO_2 emissions in FPL's system resulting from the project.

SECTION III: FUTURE ENVIRONMENTAL CONSIDERATIONS

Q. What future environmental requirements will potentially be applicable to PEEC?

A. The EPA promulgated several regulations that have implications for PEEC. These include the Cross-State Air Pollution Rule (CSAPR), the proposed Maximum Achievable Control Technology (MACT) standards for electric

generating units, the Clean Water Act Section 316(b) regulations, and possible further GHG regulations.

Q. What is the EPA's CSAPR regulation and how will this regulation influence the proposed PEEC?

A. The EPA finalized CSAPR on July 6, 2011, to replace its Clean Air Interstate Rule (CAIR). CSAPR requires 27 states to adopt regulation to reduce emissions of NO_x and SO_2. The CSAPR, as it applies to Florida, only requires reductions in NO_x emissions associated with ozone formation during the late spring and summertime. There will be a significant decrease in the emissions of NO_x in FPL's system as a result of PEEC. This reduction in NO_x emissions will result in compliance with CSAPR requirements for the modernized Port Everglades Plant.

Q. What are the MACT standards for Electric Generating Units and how will they influence or impact PEEC?

A. The MACT standards imposed limits on the emissions of hazardous air pollutants for a particular industry that EPA determines is appropriate for that industry. The MACT standards for particular industries are promulgated as part of National Emission Standards for Hazardous Air Pollutants (NESHAPs). On May 3, 2011, the EPA proposed MACT emission limits for coal and oil-fired electric generating units. The proposed EPA MACT emission limits would apply to the existing Port Everglades Plant when the rule is finalized if the existing steam units were to be returned to active service. However, this regulation does not apply to the modernized Port Everglades Plant due to the use of combined cycle technology and natural gas as the primary fuel source.

Q. Please describe the EPA's proposed regulation under Section 316(b) of the Clean Water Act and how this proposed regulation may influence or impact PEEC.

A. The EPA has proposed a regulation under Section 316(b) of the Clean Water Act that would limit the impingement and entrainment of aquatic organisms, such as fish and fish larvae, from facilities that use large volumes of cooling water. When finalized, these regulations would likely apply to the PEEC because cooling water will still be necessary for the steam-electric portion of the 3-on-1 combined cycle unit. However, as I previously noted, the PEEC will require much less cooling water than the existing Port Everglades Plant. FPL is evaluating several design options in order to meet the 316(b) requirements once finalized. The reduced cooling water requirement of a modernized Port Everglades Plant will provide more flexibility to meet the proposed EPA 316(b) regulation.

Q. Please explain the potential compliance considerations for PEEC of future GHG/CO_2 regulations.

A. In early 2011, the EPA initiated a process that could regulate greenhouse gases from power plants under Section 111(b) of the Clean Air Act. While regulations have not yet been proposed, such regulation could potentially regulate GHG/CO_2 emissions from new, modified, and existing power plants.

Future regulation under Section 111(b) of the Clean Air Act would not likely affect the PEEC for two reasons. First, the PEEC 3-on-1 natural gas combined cycle unit will be one of the most efficient in the country as demonstrated by CO_2

emission rate in lb/MWh. As such, the CO_2 emission rate from the modernized plant would likely meet any requirement that the EPA would likely adopt for this type of facility under Section 111(b).

Second, the EPA will establish BACT CO_2 emission limits for the modernized Port Everglades Plant. By definition, BACT is more stringent than the standards adopted under Section 111(b) of the Clean Air Act. Therefore, the GHG emission limit established as BACT for PEEC will likely be much lower than any GHG emission limit established by EPA under Section 111(b), such that future regulation of PEEC under Section 111(b) is unlikely to impose any additional regulatory requirements.

Q. What would be the impact of PEEC under any future CO_2 regulation that involved a cap-and-trade system?

A. As shown in Exhibits KFK-4 and KFK-5, there is a considerable reduction in the CO_2 emission rate and CO_2 emissions in FPL's system as a result of the project. If any cap-and-trade system were established, the reduction of CO_2 emissions resulting from PEEC would be advantageous to FPL's system by either reducing the number of allowances that FPL would have to buy or increasing the allowances available for FPL to sell.

Q. In your opinion, does the PEEC Project have design features and equipment that can meet future environmental requirements?

A. Yes. The use of natural gas, the cleanest fossil fuel, together with advanced combined cycle technology and state-of-the-art air pollution control equipment,

will result in air emissions that can meet the future regulatory requirements related to air emissions and GHGs. Similarly, the availability of existing Port Everglades infrastructure and the reduced cooling water flow of PEEC provides flexibility for meeting the 316(b) requirements.

Q. In your opinion, is the PEEC Project reasonable and appropriate based on future environmental requirements?

A. Yes. The improved environmental performance as outlined in my testimony and exhibits demonstrates that PEEC is reasonable and appropriate based on future environmental requirements.

Q. In FPL's economic analysis of PEEC were CSAPR and possible GHG/CO_2 regulations considered? If so, how?

A. Yes. FPL's economic analysis considered CSAPR and the potential future regulation of GHG/CO_2 using projections developed by considering possible future federal legislation using the basic framework of the cap-and-trade system. Historically, there have been federal legislative initiatives that have proposed different forms of GHG/CO_2 regulation based on the cap-and-trade system. These initiatives have included both multi-sector and electric sector regulation with variable reductions of GHG/CO_2 emissions. While GHG/CO_2 legislation is unlikely in the near-term, cap-and-trade legislation has been used historically to reduce multi-state air emissions such as the Acid Rain Program. Cap-and-trade legislation coupled with future EPA regulations on the electric utility sector and evaluation of energy/fuel markets formed the basis for the compliance costs that may occur in the future.

Q. Please explain the compliance costs for the future EPA regulations and potential GHG/CO_2 legislation that were included in the FPL economic analysis of PEEC.

A. Compliance costs under a cap-and-trade system are based on the cost of allowances, which are multiplied by the amount of allowances required for the specific pollutant. The allowance costs used by FPL were based on the information from ICF International (ICF) in a confidential report titled "2011 Emission Price Projections Revision from 2010 - based on ICF 2010 Fourth quarter upgrade." ICF is a recognized leader in providing modeling and simulations of emission and energy markets for private and public entities. The ICF report provides compliance cost forecasts that are based on integrated modeling of the electric, fuel, and environmental markets in the U.S. The compliance costs used were the ICF forecasted 4th quarter forecast for GHG/CO_2 legislation and CSAPR rule.

Q. In your opinion, are the allowance costs used in FPL's economic evaluation of PEEC reasonable and appropriate projections of future environmental compliance costs?

A. Yes. I conclude that FPL considered reasonable and appropriate environmental costs that are predicted to occur in the future.

Q. Does this conclude your direct testimony?

A. Yes.

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

FLORIDA POWER & LIGHT COMPANY

DIRECT TESTIMONY OF PEDRO MODIA, P.E.

DOCKET NO. _____-EI

NOVEMBER 21, 2011

Q. Please state your name and business address.

A. My name is Pedro Modia, P.E. My business address is 4200 W. Flagler Street, Miami, Florida 33134.

Q. By whom are you employed and what position do you hold?

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

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

A. I am responsible for the transmission planning aspects of new generator and utility interconnections, transmission and substation expansion planning, and transmission service-related activities, including contract negotiations, legal and regulatory proceedings, and contract interpretations.

Q. Please describe your educational background and professional experience.

A. I received a Bachelor's degree in Electrical Engineering Technology from Florida International University. I am a Registered Professional Engineer in the State of Florida. Prior to assuming my present role in 2009, I served as FPL's Director of Power Supply. I began my career with FPL in 1977 and have 33 years of service with the Company including the following positions: Director of Substations,

General Manager Generation, Director of Transmission, and Director of Protection and Control.

Q. Are you sponsoring an exhibit in this case?

A. Yes. I am sponsoring Exhibit PM-1, Summary of Required Facilities for the Port Everglades Next Generation Clean Energy Center (PEEC), which is attached to my direct testimony.

Q. What is the purpose of your testimony?

A. My testimony presents three aspects related to FPL's transmission system and the PEEC Project. First, I present a general overview of the FPL transmission system, the Southeast Florida area, and in particular the Miami-Dade and Broward County area. Second, I describe the overall transmission evaluation process and the results of transmission system-related cost studies for the PEEC Project and its alternatives. Finally, I discuss the reliability benefits of the PEEC Project.

Q. Please summarize your testimony.

A. FPL has analyzed its transmission capability to reliably serve its customers in the future. These analyses have identified concerns with maintaining a regional balance between customer demand and generating capacity in the general Southeast Florida area. Most recently, these concerns are focused on the Miami-Dade and Broward County area and FPL continues to monitor these concerns.

The balance between customer demand and generating capacity in an area is maintained by the capability of the transmission system to make up the

differences, however the transmission system capability is finite. While FPL could construct new transmission facilities to import more generation into the area, such construction would be very costly and not without significant risk, including uncertainty regarding approvals for siting, licensing, and permitting for the construction of major transmission facilities necessary to maintain adequate reliability for FPL's customers. FPL estimates that these transmission facilities would cost approximately $638 million (2016$) and would be required by 2020, in order to maintain reliability. Alternatively, FPL could locate new generation in the area such as the PEEC Project that FPL is proposing.

The FPL Transmission Planning group also has performed an evaluation of the FPL transmission system under my direction and control that provided inputs to FPL's Resource Assessment and Planning (RAP) department to support the economic evaluation of the competing alternatives for meeting FPL's generation need in 2016, including the PEEC Project, and also identified the transmission related requirements for the interconnection and integration of the PEEC Project. The total transmission cost of both interconnection and integration facilities for the PEEC Project is estimated to be approximately $32.5 million (2016$).

FPL's proposal to modernize the existing Port Everglades plant adequately provides for FPL system reliability by siting efficient, base load generation in Broward County, a location within FPL's service area with a high concentration

of customer load, and postpones the need for significant transmission investment to increase import capability.

FPL'S TRANSMISSION SYSTEM AND THE SOUTHEAST FLORIDA AREA

Q. Please describe FPL's transmission system.

A. FPL is part of the nation's Eastern Interconnection transmission network. It has multiple points of interconnection with other utilities that enable power to be exchanged among utilities. The FPL transmission system is comprised of approximately 6,721 circuit miles of transmission lines. Integration of the generation, transmission and distribution system is achieved through FPL's 586 substations.

The FPL transmission system is designed to integrate all of FPL's generation resources to serve FPL's retail customers and to meet FPL's firm long-term transmission service obligations in a reliable and cost effective manner. It is planned and designed consistent with reliability standards and criteria established by the North American Electric Reliability Corporation (NERC) and the Florida Reliability Coordinating Council (FRCC).

Q. In previous need determination regulatory proceedings, FPL has addressed the need for siting generation in or increasing the transmission capability to the Southeast Florida area. What does FPL consider to be the Southeast Florida area?

A. The Southeast Florida area of FPL's transmission system has been described as the region south and east of, and including FPL's Corbett Substation; geographically, this includes a portion of southern Palm Beach County and all of Broward and Miami-Dade Counties.

Q. Please describe FPL's transmission concerns for the Southeast Florida area.

A. The concern originated from transmission assessments performed by FPL as far back as 2002, which identified the growing load-to-generation imbalance in Southeast Florida, as well as the finite capability of the transmission system to import power into Southeast Florida in the future. As the load in the area continues to grow, FPL must either build new generation within the Southeast Florida area or make transmission system improvements to increase the transmission import capability, or both, at some time in the near future. This was the load-to-generation imbalance concern that FPL had previously identified in prior need determination proceedings before the Commission.

Q. How did the additions of Turkey Point Unit 5 and West County Units 1, 2, and 3 impact FPL's transmission system and the load-to-generation imbalance in the Southeast Florida area?

A. The additions of Turkey Point Unit 5 in 2007 and West County Units 1, 2, and 3 in 2009, 2010, and 2011 mitigated but did not entirely eliminate the load-to-

generation imbalance concern in the Southeast Florida area. Two other projects that are currently in progress -- the uprates to the Turkey Point nuclear units in 2012 and 2013 and the addition of the Riviera Beach Energy Center in 2014 -- will also help to mitigate the Southeast Florida area imbalance.

Q. Is there currently an imbalance between load and generation in the Southeast Florida area?

A. Yes. Although the generating capacity additions discussed above have helped to mitigate the imbalance issue, the benefits are partly offset by the fact that old, inefficient generating capacity existing within the area will be retired or have been placed on Inactive Reserve status and eventually retired, as witness Enjamio explains in his direct testimony. Cutler Units 5 and 6 are planned to be retired by the end of 2012, and Port Everglades Units 1-4 and Turkey Point Unit 2 have been placed on Inactive Reserve. If all the units that are retired or placed in Inactive Reserve are not returned to service or replaced with generation in this area, the generating capacity within the Southeast Florida area will be reduced by approximately 1800 MW. In addition, Turkey Point Unit 1 is planned to be placed on Inactive Reserve in 2016, as witness Enjamio explains in his direct testimony. This will be a total reduction of approximately 2200 MW. Since the potential reduction in Southeast Florida capacity is primarily in the central and southernmost portion of the area (Miami-Dade and Broward Counties), and the recent generation additions at West County are primarily in the north portion of the area (Palm Beach County), these changes have resulted in a shift in the imbalance to a smaller geographic area of concern within the Southeast Florida

area. The area of concern regarding an imbalance between load and generation is now confined to Miami-Dade and Broward Counties.

Q. Please explain the specific concerns for the Miami-Dade and Broward County area.

A. Miami-Dade and Broward Counties are the most populated counties in FPL's territory with the highest concentration of customer load. The two counties together represent approximately 44% of FPL's total load, based on recent history. Based on this trend, by 2016, FPL projects it will have about 10,000 MW of peak load in the Miami-Dade and Broward County area, and the peak load in this area is estimated to grow by about 150-200 MW per year. With the planned retirements of old, inefficient units such as Cutler Units 5 and 6, and with Port Everglades Units 1-4 and Turkey Point Units 1 and 2 placed on Inactive Reserve, FPL will have only 4,896 MW of active installed capacity in Miami-Dade and Broward Counties (this includes approximately 1,260 MW of 1970's vintage aero-derivative gas turbine generation which is primarily utilized for emergency reserves). As the load in Miami-Dade and Broward Counties continues to grow, FPL will need to rely upon its transmission system to import greater amounts of power into the area to serve the load. However, the existing transmission capability to import power into Miami-Dade and Broward Counties is limited to about 6,400 MW. Later in my testimony I discuss how the transmission import capability was determined in the transmission assessment.

Another concern related to the power import capability of the area is the need for voltage support. In areas of high concentrations of load, the voltage must be supported by either generation close to the loads or additional facilities installed on the system to maintain adequate voltage while importing the power. Generators inherently provide voltage support to the transmission systems to which they are connected. For this reason, the Turkey Point Unit 2 generator was modified to operate as a "synchronous condenser" when it was placed on Inactive Reserve status. A synchronous condenser is a term used to define a generator that is connected to the system to provide voltage support without using fuel or generating power. The Turkey Point nuclear switchyard has voltage requirements that necessitated the use of Turkey Point Unit 2 as a synchronous condenser to maintain adequate voltage in this area. When Turkey Point Unit 1 is removed from generation service for economic reasons, it will be modified to also operate as a synchronous condenser for voltage support at the Turkey Point switchyard.

If the inefficient generation at Port Everglades that has been placed in Inactive Reserve is not returned to service or replaced with generation sited within the Miami-Dade and Broward County area, the imbalance between customer demand versus generation capacity in the area will require an investment of approximately $638 million (2016$) in transmission infrastructure build out by 2020, in order to maintain reliability. FPL would have to construct transmission facilities to move power from remote locations into the area. Aside from the significant cost associated with these transmission infrastructure additions, it is not clear that the

needed enhancements could be completed by 2020 because the siting, licensing, permitting, and construction of major transmission facilities can take a significant amount of time; in fact, in some instances major transmission facilities could take as long as 5 to 7 years to put in service. For this reason, the decision to proceed with such an infrastructure build out would have to be made as early as 2013.

If there is a delay beyond 2016 in either returning the inefficient generation at Port Everglades to service, or constructing the PEEC Project, there is an increased transmission reliability risk. This is due to the increased reliance upon the 1970's vintage aero-derivative gas turbine generation (which is primarily utilized for emergency reserves and not designed to run on a long term continuous basis) to mitigate transmission constraints in the Miami-Dade and Broward County area. To illustrate this potentially serious transmission reliability concern, we assume the possibility that one of the large generating units in the Miami-Dade and Broward County area (i.e. Turkey Point Unit 3, 4 or 5) is unavailable due to a forced outage. In this circumstance, the aero-derivative gas turbine generation would be utilized to replace the outaged generation in the area and maintain the balance between generation and load in the Miami-Dade and Broward area, and also meet the Turkey Point voltage requirements. After 2016, the amount of gas turbine generation required to maintain the balance approaches the available capacity of gas turbines in the area, leaving little margin available for mitigation of potential transmission contingencies. If the available transmission and generation capacity to serve the Miami-Dade and Broward county area is

exhausted, the only remaining remedy to maintain transmission system reliability is to curtail electric service to FPL's customers in this scenario. By 2020 the margin is negative and significant transmission upgrade is required as discussed above. However, delaying the addition of generation into the area beyond 2016 carries a significant risk and is a serious concern, and therefore is not recommended from a system reliability perspective.

To summarize, the existing transmission system import capability into the Miami-Dade and Broward County area is 6,400 MW. Unless adequate generation is added in this area to replace the generation that will be retired, and that which will be in Inactive Reserve, by either bringing the Port Everglades units back into generation service, or preferably by modernizing the Port Everglades Plant, significant transmission upgrades will be required by no later than 2020 to increase the area's transmission import capability. If there is a delay beyond 2016 in adding generation to the area there is a serious concern, and therefore is not recommended from a system reliability perspective.

Q. Would the proposed Turkey Point 6 & 7 nuclear units mitigate the generation to load imbalance in Miami-Dade and Broward Counties?

A. Yes, the new baseload capacity associated with these two new units will improve the generation to load imbalance in the region. However, because the projected in-service dates of those units are 2022 and 2023, respectively, these new units will be unable to mitigate the imbalance that will occur by 2020. Consequently, either

new transmission facilities, or new generation capacity in the area (such as PEEC), will be needed before Turkey Point 6 & 7 will be added.

Q. Will the PEEC Project improve the Miami-Dade and Broward County imbalance between generation and load?

A. Yes. For the reasons discussed above, the PEEC Project reduces the imbalance between generation and load in the Miami-Dade and Broward County area and also provides voltage support, when compared to the case of not utilizing Port Everglades as a generating site.

TRANSMISSION ASSESSMENT AND SYSTEM REQUIREMENTS FOR PEEC

Q. Please describe FPL's evaluation process for transmission interconnection and integration of new generation resources.

A. The evaluation process considers many factors, as outlined below, in order to develop an effective transmission interconnection and integration plan. In some instances, the determination of the plan is relatively straightforward; however, at other times it requires an iterative assessment of various factors and a substantial amount of time to perform appropriate studies. The resultant plan must be in compliance with NERC and FRCC Reliability Standards.

Generally, the first step in the process is to evaluate the proposed generating plant site location to determine its proximity to existing transmission facilities. To the extent there are existing transmission facilities nearby, those facilities are assessed

to determine their capabilities for reliably interconnecting and integrating the proposed new generation into the transmission system as a firm FPL generation resource. Next, other factors such as those listed below are considered (as applicable):

- Compliance with NERC and FRCC Reliability Standards;
- Amount of generation (MW) being added at the new generation site, and the dispatch profile of the new generation resource relative to FPL's other generation resources in serving FPL's load;
- Capabilities to upgrade existing facilities (can the conductor on an existing transmission line be upgraded on the existing structures or would the entire transmission line have to be rebuilt?);
- Need for new transmission lines, right-of-way requirements, existing right-of-way capabilities, siting of new right-of-way, permitting requirements, and expected time-frame to acquire right-of-way and necessary permits;
- Ability to transport power efficiently (would using higher voltages be more efficient by reducing the amounts of transmission losses incurred when moving large amounts of power over long distances?);
- Existing and new substation requirements, capabilities, and availability;
- Impact on existing facilities (does the proposed interconnection and integration plan result in an overload on an existing facility or does it result in a material adverse impact somewhere else on the transmission system?);

- Constructability (can the necessary transmission facilities be constructed without having to take existing operating facilities out of service during periods that would result in an adverse reliability impact?);
- Overall compatibility with the system (do the new facilities require new material stocking requirements or the need for new tools to maintain?);
- Operating considerations (what are the maintenance requirements of the proposed interconnection and integration facilities and how will they impact the on-going operation of the system?);
- The timing and amount of power needed for testing of equipment such as pumps and motors;
- Expected in-service testing and commercial operations dates for new generation (which transmission facilities necessary for interconnection and integration need to be in-service prior to the commercial operation in-service date for testing?);
- The need for procuring transmission service from a third party;
- Material adverse impacts on third party transmission owner; and,
- Initial and recurring costs of facilities and operations.

The next step in the interconnection and integration evaluation process is to perform power flow studies for a proposed transmission interconnection and integration plan. These power flow studies are used to evaluate the performance of the system and to converge on specific new system facilities and upgrades that

would be needed to reliably interconnect and integrate the new generation into the transmission system.

Q. Was this the process FPL used to evaluate transmission interconnection and integration requirements for the PEEC Project?

A. Yes.

Q. What was the result of FPL's evaluation?

A. The evaluation determined that most of the existing facilities in and around the Port Everglades switchyard are adequate to reliably integrate the PEEC Project and some facilities will require upgrading. This is primarily due to the higher winter capability of the PEEC generator's combined cycle technology.

Q. Please summarize the transmission facilities and costs associated with the PEEC Project.

A. The interconnection facilities required for the PEEC Project consist of four string busses needed to connect the three combustion turbine generators and the steam generator to the Port Everglades switchyard at a cost of approximately $6.9 million (2016$). These costs do not include the generator step-up transformers (GSU), which are considered part of the generator power block.

The facilities required in order to fully integrate the PEEC Project into the FPL transmission system include upgrading four existing 138 kV line sections in close proximity to the Port Everglades plant switchyard to accommodate the proposed PEEC unit. In addition, the Port Everglades switchyard requires an upgrade to increase the fault-withstanding capability for faults on, or in close proximity to,

the switchyard busses. The cost of all the required integration facility upgrades is estimated to be about $25.6 million (2016$). These upgrades are necessary due to thermal overloads under various contingencies, primarily in winter conditions when the output of the unit is higher, and under fault conditions, due to the higher fault current available from the new generators.

The total transmission cost of both interconnection and integration facilities for the PEEC Project is estimated to be approximately $32.5 million (2016$). The specific facility upgrades and estimated costs of each are listed in Exhibit PM-1 Summary of Required Facilities for PEEC. These transmission costs are included in the projected total cost of the PEEC Project presented by FPL Witness Gnecco in his direct testimony.

Q. Did FPL also assess the potential transmission-related costs to a third party to interconnect to the FPL transmission system from a site other than Port Everglades within the Miami-Dade or Broward area?

A. Yes. Using the process described above, FPL performed a hypothetical assessment for the interconnection and integration of a generation project of the same size and scope as the PEEC Project located at a potential site in western Broward County that could be acquired by a third party with zoning for industrial use, suitable for power generation. Interconnection costs were estimated to be approximately $75 million (2016$), and generic integration costs were essentially in the range of $290-$406 million (2016$). These transmission costs are significantly higher than the PEEC Project costs because there are no locations on

the transmission system in the Miami-Dade or Broward County area that have existing capacity to integrate the generation from a project similar in size to the PEEC Project.

Q. Please generally describe the impact on transmission losses of the location of generating resources in the transmission system.

A. Transmission losses occur in transmission facilities as the electrical current flows from generators to loads. The farther the generator is from the load, the higher the losses. Since there are numerous generators, transmission elements, and loads distributed on the system, losses vary as a function of what generation is dispatched and the load level.

Power flows and the losses in the transmission system are affected whenever a generating resource is dispatched. Therefore, the impact on losses of an alternative will depend both on where the resource is located and the dispatch characteristic of the resource. While low cost resources may operate and impact transmission losses most of the time, less efficient generating resources are needed to serve higher load levels and generally tend to operate and impact losses during these times.

In this case, one of the alternatives to the PEEC Project was to return existing units to service (at Port Everglades). The generation in both of these alternatives is located in the same area, in fact mostly at the same site. Therefore the

difference in losses between the two options is minimal and was not included in the economic analysis described by FPL witness Enjamio in his direct testimony.

The other generation alternative to PEEC is the construction of a greenfield combined cycle (CC) unit outside the Southeast Florida area. This greenfield CC alternative would most likely have higher system transmission losses. However, since a specific site has not been identified for this unit, losses have not been quantified nor included in the economic analysis of the PEEC Project.

Q. Is the Miami-Dade/Broward import limit an input in the economic analysis?

A. Yes.

Q. Please discuss the methodology used to determine the Miami-Dade/Broward import limit.

A. Calculation of the transmission import limit into the Miami-Dade and Broward County area is performed by load flow analysis. In this case, the load flow analysis indicated potential for the limit to be set by either thermal overload conditions that are system operating limits, or voltage requirement limits at the Turkey Point switchyard. In order to establish which type of condition would be reached first in any case, two types of load flow analysis were used. For determination of a thermal overload limit, incremental transfer capability power flow analysis was used. To determine if a voltage limit is reached, Power/Voltage (P/V) analysis techniques were used. The limiting conditions for both analyses converged on a value of 6400 MW of power being reliably imported into the Miami-Dade and Broward County area, without observing either thermal

overloads on facilities in the area or the voltage limit at the Turkey Point switchyard being reached.

Q. How is the import limit used in the economic analysis of the PEEC Project and its alternatives?

A. The import limit value discussed above is an input to the production costing model used by RAP. RAP uses this import limit to determine the impact on costs of any out of economic dispatch of existing FPL generating units in the Miami-Dade and Broward County area that would be needed to avoid exceeding the limit. Witness Enjamio discusses the results of the production costing model in more detail in his direct testimony.

TRANSMISSION RELIABILITY BENEFITS OF THE PEEC PROJECT

Q. How will the PEEC Project improve reliability to FPL's customers?

A. The PEEC Project will result in a more reliable power supply to FPL's customers in two ways. First, a generation source that is geographically and electrically close to the load is not as dependent upon the transmission system to transfer power over long distances to reach the load. As a result, adding generation close to the load contributes to system stability and reliability. This is because in general, areas of concentrated load have multiple transmission lines serving densely populated centers. Having more lines disperses the amount of power flowing on each line, and in turn reduces the criticality of any particular line. Also, the lines in a densely populated area are typically shorter and therefore have

less exposure to natural elements which may cause interruptions (lightning, etc.) While FPL always strives to plan and operate its transmission system in a reliable manner, from a reliability perspective, it is preferable to have generation located in close proximity to major load centers whenever possible. Generation located close to the load also adds a level of operating flexibility and margin that contributes to increased reliability. Operating flexibility allows for improved maintainability.

Second, since the new unit is very efficient, it will be base load dispatched, which means it will reduce the use of imported power from the grid and which will in turn eliminate or postpone the need for new transmission investment to increase import capability. Conversely, if the PEEC Project is not built and instead, the existing Port Everglades units are returned to service from Inactive Reserve, they will not normally dispatch very often because these older and less efficient units have higher operating costs. Power imported via the transmission system would have lower operating costs, so imported power will be relied upon more frequently, except when the existing Port Everglades Units are required to be dispatched out of economics as "must-run" units to maintain reliability. Over time, as loads continue to grow, this situation will be exacerbated, and this area will require more frequent out-of-economic dispatch of the Port Everglades Units 1-4 to maintain reliability during both peak and off peak periods in order to maintain an adequate level of reliability, increasing costs to customers.

Q. Why is the Port Everglades site location preferred over other potential sites for new generation?

A. From a transmission perspective, the Port Everglades site has several advantages over other potential new sites. The transmission system has been planned and designed for the Port Everglades site to be a generation source. Since the Port Everglades site already has an existing transmission switchyard, the infrastructure necessary to transfer the power from the generators to the distribution system is already in place. Further, the Port Everglades switchyard has transformation to support injecting the output of PEEC into FPL's transmission system at both 230 kV and 138 kV voltage levels. This flexibility is valuable because the ability to split the output of PEEC between the 138 kV and 230 kV voltage levels will defer the need to upgrade the 138 kV transmission system in the local area. The ability to connect at the 230 kV level also increases FPL's options for serving the local area, providing for the bulk transfer of power to other areas, and backing up the 500 kV backbone of FPL's transmission system.

Q. Does this conclude your direct testimony?

A. Yes.

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

FLORIDA POWER & LIGHT COMPANY

DIRECT TESTIMONY OF JUAN E. ENJAMIO

DOCKET NO. 11____-EI

NOVEMBER 21, 2011

Q. Please state your name and business address.

A. My name is Juan Enjamio. My business address is Florida Power & Light Company, 9250 West Flagler Street, Miami, Florida 33174.

Q. By whom are you employed and what position do you hold?

A. I am employed by Florida Power & Light Company (FPL) as Supervisor of Integrated Analysis in the Resource Assessment & Planning group.

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

A. In my current position as Supervisor of Integrated Analysis, I am responsible for supervision and coordination of analyses involving FPL's resource needs.

Q. Please describe your educational background and professional experience.

A. I graduated from the University of Florida in 1979 with a Bachelor of Science degree in Electrical Engineering. I joined FPL in 1980 as a Distribution Engineer. Since my initial assignment in FPL I have held positions as a Transmission System Planner, Power System Control Center Engineer, Bulk Power Markets Engineer, Supervisor of Transmission Planning, and Supervisor of Supply and Demand Analysis. In 2004, I became Supervisor of Integrated Analysis – Resource Planning.

Q. Are you sponsoring any Exhibits in this case?

A. Yes. I am sponsoring the following Exhibits:

- JEE-1, Projection of FPL's Resource Needs through 2021;
- JEE-2, Resource Plans Utilized in the Analyses;
- JEE-3, Results of the Economic Analysis Relative to PEEC;
- JEE-4, Projection of Approximate Bill Impacts;
- JEE-5, Non-Economic Analysis Results: Emission Reductions Compared to PEEC Resource Plan;
- JEE-6, Non-Economic Analysis Results: Reduction in Fuel Use Compared to PEEC Resource Plan; and
- JEE-7, Forecasted Costs of Air Emissions.

Q. What is the purpose and scope of your testimony?

A. My testimony addresses eight major areas. First, I discuss FPL's integrated resource planning process. Second, I describe the major assumptions used in the analyses described in my testimony. Third, I identify FPL's projected resource needs beginning in the year 2016 and explain how this need was determined. Fourth, I discuss the evaluation of various potential options to meet the 2016 need. Fifth, I discuss the economic analysis used to reach the conclusion that the modernization of the Port Everglades Plant is the most cost-effective option for FPL's customers with which to meet the 2016 need. Sixth, I present the results of the economic analysis performed. Seventh, I present the results of the non-economic analyses performed. Finally, I present my conclusion from these analyses.

Q. Please summarize your testimony.

A. FPL's most recent resource planning work determined that FPL has future resource needs starting at about 284 megawatts (MW) in 2016 and growing to a total of 1,468 MW of incremental generation capacity through 2021. Demand Side Management (DSM) programs that are known to be cost-effective and which have been approved by the Florida Public Service Commission (Commission) through 2014, plus an assumption that currently projected annual implementation levels of DSM will continue for 2015-2025, has already been reflected in FPL's most recent resource planning work. In order to meet FPL's summer reserve margin criterion of 20% in 2016, FPL needs to add new generation capacity.

To meet its 2016 resource need, FPL developed and analyzed four resource plans. The first resource plan assumes returning to service the four existing steam units at Port Everglades which have been placed in inactive reserve; this plan is referred to as the "Return to Service Resource Plan." The second resource plan adds a new combined cycle (CC) unit at a greenfield site in 2016; this plan is referred to as the "GFCC Resource Plan." The third resource plan adds two combustion turbines (CT) in simple cycle mode at a greenfield site in 2016, and thus defers the Port Everglades modernization (Port Everglades Next Generation Clean Energy Center, or "PEEC") to 2019; this plan is referred to as the "GFCT Resource Plan." The fourth plan, which is the most cost-effective, adds PEEC in 2016; this plan is referred to as the "PEEC Resource Plan." These four plans were compared using economic and non-economic criteria to determine the most

cost-effective and desirable option for FPL's customers to meet the 2016 resource need.

The economic analysis results show that the PEEC Resource Plan will provide savings to FPL's customers of about $469 million in cumulative present value of revenue requirements in 2011 dollars (CPVRR) when compared to the Return to Service Resource Plan, about $838 million in CPVRR when compared to the GFCC Resource Plan, and about $425 million in CPVRR when compared to the GFCT Resource Plan. Projected approximate bill impacts also show that customers will save on average the following: $0.38 per 1000 kWh when compared to the Return to Service Resource Plan, $0.64 per 1000 kWh when compared to GFCC Resource Plan, and $0.42 per 1000 kWh when compared to the GFCT Resource Plan (based on the average approximate bill impact from 2016 to 2047).

The non-economic analysis results show significantly lower overall system air emissions for the PEEC Resource Plan when compared to those plans that do not include a new 3x1 combined cycle unit starting in 2016 (Return to Service and GFCT Resource Plans). The results also show significant reductions in fuel use for the PEEC Resource Plan when compared to the Return to Service and the GFCT Resource Plans.

Based on these results, FPL is seeking an affirmative determination of need for the modernization of the Port Everglades Plant with a proposed commercial operation date in June 2016.

I. FPL's INTEGRATED RESOURCE PLANNING PROCESS

Q. Can you briefly describe FPL's existing generation supply system?

A. FPL has one of the cleanest generating fleets in the country, and is an industry leader in energy efficiency, conservation, and load management through its DSM program. FPL meets its customers' needs through a mix of fossil and nuclear generating units, renewable generation, purchased power, which also includes renewable generation, and DSM. The existing FPL generation resources are located at sixteen sites distributed geographically throughout its service territory, and also include partial ownership of one unit in Georgia and two units in Jacksonville, Florida. At the time of filing this testimony, FPL's active generation fleet totaled approximately 22,474 MW (summer) of capacity, and its generating units consist of four nuclear units, three coal steam units in which FPL holds partial ownership interests, fifteen combined cycle units, five oil/gas steam units, fifty combustion turbine units, two solar photovoltaic units, and one solar-thermal facility. This fleet total does not include 1,922 MW of FPL's generation in Inactive Reserve status.

FPL presently has a long-term Unit Power Sales (UPS) contract to purchase up to 931 MW of coal-fired generation from Southern Company. FPL also has contracts with Jacksonville Electric Authority for the purchase of 375 MW (summer) and 383 MW (winter) of coal-fired generation from St. John's River Power Park (SJRPP) Units One and Two. However, the UPS contract expires at the end of 2015, and due to Internal Revenue Service regulations, the total amount of energy that FPL may receive from the SJRPP purchase is limited. FPL currently assumes that this limit will be reached prior to the summer of 2016.

FPL also has contracts to purchase firm capacity and energy from cogeneration and small power production facilities (qualifying facilities or "QFs") totaling 595 MW. FPL currently projects that a total of about 740 MW of firm generation capacity will be available to FPL in 2016 from a combination of renewable resources and QFs.

FPL has fostered the expansion of renewable energy sources through development of its own renewable generation projects. As stated previously, FPL operates three commercial-scale solar generation facilities in Florida. FPL has two solar photovoltaic facilities that generate a combined 35 MW of capacity. The third solar facility, located at the Martin site, is a hybrid solar plant that provides 75 MW of solar thermal capacity in an innovative way that directly displaces fossil fuel usage on the FPL system.

Since the inception of its DSM programs through 2010, FPL has achieved 5,245 MW (at the generator) of summer peak demand reduction and an estimated cumulative energy savings of approximately 55,462 GWh (at the generator). It is estimated that FPL will avoid an additional 109 MW of capacity as a result of DSM additions in January through July of 2011. Another 817 MW of capacity will be avoided by DSM additions from August 2011 to August 2016. This results in a total of 6,171 MW of capacity avoided by DSM programs by August of 2016. This amount of peak demand reduction (at the generator, after taking into account the 20% reserve margin requirements) has eliminated the need for the equivalent of 15 new 400 MW generating units. FPL has achieved this level of demand reduction through DSM programs designed to reduce electric rates for all customers, DSM participants and non-participants alike.

Q. What are the objectives of FPL's integrated resource planning process?

A. The fundamental approach used in FPL's integrated resource planning (IRP) process was developed in the early 1990s and has been used and refined since that time to accomplish three primary objectives: 1) determine the timing of when new resources are needed to maintain the reliability of the FPL generation system, 2) determine the magnitude (MW) of the needed resources, and 3) determine the type of resources that should be added. The analyses required to accomplish the first two objectives – determining the timing and magnitude of the needed resources – are often referred to as the reliability assessment portion of FPL's IRP process.

The analyses required to accomplish the third objective – determining the type of resources that should be added – are more complex and involve the consideration of both economic and non-economic perspectives. From an economic perspective, the type of resources that should be added is primarily based on a determination of the resources that result in the lowest system average electric rates for FPL customers. When only power plants or power purchases are the resources in question, the determination can be made on the basis of the lowest total cost (CPVRR). The lowest total cost (CPVRR) in these cases is the same as the lowest average electric rate perspective because the number of kilowatt-hours over which the costs are distributed does not change, as would be the case when DSM resources are being examined.

However, the decision of what type of resources to add is also influenced by considerations such as whether a resource can be brought into service on FPL's system in time to meet a projected capacity need and whether a given resource or resource plan is best suited to address system considerations that may have been identified in the planning process. While these system considerations usually have an economic component or impact, they are often discussed in quantitative, non- economic terms, such as percentages rather than actual dollar amounts.

Q. What are some other system considerations and how are they addressed in FPL's IRP Process?

A. One system consideration is maintaining a regional balance between load and generating capacity, particularly in Southeast Florida. As discussed in witness

Modia's direct testimony, FPL would have to make significant investments in the transmission infrastructure before the year 2020 if the existing Port Everglades units are not returned to service or no new generation is added in Southeast Florida before the year 2020. The PEEC Project addresses this system concern better than returning the existing units to service because PEEC will operate as base-load capacity while the existing Port Everglades units would operate at low capacity factors if returned to service.

Another important consideration is lowering utility system carbon dioxide (CO_2) emissions over the long term to reduce greenhouse gas emissions as well as reducing other utility system air emissions, specifically sulfur dioxide (SO_2) and nitrogen oxides (NO_x). FPL witness Kosky addresses the environmental benefits of PEEC in his direct testimony.

II. ASSUMPTIONS USED IN THE VARIOUS ANALYSES

Q. What are the major assumptions used by FPL in the analyses described in this testimony?

A. The following are the major assumptions used by FPL in the analyses described in this testimony:

Load Forecast:

The load forecast used was updated in September 2011 and is therefore different than the load forecast used in FPL's "Ten Year Power Plant Site Plan 2011-2020"

document filed on April 1, 2011. The new load forecast is described in the direct testimony of FPL witness Morley.

Projected DSM:

Current projections consist of all the DSM programs currently approved for FPL. Many of the approved DSM programs were based on projections through 2014 only. For purposes of these analyses, FPL has assumed that it will continue to achieve its projected incremental level of DSM-based peak and energy savings for the years 2015-2025. This assumes that through August of 2016, FPL and its customers will have avoided a total of 6,171 MW of generating capacity by August of 2016 as a result of DSM programs. Thereafter, FPL projects an additional average annual summer peak reduction of approximately 130 MW.

Upgrade of 7FA Combustion Turbine Fleet:

FPL is planning to upgrade most of its existing 7FA technology combustion turbine fleet. This upgrade of 26 turbines at five plant sites will add approximately 190 MW of summer capacity to FPL's existing units. These upgrades will be completed before 2016, and that assumption is included in the determination of the capacity need analysis.

Nuclear Uprates:

The uprate of FPL's four existing nuclear units is currently projected to add approximately 450 MW of additional capacity at time of summer peak. These uprates are projected to be completed by early 2013.

Units in Inactive Reserve:

The Port Everglades 1-4 and Turkey Point 2 steam units are in Inactive Reserve status (except in the Return to Service Resource Plan where the four Port Everglades units are brought back into service). Turkey Point 2 is currently operating as a synchronous condenser, which provides transmission system voltage support but does not generate additional MW to serve system load. All the resource plans assume that the Turkey Point 1 steam unit will be removed from active generation service and placed in Inactive Reserve in 2016 when it too will start to operate as a synchronous condenser.

Retired Units:

The Cutler 5 and 6 and the Sanford 3 steam units will be retired by the end of 2012.

New generation capacity in-service prior to 2016:

The Cape Canaveral and Riviera Next Generation Clean Energy Centers are assumed to be in-service by summer of 2013 and 2014 respectively.

Fuel Forecast:

The fuel forecast was developed in August 2011 using FPL's Long Term Fuel Price Forecasting methodology. This methodology is described in the direct testimony of FPL witness Stubblefield.

Emission Price Forecast:

FPL's Environmental II Emission Price Forecast was used in the analyses. This forecast was updated in January 2011 based on price forecasts developed by ICF Consulting in late 2010. This emission price forecast is addressed in the direct testimony of FPL witness Kosky and is shown in Exhibit JEE-7 of my testimony.

Q. You previously stated that the resource plans studied assume that Turkey Point 1 will be placed in Inactive Reserve and converted to a synchronous condenser in 2016. Please discuss this assumption.

A. Starting in 2016, FPL plans to place the Turkey Point 1 steam unit in Inactive Reserve Status. This unit will then start to serve in a transmission voltage support role as a synchronous condenser. This is the current mode of operation of its sister unit Turkey Point 2.

FPL's economic analysis demonstrates that it is cost effective to place the Turkey Point 1 steam unit in Inactive Reserve in 2016. The economic analysis shows that this will result in savings of approximately $300 million CPVRR when compared to a resource plan which keeps the unit in its traditional generation role. In the

development of its resource plans, FPL therefore assumed the Turkey Point 1 steam unit was placed in Inactive Reserve in 2016.

III. FUTURE FPL RESOURCE NEEDS

Q. How did FPL decide it needed additional resources?

A. FPL uses two analytical approaches in its reliability assessment to determine the timing and magnitude of its future resource needs in order to continue to provide reliable electric service to its customers. The first approach is to make a projection of reserve margins for summer and winter peak hours for future years. A minimum reserve margin criterion of 20% is used to judge the projected reserve margins. The 20% minimum reserve margin criterion is based on the reliability planning standard FPL currently believes is necessary to ensure reliable service, which FPL committed to maintain and the Commission approved in Order No. PSC-99-2507-S-EU.

The second approach is a Loss-of-Load-Probability (LOLP) evaluation. Simply stated, LOLP is an index of how well a generating system may be able to meet its demand by measuring how often load may exceed available resources. In contrast to the reserve margin approach, the LOLP approach looks at the daily peak demands for each year, while taking into consideration the probability of individual generators being out of service due to scheduled maintenance or forced outages. LOLP is typically expressed in units of "number of times per year" that

the system demand could not be served. The FPL LOLP criterion is a maximum of 0.1 days per year. This LOLP criterion is generally accepted throughout the electric utility industry.

In evaluating the results of the reserve margin criterion analysis, FPL has become concerned that its reserves over time will become increasingly dependent upon DSM resources as opposed to generation resources. FPL is conducting reliability studies to determine if the 20% reserve margin criterion should be supplemented with a minimum reserve margin contribution from generation-only resources. These studies are ongoing as of the date of this filing.

Q. Did FPL use the analytical approaches and assumptions just described to determine its need for additional generation capacity?

A. Yes. For a number of years, FPL's projected need for additional resources has been driven by the 20% summer reserve margin criterion. The reserve margin analysis calculates that FPL has a need of 284 MW by summer of 2016; this grows to a need of 1,468 MW by summer of 2021. A projection of FPL's Resource Need is presented in Exhibit JEE-1 of my testimony.

IV. POTENTIAL OPTIONS TO MEET FPL'S 2016 NEED

Q. Please describe the potential options, or resource plans, considered by FPL to meet its 2016 resource need.

A. FPL considered four options or resource plans, described below, as candidates to meet its 2016 resource need:

Return to Service Resource Plan: This plan consists of the return to service of the four existing Port Everglades steam units from Inactive Reserve status starting in 2016. These units were placed into service in the 1960s. Their combined capacity is 1,187 MW. This plan also assumes the conversion of the Turkey Point 1 unit to synchronous condenser operation in 2016, a GFCC unit in 2021, and the commencement of operations of Turkey Point 6 and 7 nuclear units in 2022 and 2023, respectively.

GFCC Resource Plan: This plan assumes the construction of a new greenfield CC in 2016 as an alternative to PEEC, and using the same technology. That CC would have a summer capacity of 1,262 MW. This plan assumes the conversion of the Turkey Point 1 unit to synchronous condenser operation in 2016, an additional greenfield CC unit in 2021, and the commencement of operations of Turkey Point 6 and 7 nuclear units in 2022 and 2023, respectively.

GFCT Resource Plan: This plan consists of the construction of two new combustion turbines at a greenfield site which defers the need for PEEC to 2019.

These turbines would operate in simple cycle mode, with a summer capacity of 162 MW each. This plan also assumes the conversion of the Turkey Point 1 unit to synchronous condenser operation in 2016, the conversion of the Port Everglades units into PEEC in 2019, and the commencement of operations of Turkey Point 6 and 7 nuclear units in 2022 and 2023, respectively.

As discussed in the direct testimony of FPL witness Modia, operation of the FPL system without generation at Port Everglades (other than the existing gas turbines) in the 2016-2019 time frame would create serious transmission reliability concerns. Nevertheless, this case was included in the economic analysis to demonstrate that it would not be economic to defer PEEC even if there were no system reliability concern.

PEEC Resource Plan: This plan assumes the conversion by 2016 of the Port Everglades site by replacing the four existing steam units with a new combined cycle unit (the PEEC Project). The resulting new CC unit would have a summer capacity of 1,277 MW. This plan also assumes the conversion of the Turkey Point 1 unit to synchronous condenser operation in 2016, a greenfield CC in 2021, and the commencement of operations of Turkey Point 6 and 7 nuclear units in 2022 and 2023, respectively.

These resource plans are presented in Exhibit JEE-2 of my testimony.

Q. Please briefly describe the PEEC Project.

A. The PEEC Project consists of the removal of the existing four steam units at Port Everglades Plant (Units 1-4), which are currently in Inactive Reserve, and adding a new advanced CC unit at the same site to be placed in service by summer of 2016. This new advanced CC unit will have a summer capacity of 1,277 MW and a heat rate of 6,330 Btu/kWh. It will use natural gas as its primary fuel, and will be able to use ultra-low sulfur distillate oil as backup fuel. These performance characteristics are consistent with the advanced CT technology that FPL assumed for the purposes of its analysis.. This Project is described in greater detail in the direct testimony of FPL witness Gnecco.

V. ANALYTICAL APPROACH USED TO ANALYZE THE FOUR OPTIONS/RESOURCE PLANS

Q. Please provide an overview of the analytical approach FPL utilized to evaluate which option/resource plan would be the most cost-effective in meeting its 2016 need.

A. The analytical approach FPL utilized can be summarized as follows. First, FPL developed the four plans previously described. Second, after the resource plans were identified, FPL conducted economic analyses to determine the CPVRR amounts for each of the four resource plans. In addition, projections of approximate customer bill impact were made for the four resource plans.

Q. What is the appropriate period to be used to perform economic analyses?

A. The useful life of a new CC unit such as PEEC is assumed to be thirty years. Therefore, the appropriate period to use for economic analyses is thirty years in order to fully capture and fairly compare all the economic and non-economic impacts of different capacity options that could be added to a utility system.

Q. How were the economic analyses performed?

A. The economic analyses were carried out in the following three steps:

Step 1 - FPL quantified fuel/efficiency and other variable costs savings. The PMAREA production costing model was used to determine the resulting difference in FPL's system fuel costs between the four resource plans. This model has been used by FPL in fuel cost recovery proceedings as well as in numerous need proceedings brought before the Commission. The PMAREA model simulates the operation of FPL's system on an hourly basis. The model captures variable costs (such as fuel, variable O&M, and environmental compliance costs) in its production costing calculations, projects the annual emission levels associated with the resource plans, incorporates the effects of major transmission transfer limits on the dispatch of the generating units, and recognizes gas constraints in FPL's system.

Step 2 - FPL used the Fixed Cost Spreadsheet Model to capture all of the fixed costs (such as capital, fixed O&M, capital replacement, capacity payments for purchases, and firm gas transportation) associated with the four resource plans.

Step 3 - _All of the components of system costs identified in Steps 1 and 2 were then aggregated to determine the CPVRR of each of the four resource plans.

Q. Did FPL quantify any differences in transmission losses among the four resource plans for use in the economic analysis?

A. No. As FPL witness Modia describes in his direct testimony, however, generation resources added outside of the Southeast Florida area are located farther away from FPL's load center and would likely have higher transmission losses when compared to plans that add generation close to areas of concentrated load, and more specifically at Port Everglades. Two of FPL's resource plans add units at unspecified greenfield sites that are unlikely to be close to the areas of concentrated load, but quantifying losses for generation resources at unspecified sites is somewhat speculative. Therefore, the difference in the cost of transmission losses has not been quantified.

While these differential losses have not been quantified, it is clear that the PEEC Resource Plan would have the lowest transmission system losses. Not quantifying the cost of losses in this instance benefits the relative economics of the GFCC, GFCT, and Return to Service Resource Plans when compared to PEEC. FPL believes that not including the cost of losses is a conservative assumption.

Q. Did FPL quantify any differences in major transmission system expenditures between the four resource plans?

A. Yes. As explained in the direct testimony of FPL witness Modia, FPL's transmission planning process has identified that adding or returning generation at the Port Everglades site has significant transmission system benefits. These benefits translate into large transmission infrastructure cost savings for resource plans which include significant generation at Port Everglades (the Return to Service, GFCT, and PEEC Resource Plans), when compared to a resource plan which provides little or no generation at this site (the GFCC Resource Plan). This savings in transmission investment has been quantified to be approximately $638 million in overnight capital costs (in 2016 dollars) and has been included in the economic analysis for the GFCC resource plan.

VI. RESULTS OF ECONOMIC ANALYSIS

Q. What are the results of the economic analysis in CPVRR?

A. The economic analysis indicates that the PEEC Resource Plan provides the greatest benefit to FPL customers resulting in about $469 million lower CPVRR than the Return to Service Resource Plan, about $838 million lower CPVRR than the GFCC Resource Plan, about $425 million lower CPVRR than the GFCT Resource Plan. The results of the economic analysis are shown in Exhibit JEE-3 of my testimony.

Q. What are the results of the projection of approximate bill impacts for the four resource plans?

A. Projected approximate monthly bill impacts show that PEEC will result in lower average bill impacts when compared to the other three resource plans: $0.38 lower per 1000 kWh when compared to the Return to Service Resource Plan, $0.64 lower per 1000 kWh when compared to GFCC Resource Plan, and $0.42 lower per 1000 kWh when compared to the GFCT Resource Plan (based on the average approximate bill impact from 2016 to 2047).

The projection of Approximate Bill Impacts can be seen in Exhibit JEE-4 of my testimony.

VII. RESULTS OF NON-ECONOMIC ANALYSIS

Q. Does the PEEC Resource Plan result in lower air emissions than the Return to Service Resource Plan?

A. Yes. The PEEC Resource Plan results in significantly lower system air emissions and lower green house gases. Over a thirty-year life, when compared to the Return to Service Plan, PEEC will reduce SO_2 air emissions by approximately 41 thousand tons and NO_x emissions by approximately 33 thousand tons. The Project will also result in the reduction of about 22 million tons of CO_2 over the thirty-year life. Reducing emissions is a very important benefit to FPL's customers because of the risk that environmental costs in the future could be

higher than projected, thus resulting in CPVRR savings in excess of the projected $469 million.

The reductions in emissions are detailed in Exhibit JEE-5 of my testimony. Further description of PEEC's environmental benefits is provided in the direct testimony of FPL witness Kosky.

Q. Does the PEEC Resource Plan result in a lower FPL system heat rate?

A. Yes. PEEC is projected to have a heat rate of 6,330 Btu/kWh, at full capacity, which is significantly lower than the existing system average heat rate. A lower heat rate indicates higher efficiency in the conversion of fuel to electrical energy and, therefore will result in less fuel being burned to produce a given amount of electricity. The projected PEEC heat rate is also much lower than the heat rate of the generating units in two of the other options under consideration: the GFCT with a heat rate of 10,410 Btu/kWh, and the existing Port Everglades steam units, with a projected average heat rate of approximately 9,800 Btu/kWh. Because of this lower heat rate, the PEEC Resource Plan reduces FPL average system heat rate to 8,042 Btu/kWh. This compares to an average system heat rate of 8,145 Btu/kWh for the Return to Service Resource plan, a reduction of 103 Btu/kWh.

Both the GFCC and the PEEC Resource Plans add CC units of the same technology and efficiency, both in-service 2016. Therefore, the difference in system heat rate under these two plans would be minimal.

Q. Does the PEEC Resource Plan result in reduced fuel consumption?

A. Yes. The PEEC Resource Plan, by virtue of PEEC's very high efficiency, reduces the use of both natural gas and oil when compared to the GFCT and the Return to Service Resource Plans. For example, between 2017 and 2026, natural gas use is reduced by approximately 48 million MMBtu, and oil use is reduced by approximately 5.3 million barrels when compared to the Return to Service Resource Plan. When the fuel reductions are quantified over the thirty-year life of the Project, natural gas use is reduced by approximately 90 million MMBtu when compared to the Return to Service Resource Plan, and 40 million MMBtu when compared to the GFCT Resource Plan. Oil use is reduced by approximately 10.4 million barrels when compared to the Return to Service Resource Plan, and 5.0 million barrels when compared to the GFCT Resource Plan. Reductions in fuel use are very important to FPL's customers because of the projected rising cost of natural gas and oil in the future. Furthermore, there is a risk that actual fuel costs in the future could be even higher than projected, thus resulting in CPVRR savings beyond the projected $469 million.

Both the GFCC and the PEEC Resource Plans add CC units of the same technology, both in-service 2016. The difference in fuel use between these two plans is relatively small.

The reductions in fuel use are shown in Exhibit JEE-6 of my testimony.

Q. Are there other non-economic benefits of the PEEC Resource Plan when compared to the Return to Service Resource Plan?

A. Yes. In addition to reducing costs to customers, fuel use, system heat rate, and FPL system-wide air emissions, PEEC will extensively utilize existing infrastructure with minimal new infrastructure needed for electrical transmission, gas transportation, and the provision of water. Also, by reducing the height of the smokestacks and building a lower profile than the existing units, the Project will significantly improve the aesthetics of the site. The direct testimony of FPL witness Gnecco provides a more detailed description of these benefits.

VIII. CONCLUSION

Q. Is the PEEC Project the best option available to FPL to meet its 2016 need for generation?

A. Yes. The economic analysis shows that PEEC will result in lower costs to customers of at least $469 million CPVRR over the life of the Project when compared to resource plans without PEEC, as well as providing significant non-economic benefits to our customers. I, therefore, conclude that PEEC is the best option available to meet FPL's resource needs beginning in 2016, which will serve FPL's customers in the most cost-effective manner.

Q. Does this conclude your direct testimony?

A. Yes.

CHAIRMAN BRISÉ: At this time, before we move into opening statements, I want to see if there's anybody from the public that has any interest in speaking. Going once. Going twice. Seeing none, we're going to go ahead and move into opening statements.

MR. BUTLER: Good morning, Mr. Chairman and Commissioners. FPL is seeking a determination of need for the modernization of its Port Everglades Power Plant. The modernization project, which I'll refer to by the acronym PEEC, consists of permanently removing four 1960s era oil and gas-fired steam units from the site that are now in inactive reserve, and replacing them with a highly efficient combined-cycle unit that will have a summer peak rating of about 1,277 megawatts. PEEC is scheduled to go into service in June 2016.

From the perspectives of FPL, its customers, and the State of Florida, PEEC is the right project in the right location at the right time to provide reliable clean energy at significant cost savings and create new jobs to bolster Florida's economic recovery. I'd like to address each of these points briefly.

PEEC is the right project because it is the most cost-effective alternative available to meet FPL's next resource need. Its extremely high efficiency and clean emissions profile will help FPL to reduce fuel

consumption and air emissions substantially. To determine that PEEC is the most cost-effective alternative, FPL first accounted for all-approved cost-effective demand-side management, or DSM, and firm capacity renewable resources, then evaluated PEEC versus a variety of generation options, including returning the existing Port Everglades units to service, building either combustion turbines or a combined-cycle unit at a greenfield site, and conventional power purchases from third parties.

After accounting for all known cost-effective DSM and firm capacity renewables, FPL has concluded that other self-build alternatives would be more costly to customers and that power purchases from third parties would cost even more than those self-build alternatives. FPL's evaluation shows that building PEEC is projected to reduce oil consumption by 10.4 million barrels and natural gas consumption by 90 million MMBtu over 30 years compared to returning the existing Everglades units to service. In other words, although PEEC is gas-fired, building and operating it instead of continuing to rely on FPL's older and less efficient units will actually reduce the amount of gas needed to meet customers' energy needs.

In addition to those fuel savings, PEEC is

projected to avoid FPL system air emissions of 22 million tons of carbon dioxide, 40,000 tons of sulfur dioxide, and 33,000 tons of nitrogen oxides, again, over 30 years and compared to the existing Everglades units. This is a benefit not only to FPL and its customers in the form of lower emission costs, but to the State of Florida as a whole in the form of cleaner air.

Port Everglades is an ideal location for this project. Using it for PEEC is consistent with the Commission's policy of modernizing existing sites where possible before building on greenfield sites. If you compare FPL's Exhibits JCG-3 and 4, which are Exhibits 5 and 6 on the Comprehensive Exhibit List, you can see how the modernization project will actually improve the aesthetics of the Port Everglades site. Basically, you get rid of four big smokestacks and a very large superstructure and replace it with much lower profile facilities that use considerably less of the footprint at the site.

The Port Everglades site already has both electric and gas transmission infrastructure that can serve PEEC with only modest upgrades, so the expense and disruption of major expansions to linear facilities are avoided. As a coastal location, the site provides a natural source of cooling water, one which has served

the existing units for years, as well as facilitating waterborne deliveries of fuel oil that will be used as a backup fuel for PEEC.

Finally, and perhaps most importantly, the site is in the heart of FPL's southeastern Florida load concentration. PEEC will be available to serve that concentrated load without either the expense or reliability concerns of long distance power transmission. FPL does not believe that any other site could provide this tremendous combination of benefits.

The time is right for PEEC. FPL has projected a need for capacity that PEEC will meet, and it cannot be met as cost-effectively by any other means. Delaying PEEC beyond its 2016 projected in-service date would have several adverse consequences for FPL, its customers, and the State of Florida.

If PEEC were delayed beyond 2020, FPL would be forced to incur over $600 million in transmission upgrades to continue reliable service into southeastern Florida. Even a delay of one year could significantly increase FPL's compliance costs for environmental air emissions for both PEEC and the nearby Fort Lauderdale plant site. This is because of stricter environmental requirements under EPA's prevention of significant deterioration regulations that will apply if PEEC

doesn't go into service by 2016.

Due to the slow down on plant construction that has accompanied the current economic recession, now is a propitious time for FPL to conclude for PEEC's major components and commodities on favorable terms. If PEEC is delayed and the economy turns around, FPL could be faced with much higher prices. This is especially so if emissions restrictions lead to coal plant retirements and a surge in orders for new combined-cycle facilities.

Finally, FPL estimates that PEEC will generate over 650 direct jobs at the peak of its construction. Those jobs are much needed in South Florida now, but they would not materialize until later if PEEC were delayed.

FPL and the Commission staff have entered into a proposed stipulation. The stipulation would grant an affirmative determination of need for PEEC in 2016, while recognizing two commitments on FPL's part. First, FPL will report annually to the Commission on the budgeted and actual costs for PEEC compared to the estimated total in-service cost relied upon in this proceeding. If FPL decides to utilize a different combustion turbine design from the J technology presented in this proceeding, then FPL will include in its annual report the comparative cost advantage of the

alternative design that it has chosen.

Second, FPL will report on the status of PEEC to the Commission as part of the annual report on construction costs. This is consistent with the duty of a prudent utility to continue evaluating whether it is in the best interest of customers for the utility to participate in a proposed power plant before, during, and after construction.

FPL prefiled over 150 pages of testimony and 50 pages of exhibits in support of its need determination petition. FPL then responded to nearly 100 staff interrogatories and ten document production requests. FPL appreciates staff's hard work in reviewing the voluminous discovery and testimony. We also appreciate staff's constructive cooperation in crafting a stipulation and recommended resolution of the issues in this proceeding. FPL believes that the stipulation is fair, balanced, and in the best interest of FPL and its customers. Whether by approving the stipulation or in a decision on a contested proceeding, we ask that you approve its terms here today.

Thank you for this opportunity to make an opening statement on FPL's behalf. As you know, the testimony and exhibits of FPL's witnesses have been stipulated into the record. We will, however, be

presenting Mr. Silva after opening statements for questions from the parties and from the Commission.

Thank you.

CHAIRMAN BRISÉ: Thank you, Mr. Butler.

At this time, Mr. Moyle. I failed to mentioned that he had ten minutes. He stayed well within ten minutes, so you have the ten minutes, as well.

MR. MOYLE: Thank you. Thank you, Mr. Chairman.

For the record, the Florida Industrial Power Users Group represents large users of electricity. We're concerned with rates and rate increases, and we have intervened in this case and have concerns and oppose the need determination that Florida Power and Light is seeking. And there are a variety of reasons why we oppose it, and we'll get into some of it in my opening, and also, I think, during cross-examination. But, you know, the facts as Mr. Butler outlined is you have a need of 284 megawatts that shows up in 2006. The response to that is for a nearly 1300-megawatt plant. So rather than coming in with something that addresses the 300 megawatts, for example, a combustion turbine, and we'll get into this in detail, Florida Power and Light comes back over the top with 1300 megawatts, a

thousand more than they are even planning for for the need.

We don't think that this is the right decision for the consumers and is not a decision that you should support. There's a couple of points I wanted to bring up in 403.519 that talks about the things that should be considered. We don't think Florida Power and Light can convince you that this proposal meets the need for fuel diversity. Florida Power and Light is very long and very heavy in natural gas. There's lots of discussions about how do we get weaned from natural gas, and in response to that they are asking you for a need determination for another 1,000 megawatts of natural gas. We think there are other viable options out there that were not pursued that could be pursued. And in 403.519, another thing that you are charged with considering is whether renewable energy sources and technologies are utilized to the extent reasonably available. We don't think that that is indeed the case, and we will talk about this in the cross-examination of Mr. Silva, but, you know, Florida Crystals has a plant in Palm Beach County, a 150 megawatts. There are a couple of plants in Broward County, again, near their load that gets you about 100 megawatts. So that adds up to 250. Why not go do a 250-megawatt deal with some

people who have energy available and able to sell it and satisfy the need that way. That would be a better deal for consumers, we believe, and would argue.

Another point, you know, the reserve margin is at 20 percent. They fall just below the 20 percent. The 20 percent is not necessarily a hard and fast line. I mean, they fall just below it. Rather than looking at, you know, can we manage through with 18-1/2 or 19, no, we need to have $1.3 billion added into the rate base.

For a long time Florida did okay with a 15 percent reserve margin. I think Mr. Silva, I'll ask him the question about the FRCC, but they plan to a 15 percent reserve margin. So, you know, 17-1/2, maybe, but I think that there is the ability, the stipulation that was entered into more than ten years ago says there is not a presumption that if you go below 20 that you automatically need it. We think there is some flexibility for y'all to look at that, and particularly in these kind of tough economic times say, you know what, putting in a power plant with an additional 1,000 megawatt surplus and 1.3 billion is not the right decision.

We are also going to talk a little bit about a contract that was entered into with Seminole Electric.

It's a wholesale contract. But if you are planning for your system and you say, well, I might have a need coming up in 2016 of 284 megawatts, why would you enter into a contract with Seminole Electric, a wholesale contract long-term that starts in 2015 for 200 megawatts? We would argue it makes more sense and the prudent thing to have done would have been to not enter into the wholesale contract with Seminole, but to hold back and say we're going to hold onto that 200 megawatts, because we think we might need it to serve retail load. FPL didn't do that. They entered into a contract with Seminole to serve Seminole's customers.

So really at the end of the day, who needs this plant? We believe it is not FPL's consumers; we believe it is FPL's shareholders that need this plant. It's about being able to meet earnings on Wall Street, and we have an exhibit, an investor call that we will show you with FPL's own executives that they are projecting their future growth is based on their ability to invest capital and earn a return on the capital. You all know from other proceedings that the utilities earn a return on their invested capital. They don't earn a return on purchased power agreements, they don't earn a return on fuel. So as I think it was either Mr. Hay or Mr. Pimentel in an exhibit that I will be introducing

says it's better for us to trade-off capital for fuel. Now, he didn't say because we earn the return on the capital, but that's what's happening. You earn the return on the capital, so FPL, we will show you exhibits that says they are not signing any purchased power agreements. I think the evidence suggests they have made a decision not to do that because, again, it's about -- it's about satisfying shareholders, not necessarily consumers. And we think there is good evidence to that point, and we'll present that.

A similar point with respect to the Seminole contract. I'll ask Mr. Silva, but I think those wholesale contracts are monies that go to the benefit of shareholders. So that's another situation where I think, you know, money and shareholder wants and desires are driving this plant more so than a real need. So, for those reasons, we think this is not the right decision at the right time.

We also will note that in a staff interrogatory, and we'll talk about it, but staff suggests rather than doing this 1300 megawatt -- I'm just going to round up to 1300 megawatts for ease of reference, but rather than doing 13 megawatts, why don't you just do one -- how does it look if you do one combustion turbine, just one. You know, divide it by

three, maybe 400 megawatts plus. And we believe that when you don't include projected environmental costs, that there is evidence that shows that is a cheaper alternative, which is one of things in the need determination you have to look at, is there a cheaper alternative out there.

So while FPL didn't go and do an analysis to say, well, what would happen if we did a contract with Florida Crystals and we did contracts with waste-to-energy plants in Broward, both of which are renewable, would increase your renewable and drive down, you know, the over-reliance on natural gas, I don't think they did an analysis and will be able to talk about that. But we think they should have done that analysis, and, therefore, we think that they can't meet their burden of proof in this case, and that you all ought to either deny it or at least keep it open and direct them to go and pursue some other options. That would be, arguably, a better deal for consumers, and not necessarily a better deal for the shareholders of Florida Power and Light. Thank you.

CHAIRMAN BRISÉ: Thank you, Mr. Moyle.

Okay. At this time we are going to move into witnesses, or witness, and we are going to ask Mr. Silva to come forward so that we can swear you in. If you

would go to our witness area.

MR. BUTLER: Mr. Chairman.

CHAIRMAN BRISÉ: Yes, sir.

MR. BUTLER: In the prehearing order, it did not contemplate Mr. Silva giving the usual oral summary. Of course, that was in part because it was only going to be responding to Commissioner questions. What is your preference for him giving an oral summary? We would like him to have the opportunity to do so briefly, you know, given the change in the procedure.

MR. MOYLE: FIPUG has no objection to him giving a summary.

CHAIRMAN BRISÉ: Yes, I think that that would be fair for him to provide the oral summary as we usually do.

MR. BUTLER: Thank you.

CHAIRMAN BRISÉ: Mr. Silva, if you would rise for me for a second. Raise your right hand.

(Witness sworn.)

CHAIRMAN BRISÉ: Thank you very much.

All right. FPL.

RENE SILVA

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

THE WITNESS: Good morning, Mr. Chairman and Commissioners. Thank you for the opportunity to address you on this matter.

FPL requests that the Commission grant the determination of need for the modernization of its Port Everglades Power Plant to go into service in 2016. The Port Everglades Modernization Project, or PEEC, consists of building a highly efficient combined-cycle unit that will a summer peak rating of about 1,277 megawatts at the Port Everglades site after permanently removing from that site four 1960's era oil and gas-fired steam units that have been in inactive reserve.

FPL conducted analyses of the need for capacity to meet FPL's reliability criteria and of the most cost-effective alternatives to meet that need. The analyses were conducted consistent with FPL's standard resource planning procedures. The analysis relied upon FPL's September 2011 load and fuel price forecasts, which were then most currently available.

The firm generation capacity to be provided by PEEC is necessary for FPL to continue to provide reliable service to its customers. By 2016, FPL projects that it will have to add new generation capacity just to meet the minimum 20 percent reserve margin criteria. This need is above projected additions

of DSM and previously approved capacity additions, and this need will continue to grow in the future.

Also, without new capacity in 2016, FPL reserves from generation only are projected to fall to 6.3 percent with DSM providing most of the system reserves. This would likely lead to excessive use of load control and likely residential customer defections from the program.

The results of FPL's analysis indicate that adding PEEC in 2016 will result in lower costs to FPL's customers than implementing other alternatives. Specifically, the resource plan that includes PEEC in 2016 is projected to save FPL's customers at least $425 million in cumulative present value revenue requirements compared to competing resource plans without PEEC, or to a plan that defers PEEC by adding smaller combustion turbines in 2016.

Also, purchasing generating capacity instead of adding PEEC would result in even higher costs to FPL's customers due in part to high costs for transmission lines, gas pipeline facilities, land, and water, none of which are required for PEEC. Because this unit will have an average heat rate of only 6,330 Btus per kilowatt hour, adding it will also improve the fuel efficiency of FPL's entire system by

1.3 percent, and thereby contribute to a reduction in the quantity of gas and oil needed to serve its customers' needs.

PEEC is also projected to reduce system air emissions of carbon dioxide, sulfur dioxide, and nitrogen oxide by a significant amount over the 30-year period. These reductions will help FPL meet any emission limits that may be imposed in the future.

A most important consideration relates to the generation demand imbalance in Miami-Dade and Broward County. Because of its location near the center of load concentration, adding PEEC in 2016 will address the growing imbalance between firm generating capacity and load in the Miami-Dade/Broward County area. Absent this project, or alternatively the much costlier alternative of returning to service the old Port Everglades steam units, FPL would have to implement a significant transmission upgrade with an estimated cost of more than $630 million.

In addition, this project would add the capacity without increasing allocation of water, or use of land, or the need for new rights-of-way for transmission or gas pipelines. In terms of fuel reliability, the site has access to a deep water port and is connected to the storage at that facility, so it

would provide greater reliability to FPL's systems.

Already all the DSM that is cost-effective has been accounted for in our calculation. DSM will represent 23 percent of our total installed generating capacity in 2016. In other words, it will be equivalent to 23 percent of all the capacity that FPL owns, a significant amount. We also have 740 megawatts of qualifying facility, meaning cogeneration and renewable capacity in service under contract, and that is all that we have been able to identify as being cost-effective. We also have done a calculation, as I said, considering the effects of a delay, and delaying the unit by adding smaller combustion turbines has been evaluated to result in 425 million higher costs to FPL's customers.

In conclusion, bringing this unit in service in 2016 is the best, most cost-effective alternative available to reliably meet the growing electricity needs of FPL's customers. For these reasons, I urge the Commission to grant an affirmative determination of need for this project with a target in-service date of 2016.

Thank you.

CHAIRMAN BRISÉ: Thank you, Mr. Silva.

Mr. Butler.

MR. BUTLER: Thank you, Mr. Chairman.

We tender Mr. Silva for cross-examination.

CHAIRMAN BRISÉ: Thank you.

Mr. Moyle.

MR. MOYLE: Thank you, Mr. Chairman.

CROSS EXAMINATION

BY MR. MOYLE:

Q. Good morning, Mr. Silva.

A. Good morning, Mr. Moyle.

Q. You would agree with me, before I get into some specifics of your testimony, that the interest of Florida Power and Light, the interest of Florida Power and Light's shareholders, and the interest of the consumers are not always aligned, correct?

A. No, I would not agree with you.

Q. So that then you would -- the converse of that would be that the interest of the shareholders, the stockholders of Florida Power and Light, that their interests always are aligned with the interest of the consumers, you would agree with that?

A. To the best of my knowledge, yes.

Q. So, you know, the fact that when FPL has a rate case, or even today that consumer interests are here voicing opposition, that doesn't change your testimony that you just gave that the interest of FPL's consumers are always aligned with the interest of FPL's stockholders?

A. No, it does not change my opinion. Whenever we proceed with an evaluation of alternatives, our view, certainly my view is always how can we do this so that it's the best alternative for the customer. And the support that I get from my management is that that is what also benefits the shareholder.

Q. Let me direct you to Page 30, Line 8 of your testimony. You're asked the question is there any existing generator owned by a third party in Miami-Dade or Broward County, and you answered no. What is an existing generator?

A. A generating plant that produces electricity. In this case, the question is broad to ask is there any generator from whom we could purchase power that is located within Miami-Dade and Broward County.

Q. And you believe the answer to that is no?

A. Yes.

Q. Are you aware that you all previously had purchased power agreements with two waste-to-energy facilities in Broward County?

A. Yes, that is correct.

Q. Okay. And are you aware that those two facilities are still located in Broward County?

A. Yes, I'm aware of that. I am also aware that when the existing contracts that FPL had with those

facilities expired, FPL approached those facilities seeking to renew those contracts, and they rejected our approach not because we were not offering sufficient monies, but because they wanted to, in essence, play the market. They wanted to sell their power to the highest bidder on any given day. So they simply asked us to wheel their power, but they would not be entering into contracts with us. So we did not renew the contracts as a result of their decisions.

Q. Isn't there a facility also in Miami-Dade that you all previously had a contract with, the waste-to-energy facility in Miami-Dade?

A. I am not familiar with that facility. During the period in which I have been involved in resource planning, that facility has always been also selling independently rather than selling to us.

Q. Okay. And that is the Dade-Montenay facility, is that right?

A. That's correct.

Q. Okay. So then the answer to the question on Page 30 really should be yes, rather than no. You would agree with that, correct? Because the question is is there an existing generator owned by a third-party in Miami-Dade or Broward County, and I think you have talked about two owned by Wheelabrator and one owned by

Montenay or Covanta. I mean, so really there are existing generators owned by third-parties in Broward County and Miami-Dade, correct?

A. Yes, it is correct. And they were not reflected in the answer because they had -- at least in the case of the ones in Broward, which were more substantial in size comparable to our need, they had already rejected our offers to continue to sell power to us.

Q. Did they tell you that that was it, they were never going to talk to you again, that they were not interested in continuing negotiations or discussions?

A. Well, they did at the time that I was involved in attempting to negotiate with them, and there has been no expressed interest on their part. And at the same time that this has transpired, we have entered into additional contracts with the Solid Waste Authority of Palm Beach County where we continue to take the initiative with each one of these entities to say do you have any more to sell us. And, in fact, the Palm Beach County Solid Waste Authority is enhancing its production facility with a view towards selling us additional capacity, which is reflected in our planning process. But in the case of the Broward facilities, they have not expressed any interest in doing business with us.

Q. And when was your last conversation with them?

A. It has been some years since I have been involved in that aspect of the business, meaning purchasing power, because of reorganization some -- a couple of years ago. So I'm not familiar with what is going on right now between the entities, but I know that that group continues to be active. For example, they are in negotiations to purchase up to 180 megawatts of biomass generation, which has yet to be built, but we are pursuing that. And in the time that this has transpired, FPL issued not one but two requests for proposals for supply of renewable generation which, unfortunately, were not successful, primarily because no entity wanted to offer power at a cost that would fall under the avoided cost.

So those were not successful, but it's an illustration of our ongoing attempts to solicit and encourage third parties to give us offers that will sell us power for the benefit of our customers.

MR. MOYLE: Mr. Chairman, I know, I guess, in your prehearing order you always direct the witness to say yes or no and then explain. You know, if he needs to explain, I'm fine with him explaining, but it will move along if he kind of limits his answers to the questions asked.

CHAIRMAN BRISÉ: Okay. Thank you.

BY MR. MOYLE:

Q. And, Mr. Silva, in that lengthy response to my question, my question simply was when was the last time you had talked to the two facilities in Broward, and I think you said a number of years. But you also said that there is 180 megawatts of biomass that you are in discussions with, is that right?

A. Yes, I did.

Q. Okay. And tell me about that, if you would, please.

A. I only mentioned in my testimony that we are pursuing negotiation with an entity for three 60-megawatt facilities that would produce in the aggregate 180 megawatts of biomass generation, and it is anticipated that the firm capacity out of those facilities will be available to us by around 2019.

Q. Okay. And who are you in those discussions with?

A. As I said before, I personally am not involved in the discussions for power purchases, so I don't have personal contact with the seller.

Q. Do you know the name of the other entity that you are in these negotiations with?

A. I am not certain that I do. No, I don't have

it here.

Q. Do you know that it's not -- and this is a new facility, correct?

A. These would be new facilities to be constructed after the contract is entered into.

Q. And do you know where they are being proposed, what geographic location?

A. I know that they are not in Miami-Dade or Broward County, but I don't know the precise location.

Q. So for all the reasons in your testimony, I mean, you want things close to your load center, correct, if you can get it?

A. Yes.

Q. Let me next refer you to Page 32, Line 13 of your testimony; you were asked whether a third party would offer a capacity sale from an existing generator located outside Miami-Dade and Broward Counties, what inherent disadvantages would that offer have relative to the proposed project. And in your testimony you say that there is no third-party advanced combined-cycle unit in Florida available to deliver generation to Florida Power and Light. Do you stand by that statements?

A. Yes, that's my information. In the area of Miami-Dade and Broward County there is no third-party

advanced combined-cycle unit generator from whom we could purchase power.

Q. But the question asked about people, generators outside of Miami-Dade.

A. I'm sorry. My answer says there is none inside the south. So any offer would necessarily involve using a single cycle, if it were inside. I agree that the question asked for outside, and it's in the latter part of the answer that says generation from outside southeast Florida would likely contribute to higher transmission losses. So I do in part of the answer later address the question of outside Miami-Dade and Broward County.

Q. Yes, sir. And the question that I'm posing to you is do you stand by your testimony that says, "Because there is no third-party advanced combined-cycle unit in Florida available to deliver generation to FPL." Is that true?

A. That is my belief, yes. I don't know of any advanced combined-cycle unit generator in Florida that is available to sell power to FPL.

Q. Did you do anything to try to ascertain whether there was any advanced combined-cycle units in Florida available to sell generation to FPL?

A. We are on an ongoing basis as part of the

business.

Q. And I'm just asking you. I mean, because it's your testimony, I'm just asking what you did to be comfortable making that statement?

MR. BUTLER: Mr. Chairman, I would observe Mr. Silva is an overview witness and he is describing in his testimony sort of FPL's overall case. There are many instances in which he is reporting on work that others have done, and certainly his answers are from that perspective.

CHAIRMAN BRISÉ: Thank you. Duly noted.

THE WITNESS: And in order to answer the question, I rely on experts in various areas, which was a reason why originally there were six other witnesses in this case. But aside from that, because this is not just about what we presented in testimony, on an ongoing basis we have a group, energy marketing and trading, who is regularly talking to would-be suppliers for hourly, daily, and long-term power purchases and evaluating what they have to offer. I rely on information from that organization to indicate, for example, that we are in negotiations to purchase 180 megawatts of biomass generation, as well as there isn't anybody out there who has an advanced combined style unit in Florida that could offer us power for sale.

BY MR. MOYLE:

Q. So you relied on somebody telling you that there was no third-party advanced combined-cycle unit in Florida?

A. Yes.

Q. Okay. Now, are you aware of a project that I think is in Polk County called the Osprey Project which is, I would represent to you, an advanced combined-cycle unit?

A. I am aware of that project from some years ago.

Q. Okay. And do you agree that it's an advanced combined-cycle unit in Florida?

A. I don't know that it is an advanced combined-cycle unit. It's a combined-cycle unit, but I don't know if it is what we refer to as an advanced combined unit with high efficiencies.

Q. Okay. As we sit here today, do you know if that unit has power available for sale?

A. Personally I don't, but based on my reliance on the group that provides the information to me, no. And in any event it's not -- at least my understanding is that it's not an advanced combined-cycle unit.

Q. And what is your understanding of an advanced combined-cycle unit. Does that have to be something as

of a certain date or era?

A. Well, for example, we have a combined-cycle unit at our Putnam site that is from before the 2005 vintage. The first of our advanced combined-cycle units, if I recollect, was coming in service around the turn of the century, the year 2000 or so. Before that we referred to them as simply combined units as opposed to advanced. And it's not a line that is very well defined, but the units that have come recently have much better heat rate efficiency and so forth. And, for example, the unit that we are proposing here has a heat rate of only 6,330 Btus per kilowatt hour, which is better than anything that currently exists in our system.

Q. Yes, sir. So I guess from your answer there is not a term of art in the industry that separates advanced combined-cycle from older combined-cycle. In your mind it's just advanced because it's newer and has better heat rate, is that right?

A. That's correct, and that's what I'm referring to in this response is that I'm talking about what we call or refer to as advanced combined-cycle units, and in our view there aren't any available in Florida that would sell us power.

Q. Do you know the heat rate for the Osprey

Project?

A. I don't recall it.

Q. All right. Let me flip you to Page 4 of your testimony.

A. Sorry, what page?

Q. Page 4. And up at the top you say, "The project will transform 1,187 megawatts of less efficient oil and gas-fueled steam generation into about 1,277 megawatts of highly efficient, state of the art, environmentally sensitive, advanced combined-cycle generation."

Presently, the Port Everglades project, when it was operational, what was it fueled by? What was its primary fuel source?

A. The Port Everglades project is primarily using natural gas when that is available.

Q. So was oil a backup, or could you dual fuel it?

A. No, you can operate that unit on either -- or those four units on either residual fuel oil or natural gas.

Q. So for the last year that it was operational, do you know -- can you give me just a rough ballpark how much of the time it was fueled by natural gas and how much of the time it was fueled by oil?

A. No, I do not.

Q. Would you economically dispatch that unit when it was operational, the Everglades plant? And what I mean economically dispatch, if you could fuel it either with oil or natural gas, you would make a decision about, well, what is the better deal. You know, if oil was low and gas was high you might use oil. Do you understand that question?

A. Yes, I do, and that is definitely the way that we had run that unit within the constraint of where is the best place to use limited amounts of gas. So the economics of just Port Everglades don't dictate the decision in its entirety. We have to consider would it be more economic to put that gas, Turkey Point 5, at Lauderdale as opposed to running Lauderdale, for example, on oil instead. So it's a decision that is economic, but it's more than just for the individual site.

Q. Okay. And sort of implicit in your last answer was that there is value associated with fuel diversity. When you're running your Everglades unit, you could make a choice between oil or natural gas depending on the market prices of those two commodities, that's a good thing. You would agree with that would you not?

A. Yes. Fuel diversity is a good thing, and we are pursuing it in many ways.

Q. All right. So when you did your analysis that you are presenting to the Commission today, did you ascribe any value for diversity in what you are presenting to the Commission, any value for diversity of fuel mix? And if you could answer yes or no and then explain, I would appreciate it.

A. Not specifically. Because when we compared the possibility of returning to service the Port Everglades units and the costs that that would have entailed and the inefficiency with which those units would continue to operate into the future, the savings associated with doing the modernization amounted to $469 million, and we did not see any quantification of fuel diversity at that site that would overcome a $469 million disadvantage for the old units.

Q. All right. So we talked about fuel diversity at this particular site, and I think we've agreed that fuel diversity is a good thing. Is it true that Florida Power and Light, based on its generation mix, has more generation coming from natural gas than any other investor-owned utility in the state?

A. I believe that's right.

Q. And with respect to this project that you are

asking the Commission to approve, it does not help in any way in terms of diversifying your fuel mix, correct?

A. Yes and no. Let me say the no first. Obviously we are not adding nuclear generation at Port Everglades or coal generation at Port Everglades. On the other hand, what we are doing at Port Everglades of increasing the efficiency of that unit means that we need less gas in the system in order to supply the same need for our customers. When we go from a heat rate of 9,800 Btus to a heat rate of 6,330 at the site, with a little bit more megawatts, then that eliminates a significant amount of natural gas and oil that would otherwise have to be used in the system, and that contributes to fuel diversity by reducing somewhat our dependence on natural gas.

Q. Okay. So that was the yes part of the answer. Do you have a no part?

A. I said no in the sense that we are not placing in Port Everglades coal generation or nuclear generation. On the other hand, you know, this issue of fuel diversity is not really about one site, it's really about our system. And in terms of diversity, because we are very concerned, we are pursuing the nuclear uprates at existing nuclear facilities, we are pursuing permitting and licensing for you new nuclear units for

when that would be available, and we are adding 136 megawatts per year of demand-side management. That, again, enables us to not produce as much electricity, so it contributes to fuel diversity.

We are pursuing solar generation to try to make it a viable option and negotiating for other sources of renewable power, so we are pursuing globally for the system fuel diversity because we consider it to be this important. But Port Everglades is a different situation, a different focus because of its location, because of the efficiency, because of the economics. So that is why that is so important to us.

Q. So at the end of the day, if the Commission approves your need determination, will this make Florida Power and Light in 2016 more dependent on natural gas as compared to where it sits today?

A. I would say that we will use more natural gas in 2016 than where we are today whether we get a determination of need for Port Everglades modernization or not. You would have to look at, well, if not Port Everglades, what would we do? And we don't see something that will reduce the increase in use of natural gas. However, the natural gas that we use and the high proportion of natural gas that we use is to a large extent, not totally, but to a large extent an

economic choice.

In other words, we have 3,200 megawatts of oil generation at the Martin and Manatee sites. If those units were to run ahead of our gas units, we could reduce what might be 60-something percent use of natural gas to maybe 48 percent. But that is not an economic choice. Oil is more costly. We have the availability to run natural gas, which is economic, therefore, we run that.

So it's important to not confuse dependence in terms of reliability which at some cost we could change on a daily versus dependence in terms of making the economic choice. Gas is the most cost-effective and, therefore, we run it as much as possible.

Q. So am I correct in that response to the question that the answer is yes, that adding the Port Everglades project in 2016 will increase Florida Power and Light's reliance on natural gas as compared to where we sit here today?

MR. BUTLER: I will object to that question as asked and answered.

CHAIRMAN BRISÉ: I would agree with you that it was asked and answered.

BY MR. MOYLE:

Q. Let me direct you to Page of 6 of your

testimony. At Line 19 you say that a three-year delay in adding generation in Miami-Dade/Broward County may not be feasible from a system reliability perspective due to the growing imbalance," et cetera, et cetera. So your testimony -- you're saying that it may, may happen, correct? Just yes or no.

A. Yes, in the sense that it's a projection of growth into the future. But we know that in the few years after 2016 if we don't add new generation at Port Everglades or bring back the old generation in Port Everglades, we are going to have to build transmission facilities to enhance the reliability, the import capability into the region. And one could argue that it could be in 2019 or 2020, but one cannot escape the fact that the area load is growing, and absent additional generating capacity, we would have to import power. And if we do, we would have to enhance the transmission facilities to import it, and that has a huge cost as well as great other obstacles. But even before then, in order -- absent this unit, over those years before we have to build the transmission we would still have to import power from outside the area with ensuing transmission losses, and occasionally we would have to run peaking units in the Miami-Dade/Broward area out of economic dispatch in order to balance supply and demand

within that area which would be avoidable with the addition of the Port Everglades modernization.

MR. MOYLE: Mr. Chairman, I have an exhibit that I would like to use. Whatever your preference is in distributing it, I can do it.

CHAIRMAN BRISÉ: I think we have staff that's going to help with distribution.

MR. MOYLE: Thank you.

MR. BUTLER: Mr. Moyle, a question for you on the exhibit. You have a fair amount of the information on here highlighted in yellow.

MR. MOYLE: Right.

MR. BUTLER: Does that mean it's confidential, or something that you wanted to draw attention to?

MR. MOYLE: No, that means I did that to draw attention to it.

MR. BUTLER: Okay.

MR. MOYLE: Thank you.

CHAIRMAN BRISÉ: So I guess this would be Exhibit Number 41.

Do you have a short title, Mr. Moyle?

MR. MOYLE: On the description, PPAs from Summer 2006 to Summer 2011. Maybe FPL PPAs.

CHAIRMAN BRISÉ: Thank you.

(Exhibit Number 41 marked for identification.)

BY MR. MOYLE:

Q. Mr. Silva, I will represent to you that what I have taken are excerpts from the Ten-Year Site Plans that your company has filed 2006 up to 2011, and it's a table that I think has appeared in most of them. If you want to take a minute and look at it and make sure you're comfortable with it, and if you would confirm that is what that is.

A. Yes, I understand. I agree.

Q. Okay. So let me first direct your attention to the first page of the document, and the document is numbered with handwritten numbers. But on Page 1, do you see the handwritten number on the right?

A. Yes.

Q. So we are at the 2006, and at the top -- am I correct in that those show the purchases from the North Broward and South Broward facilities of nearly 95 megawatts, is that right?

A. In 2006, yes.

Q. Okay. And then in the third section, other purchases, in 2006 there's a purchase of 274 megawatts from the Reliant/Pasco/Shady Hills project, correct?

A. Yes.

Q. That's a combined-cycle project, is it not?

A. I don't recall.

Q. Do you know if in part of your analysis that you checked to see whether any of that power was available for purchase today?

A. I personally did not.

Q. Did your team?

A. I don't know.

Q. You do not know?

A. No, I don't know.

Q. With respect to making sure the consumers are getting the best deal, do you think maybe that would have been something prudent to do, to check and see whether there is any available power from the Reliant/Pasco/Shady Hills project? Your need was 276, and this was 474 in 2006. Wouldn't you agree that maybe should have been something that should have been checked out?

A. I am not saying that it wasn't checked out; I'm saying that I personally don't have knowledge that this particular operation was considered. I relied on the experts that deal with purchased power when they indicated that there was no advanced combined-cycle unit facilities available to compete with what we were considering.

Q. All right. And then I guess the same questions. There is another Reliant project that it

looks like in 2007 and 2008, I mean, you were projecting pretty big numbers coming out the Reliant Indian River project, correct?

A. Well, the Reliant Indian River plant is a steam plant that I know we purchased power at some junctures and time in the past, and it's a very inefficient facility, and not cost-effective compared to any of the combined-cycle units.

Q. But with respect to exploring whether a purchase was available, I mean, the cost-effectiveness depends on what somebody would sell you the power for, correct? I mean, if they sell it and make only a small profit, maybe it becomes cost-effective to you. You would agree with that, that the cost-effectiveness is not necessarily governed by what the equipment in the ground is, but what a willing seller is willing to take for his power?

A. In the case of Reliant Indian River, at the prices of oil compared to natural gas, they could not have sold us power without losing money if they wanted to compete with a combined-cycle unit. So that particular one, even without being involved in day-to-day discussions, I know that there is no possible way that we could have bought power from them at a competing price.

Q. How about the Oleander project, those are combustion turbines, are they not?

A. I don't remember the technology of it, whether they are CTs, or combustion turbines, but the Oleander facilities have been offered to us periodically, and we have evaluated them against our alternatives. And because of their high heat rate they have not competed. Again, I don't know whether they were available at this time. My understanding is that all of these facilities, except for Indian River, were committed, but I cannot testify that I know personally about that.

Q. So you have been -- in your current position you are in charge of planning, integrated resource planning, isn't that right?

A. Yes.

Q. Okay. And you have held that position since 2002?

A. Yes.

Q. Okay. So all of the Ten-Year Site Plan information I'm showing you, you oversaw this, have familiarity with it, correct?

A. Yes.

Q. Okay. So let me just flip you to the second page. There's a lot of other purchases that are listed and then under 8, I have highlighted it, other

short-term purchases. And it looks like in the years 2012/2013, you know, you are showing 800 megawatts. This is summer, correct, this is to cover your summer peak?

A. Yes.

Q. Where were those other short-term purchases coming from, if you know?

A. If they are not listed, which they are not here, and noting that this is a document prepared in 2007, and these purchases are five years later, is that these were projected purchases without necessarily identifying the source at this time. And I do not recall there being a specific seller for these quantities.

Q. All right. So let me flip you to the very last page, Page 6. And when you compare Page 6 to Page 1, you have gone from -- in 2006, you had over 1300 megawatts purchased from third parties, and then in 2011 you have only 155 megawatts purchased, is that right?

A. Under other purchases?

Q. Yes, sir.

A. Yes, that's correct.

Q. Okay. And up above, you know, the Broward facilities there, the large units in 2006 you had 50

megawatts and 45. Those are not showing up in the top column, are they?

A. No. As I said, those were the purchases that expired and they did not want to continue them.

Q. Okay. And in my opening statement I made a comment that Florida Power and Light earns money on invested capital. You agree with that, correct? When you invest capital you get a return on it, including a return on equity?

A. We are given an opportunity to earn a fair return on our investment.

Q. Okay. Are you also given an opportunity to earn money, to earn a fair return on purchased power agreements?

A. No.

Q. Those are just straight pass-throughs, correct? So whatever the cost of the purchased power agreement is, you come in in a clause proceeding and seek to recover those costs, correct?

A. Yes.

Q. Treated just like fuel?

A. Yes.

Q. So you would agree there is a financial incentive in deciding what direction to go with respect to generation options, that there is a financial

incentive to build your own facilities, as compared to signing purchased power agreements, at least as it relates to the opportunity to earn additional monies, correct?

A. I don't know how to answer the question in the sense that I'm not involved in decisions as they pertain to the shareholder. In my group we determine when a need for capacity is needed and then we treat the alternatives to see which is the one that results in the best outcome for the customer, without any consideration for whether this is a pass-through or that earns a return. And, frankly, I don't know that I could tell you whether we are better off as a company from a shareholder perspective by adding our own capacity or not. It's not something that we ever consider when we are going through this process.

Q. All right. Now, you have a Master's in Business, right?

A. Yes.

Q. And you are familiar with -- I mean, you have been in the electric business with FPL since what year?

A. With FPL?

Q. Yes, sir.

A. Since 1978.

MR. MOYLE: I have another exhibit.

CHAIRMAN BRISÉ: Just so that everyone is conscious of the time, it's 11:00 o'clock. We plan to begin another hearing at 1:00 o'clock. So please bear that in mind.

MR. MOYLE: I'm not filibustering, I promise.

MR. BUTLER: It seems like it.

CHAIRMAN BRISÉ: So this would be Exhibit Number 42.

(Exhibit Number 42 marked for identification.)

CHAIRMAN BRISÉ: If you could provide us a short title that you would like us to use, Mr. Moyle.

MR. MOYLE: Sure. Transcript of NextEra Investors Call, November 4, 2011.

CHAIRMAN BRISÉ: Thank you.

BY MR. MOYLE:

Q. Mr. Silva, you are aware that your company has calls with investors periodically, correct?

A. Yes.

Q. And those are usually with the top executives of the company, correct?

A. Yes.

Q. Do you listen in on those calls, or do you have information as to what takes place on those calls, or general knowledge?

A. I occasionally have listened and otherwise

read, if not the entire transcript, then summaries.

Q. Okay. So I just want to bring you to a couple of points and ask you if you agree with this. The first is on Page 3 of 12, and I'm going -- the numbering is at the top of the page. So do you see Page 3 or 12?

A. Yes.

Q. Okay. And there's a statement in there, "For the third quarter of 2011, Florida Power and Light reported net income of 347 million, or 0.83 per share. Florida Power and Light's contributions to earnings per share increased 9 cents relative to the prior year's comparable quarter, driven almost entirely by the substantial investments we have made in the business, including the nuclear uprates in our Martin facility." Do you have any reason to disagree with that statement?

A. No.

Q. And then on Page 5?

A. Yes.

Q. And I'm not going to read the whole thing, but there is a statement made by Mr. Pimentel that he says, "First, as we have indicated before, we expect the major driver of our earnings growth over the next several years will be the investments that we continue to make at FPL." You would agree that --

MR. BUTLER: Excuse me, I'm going to object.

I think it's appropriate for Mr. Moyle to at least read all of the part that he highlighted.

MR. MOYLE: I'm happy to do that.

MR. BUTLER: It puts a considerably different spin on matters.

CHAIRMAN BRISÉ: All right. Mr. Moyle, if you would --

MR. MOYLE: You had me worried about the time a little bit, but I'll go ahead and read it.

CHAIRMAN BRISÉ: I'm sure you're a fast reader.

MR. MOYLE: All right. The highlighted portion says, "As far as the earnings outlook beyond 2011, we want to give you a bit more detail regarding some factors that are expected to drive results in 2012 and '13. First, as we have indicated before, we expect the major driver of our earnings growth over the next several years will be the investments that we continue to make at FPL. We expect these investments to reward our customers with operating efficiencies, cleaner generation and reduced fuel costs, all while keeping our bills the lowest in Florida."

All right. You don't have any reason to disagree with that statement, do you?

A. No, and the last sentence is essentially what

is my role. In other words, what the first part talks about is the --

MR. MOYLE: Mr. Chairman, I got the answer I needed.

CHAIRMAN BRISÉ: Yes or no is preferable, unless you absolutely have to, and some of it is at Mr. Moyle's discretion on how long you go.

BY MR. MOYLE:

Q. All right. And I'm not going to belabor this, but on the next page, on Page 6 there is guidance that says the highlighted portion looking at 2012 specifically as a result of our rate agreement, FPL's earnings will be primarily based on the amount of rate base investment it makes. We expect total base rate in 2012 to be between 24.7 billion and 24.9 billion, or approximately 14 percent higher in 2011. The growth in total rate base is driven primarily by generation projects that have received prior PSC approval.

Do you know are those -- you don't disagree with this statement, do you?

A. No, although the numbers are not something that I'm personally familiar with, it's a statement of fact. You know, we add capacity to serve the customer at the lowest possible cost, and then this is the numerical consequence, if you will.

Q. Right. And down below it, "We expect total average rate base in 2013 to be between 26.4 billion and 26.8 billion, or approximately 7 percent higher than in 2012." Do you know is the company -- is part of its business strategy to continue to grow the rate base?

MR. BUTLER: I'm going to object to this line of questioning. I let it go for awhile, but it's way beyond the scope of Mr. Silva's testimony, and it's an improper examination of him.

CHAIRMAN BRISÉ: Mary Anne?

MR. MOYLE: If I could respond?

CHAIRMAN BRISÉ: Sure.

MR. MOYLE: I would argue that it's not from a standpoint of, you know, you're tasked with determining whether what is before you is the best deal for the consumers, and as part of the regulatory compact you have to consider the evidence. I have, in my opening statement, made the proposition that FPL has selected and decided on the Port Everglades project, because it is in the best interest of Wall Street and their shareholders. Because if it's approved, it gets added to the base rate, and then they can come in and try to seek recovery; whereas purchased power agreements and things like that don't give them a return. So I think for the point of you determining whether indeed it's the

best deal, that I think this is a relevant line of inquiry.

MR. BUTLER: But saying it in his opening statement doesn't make it relevant to Mr. Silva's testimony. I continue with my objection.

CHAIRMAN BRISÉ: Thank you.

Mary Anne.

MS. HELTON: Mr. Chairman, I think you have given Mr. Moyle a great deal of latitude today, especially considering that he did not sponsor any witnesses; he did not participate in the prehearing conference; he intervened five days before the hearing started. It sounds to me that we have gone beyond the scope of his examination here today.

MR. MOYLE: I'll tell you what, I'll move it along.

CHAIRMAN BRISÉ: But for the record, I guess, I'll sustain the objection. And if we could shift the line of questioning to an appropriate scope, that would be greatly appreciated.

MR. MOYLE: Sure. Mr. Chairman, and one more point that I think is a little telling under -- on Page 7, the Lew Hay statement, "Our growth for the next few years will be driven primarily by growth at Florida Power and Light where our investments are fundamentally

substituting capital for fuel and thereby making or delivery system more efficient."

MR. BUTLER: I would object. Mr. Moyle has apparently assumed the role of testifying witness at the moment.

MR. MOYLE: Well, I was going to ask a question.

BY MR. MOYLE:

Q. My question would be is the Progress -- I'm sorry, is the Everglades project substituting capital for fuel? I mean, that's what it. Is you are saying, well, we can invest this money and we will use less fuel. Is that an example of substituting capital for fuel?

CHAIRMAN BRISÉ: Before you answer that question, from your perspective, do you maintain your objection?

MR. BUTLER: I will withdraw my objection to that particular question.

CHAIRMAN BRISÉ: Okay. Thank you. You may proceed, Mr. Silva.

THE WITNESS: These are not my words and I would not use this characterization. We certainly invest in new generation. Sometimes we purchase power, if that's cost-effective, in order to meet the needs of

our customers at the lowest cost. But consider this, in the investments we have made since 2001 to date, we have increased the efficiency of the system by 20 percent, meaning 20 percent less fossil fuel is being burned than would have been at the old efficiency. And by 2016 we project that it will be 26 percent. So we are reducing fuel costs, and it requires investment, but the investment is necessary in order to maintain reliability in any event. And if purchased power is available and it is more cost-effective, then we always select purchased power under those circumstances.

BY MR. MOYLE:

Q. So did I understand your answer to be that essentially, yes, that you are substituting capital for fuel to gain more efficient delivery? That while you are not comfortable with these words, but that is essentially -- I mean, you don't disagree with these words, do you?

MR. BUTLER: I'll object. The question is asked and answered.

CHAIRMAN BRISÉ: I would agree, the question was asked and it was answered.

MR. MOYLE: Well, let me do this. Can we take a couple of minutes? I have some other questions, but I think if we take a morning break I might be able to pare

some down.

CHAIRMAN BRISÉ: All right. So we will take a five-minute break. So we will be back -- I guess we'll make it six minutes -- at 11:20.

(Recess.)

CHAIRMAN BRISÉ: Okay. It seems as if everyone is in place, so at this time we will resume.

Mr. Moyle.

MR. MOYLE: Thank you, Mr. Chairman.

BY MR. MOYLE:

Q. Mr. Silva, when we were going through those purchased power agreements from the ten-year site plans, I didn't see anything in there for purchased power from the Florida Crystals facility. Do you have familiarity with the Florida Crystals facility in Palm Beach County?

A. Yes.

Q. And that is a 145 or 150 megawatt facility, correct?

A. Yes.

Q. And being in Palm Beach County, it is relatively close to your load center, correct?

A. Yes.

Q. And in putting together your information, did you do any analysis that would have a scenario by which a purchase from them would have been included?

A. We have a contract with Okeelanta, the same company. By their choice it is an as-available energy contract. They do not want to commit firm capacity to us. In fact, the last increment in the capacity that they built was built as a result of a determination of need granted by this Commission with FPL support. Despite the fact that they provided no firm capacity, they did sell the power slightly below avoided cost, and as a result the Commission found that there was a need, an economic need for the benefit of the customers. And we have been in that contract with them since, and as reported in the Ten-Year Site Plan in a different section, because it's not firm capacity resources.

Q. So is it your testimony that they are unwilling to enter into a contract with you for firm capacity?

A. They were when -- yes, they were resistant to enter into a firm capacity contract with us when we entered into the contract.

Q. And what the point in time are you referring to when you entered into the contract?

A. I believe this must have been around 2007, perhaps.

Q. And it is your testimony that the contract is still in existence today?

A. Yes.

Q. And it is for as-available, correct?

A. Yes, it is for energy only.

Q. Okay. And you believe, or it's your testimony that the ability to modify that contract for them to commit firm capacity is not available?

A. I believe that it's not, because the way that they expressed their interest was to use our transmission facilities to sell on an hourly basis wherever they could get the highest price as opposed to committing to one buyer.

Q. Do you know what they are currently being paid for their as-available energy?

A. No, I don't know. But I might say -- excuse me, to correct my -- I don't know what others may be paying them, but we are paying them just like 99 percent of avoided cost.

Q. And what are your avoided costs presently, do you know?

A. That I cannot tell you.

Q. Now, you testify on Page 11 about -- your testimony assumes that Turkey Point Unit 1 will be removed from service by 2006. How many units is Turkey Point Unit 1, how many megawatts?

A. Excuse me, it will be removed from service by

2016.

Q. I'm sorry.

A. Turkey Point 1 is one unit. There are five units in operation at the site.

Q. Okay. And just this one unit, how many megawatts does it represent?

A. About 400.

Q. 400 megawatts. Okay. Now, isn't it true that your plans are to still keep Turkey Point Unit 1 on-line of 2006 to address voltage issues?

A. After 2016, you mean?

Q. Yes, I'm sorry, 2016.

A. Yes, they will continue to operate what they call a synchronous condenser. It doesn't produce any energy, doesn't contribute capacity to the system, it just maintains system stability from the transmission perspective.

Q. So to the extent that this plant is going to not be retired, it's going stay on-line, and it has 400 megawatts, you're not going to get any power out of it, but you are going to keep it on-line for voltage support, is that essentially right?

A. That is correct.

Q. On Page 13, again, you're talking about you determine that there would be cost to FPL customers if a

long-term agreement, a long-term purchased power agreement was entered into. Did you consider or do an analysis with respect to the possibility of entering into a short-term agreement?

A. Yes, we have.

Q. And what were the results of that?

A. All our analyses that are related to delaying the unit by virtue of short-term purchased power resulted in higher cost to the customer. And those analysis are very conservative, conservatively low in terms of penalizing the delay. But all of them that we did for one year, two year, and three-year delay, they resulted in higher cost to the customer.

Q. And what term did you look at with respect to a long-term agreement, what was the term that you looked at? Did you do an analysis? Did you do a document that says here is our analysis where we concluded that entering into a long-term purchased power agreement for 286 megawatts is not cost-effective?

MR. BUTLER: Excuse me. I'm confused. Mr. Moyle was just asking Mr. Silva about short-term agreements, and then his follow-up question appears to be about long-term agreements.

CHAIRMAN BRISÉ: Mr. Moyle, if you can clarify the question.

MR. MOYLE: Sure.

BY MR. MOYLE:

Q. Your testimony is you determined that it was not cost-effective to enter into long-term agreements. Did you have a document? Is there a document that reaches this conclusion?

MR. BUTLER: I'm going to object to the characterization of his testimony. He just was asking him about short-term agreements and Mr. Silva answered him about short-term agreements.

MR. MOYLE: I can go back to short term. Whatever your will is.

CHAIRMAN BRISÉ: Okay. Finish with short term.

MR. MOYLE: Okay.

BY MR. MOYLE:

Q. You did an analysis of short-term agreements, correct?

A. Yes, we did.

Q. Okay. And what period of time did you use for a short-term? Was it five years, three years, two years?

A. I'm sorry, one, two, and three-year agreement to delay the units, the unit at Port Everglades that long.

Q. And what was the purchased price that you assumed?

A. I don't believe I have that information. I believe it was three dollars per kW month for capacity. And then, of course, the fuel, the energy would be at the fuel price. But that's a recollection. I'm not absolutely sure about that number. But it was reflective of offers that we had received and short-term contracts that we have entered into for this year. So what we were being quoted for 2012, that's what we used in the analysis for 2016, '17, and '18.

Q. And with respect to long-term, what was the assumed length of a long-term purchase?

A. As my testimony indicates, we did not do a detailed analysis versus a long-term purchase, because we didn't have a proposal for a long-term purchase. I discuss in my testimony to some length from a logical perspective what challenges a seller would have to overcome in the particular case of competing with Port Everglades, and in particular the fact that a long-term contract from a facility outside of Miami-Dade would have required FPL to spend about $640 million in transmission upgrades into Miami-Dade County. And it doesn't matter whether it was a purchased power agreement from outside the region or an FPL unit from

outside the region, it would have had that burden. And as result of that burden, it just wasn't going to be cost-effective.

On top of that, if it had been a new unit, it would have had to pay for land, which Port Everglades does not, for transmission facilities, which Port Everglades does not, and for gas generation, for a gas pipeline lateral, which Port Everglades does not. So from a logical perspective, my testimony explains at some length why a long-term purchased power agreement was not going to be competitive with this particular unit, Port Everglades modernization.

Q. Okay. So I guess the question I asked was the term that you used, and you didn't use any term of years, because you had predetermined that there were additional costs that would work against a long-term purchased power agreement, is that right?

A. We made that determination, yes.

Q. Okay. And did you also -- did you assume for the purposes of this analysis that there could be an existing facility that could bid in under a long-term purchased power agreement?

A. Yes. The burden of the transmission facility still would have to be borne by that. In other words, if we contracted for generation from outside the region,

we still would have to upgrade the transmission facilities into the region at a cost of over 630 or $640 million.

Q. And when you made that determination, you did it -- the document that you did it in, it wasn't a transmission study of the kind that you would file with FERC to determine those costs, it was a preliminary analysis, correct?

A. No, it was not a preliminary analysis. Mr. Modia refers to the analysis in his prefiled testimony, and it was a standard analysis of system reliability and balance from an engineering perspective and costing out the facilities that would be required to maintain the system stability.

Q. We have talked a little bit about this, but just let me direct you to Page 14, Line 11. You talk about firm generating capacity, what is firm generating capacity?

A. Firm generating capacity is what we can count on in our evaluations on the peak day or at any time. In other words, there is a commitment either on the part of a seller to us or our own unit that it's going to be available when it's needed. And the best way would be to contrast where we say when we buy energy only, that means that the seller has the option whether to put to

us the energy or not, and the contract simply consists of us paying a certain amount for the energy. But we don't count on it for the purpose of reliability. Firm capacity means that we count on it for the purpose of reliability.

Q. So you would need a long-term contract for firm --

A. Not necessarily.

Q. -- capacity factor, or no?

A. We have entered into short-term purchases for firm capacity.

Q. So do you consider biomass firm, if you have a contract for it?

A. It can be.

Q. From an operational standpoint it's base load, correct?

A. Well, base load is an economic result, but from a firm capacity perspective, a biomass facility can be a firm capacity facility.

Q. Okay. Do you consider solar to be firm capacity when you're doing your analysis?

A. No, we don't.

Q. Why not?

A. Because we don't have sufficient data to tell us how much of the installed capacity of a solar

facility will be able to produce on the day when we have a peak on the hour when we have a peak.

Q. So when you are doing your planning process, to the extent that there's solar out there, is it your testimony that you do not consider it for determining your peak, you know, the generation available to meet peak load?

A. That's correct. That's correct. And that has been reported in our Ten-Year Site Plan for a number of years and reflected in our other filings.

Q. So you would agree that from the standpoint of sources of energy, solar has less value related to planning purposes than something like biomass, correct?

A. From the perspective of firm capacity?

Q. Yes, sir.

A. Yes.

Q. Thank you.

A. On the other hand, it's a far cleaner source of energy.

Q. So let me move along and have a discussion with you about the reserve margin. And you all plan to a 20 percent reserve margin, is that right?

A. Yes, to a minimum of 20 percent.

Q. Okay. What does FRCC plan to?

A. I believe FRCC requires 15 percent, but most

of the utilities maintain over 20 percent.

Q. Do you know why FRCC -- who is FRCC?

A. Florida Reliability Coordinating Council.

Q. And what is their job?

A. I think they look at the entire peninsular of Florida system and consider what would maintain reliability within the state.

Q. So do you know why from planning purposes the entity charged with making sure there is enough energy reliability uses a 15 percent reserve margin, whereas you use a 20 percent?

A. From my perspective, the FRCC can plan on a 15 percent reserve margin criterion for the rest of the utilities in Florida, because the three Florida IOUs maintain a minimum of 20 percent, and in the aggregate that is sufficient to maintain reliability in the entire state. I think the FRCC would -- my belief is that they would think differently, if everybody observed only a 15 percent minimum.

Q. And isn't it true that Florida Power and Light for many, many, many years safely and effectively served its customers with a 15 percent reserve margin?

MR. BUTLER: Excuse me, Mr. Chairman. I'm going to object. I have held my tongue to this point, but reserve margin isn't an issue in this docket. It's

clear that Mr. Moyle is going into the history of reserve margin and policy questions about it, et cetera, and I think it's way off the mark of the subject of this proceeding. I object to it on that basis.

CHAIRMAN BRISÉ: Mr. Moyle.

MR. MOYLE: I would respectfully disagree strenuously and severely to the extent that, you know, there's a 20 percent reserve margin and you fall just under it, and then you come in and go we need 1.3 billion. The stipulation, there is a stipulation in place with respect to reserve margin that I think gives the Commission the ability to look at the facts of every particular case, and so as a particular option, if you decide, you know what, they went from 15 percent to 20 percent. Maybe that was too big of a jump. Maybe an effective reserve margin -- or for the purposes of this case we can make do with a 17.5 percent reserve margin. I think that is fair game and a fair discussion to have.

CHAIRMAN BRISÉ: Thank you.

Mary Anne, to the issues specifically of whether the reserve margin is germane to this docket.

MS. HELTON: Mr. Chairman, I haven't looked today at the issues listed out in the prehearing order, but I assume that they are the same issues that are typical in our prehearing orders for need determination

cases which track the statute. My recollection is that the reserve margin is not listed there in the statute and is not one of the matters that you must consider.

And if I might do a little bit of editorializing here, I believe that Mr. Moyle is conducting a lot of discovery here, and I'm not sure that's appropriate, especially given the time period. This is a quarter till noon, and we have a 1:00 o'clock hearing starting.

CHAIRMAN BRISÉ: Thank you.

Considering that the reserve margin is really not one of the issues that's taken up per the prehearing order, I'm going to sustain the objection on this issue. And I'm going to take the latitude to remind all parties that we intend to begin at 1:00 o'clock, and that we certainly hope that everyone understands the scope of what we are dealing with at this point.

MR. MOYLE: Okay. So with all due respect, you already have in evidence, you know, a document where your staff asked them to do an analysis comparing a 15 percent reserve margin to a 20 percent reserve margin. So, you know, that's in and it's part of the record. There is testimony about the 20 percent reserve margin, so I would just proffer that to the extent I had been allowed to ask questions about the reserve margin,

I would have explored alternatives that looked at a reserve margin of less than 20 percent. So I think we can deal with it that way. And, I guess, for point of clarification -- and, you know, everyone is right, we did intervene late, but we do take the case as we find it and I'm trying to move --

(Pause.)

CHAIRMAN BRISÉ: You may proceed.

MR. MOYLE: Okay. I'm trying to move along and get testimony for a record that I would anticipate presenting findings of fact and -- proposed findings of fact and conclusions of law. And it's not an easy task without witnesses and having to present, in effect, a whole case based on cross-examination of an adverse witness, so I appreciate the latitude that has been shown.

From a timing standpoint, I don't want to hurt and goof you up, but in terms of also, you know, being able to present my case, I'm a little conflicted there. So if -- you know, is it the intention to take a lunch break and then take up the 1:00 o'clock and come back, or, you know, work right through, or what is the --

CHAIRMAN BRISÉ: The intention is to -- I'll tell you what my intention is. Hopefully, we will conclude this prior to the 1:00 o'clock, and then we

will move into the 1:00 o'clock. Hopefully, we'll have some break in between there so that all of those who are here that will participate in the next one will have an opportunity to at least take a bite to eat and come back and continue.

So I'm not trying to limit your time explicitly, but I'm trying to make sure that -- you know, we have given a lot of latitude this morning, and I'm just hopeful that you are cognizant of that, and that you will deal appropriately with that.

MR. MOYLE: Okay. I appreciate that. And, you know, again, I mean, if we were talking about 10 million or even 100 million, but --

CHAIRMAN BRISÉ: Understood.

MR. MOYLE: It's a big case and a lot of money.

MR. BUTLER: Mr. Chairman, I'm sorry, I'm unable to restrain myself further. Mr. Moyle knew the size of this case when we filed it in November. He has had ample opportunity to intervene. He could have done discovery. He could have sponsored witnesses. All of these problems are of his own making, and I don't think it's appropriate for him to be pushing the proceeding longer than it needs to be simply because he's now conducting belated discovery. Thank you.

CHAIRMAN BRISÉ: Thank you.

Before you continue, Mr. Moyle, I think he's -- Mr. Moyle is cognizant of the fact that the Commission has been -- what's the right term here -- has applied a lot of latitude this morning, understanding that FIPUG is a regular intervenor. So they understand the process and so forth, so I think Mr. Moyle is going to be very cognizant of that fact.

MR. MOYLE: Thank you.

BY MR. MOYLE:

Q. A couple more questions with respect to the evaluations that you did related to third-party options. With respect to a new greenfield that a third party could possibly do, did you talk to any third-party about that, or did you just assume that a third-party could not do it because of the cost of things like land and getting gas transmission to a potential new greenfield site?

A. Our engineering -- no. The answer is that as far as I know we didn't talk to any specific entity, but our engineering and construction group is knowledgable about what it takes to obtain land because they are in the market all the time, and to buy equipment and build a unit. So they know what that costs, and they know that nobody had purchased, or selected, or permitted

land for a site. So all of that remained ahead of them.

Now, the transmission cost, the pipeline lateral costs, et cetera, there's no doubt that any new entity that builds a greenfield site would have to enter into those purchases and incur those costs. So we are very comfortable from the estimating perspective of what the cost of those third-party greenfield units would have been.

Q. So you did not talk to a third-party, you just assumed it, correct?

MR. BUTLER: Object; asked and answered.

CHAIRMAN BRISÉ: Sustained.

MR. MOYLE: If I could get help with an exhibit.

CHAIRMAN BRISÉ: Sure. This would be Exhibit Number 43.

MR. MOYLE: And it's actually an excerpt of something that is already in the record, so I don't know that we need to mark it, but I think it would make it easier for the purposes of this cross.

CHAIRMAN BRISÉ: Sure.

(Exhibit 43 marked for identification.)

BY MR. MOYLE:

Q. Mr. Silva, you provided an overview -- you are familiar with the testimony of other witnesses in the

case, correct?

A. Yes, I am familiar.

Q. Okay. So let me just direct you to what I have provided to you, which is an excerpt of Witness Morley, and there's a question about incremental wholesale loads on Page 12. Is it true that FPL signed a long-term agreement with Seminole Electric Cooperative for 200 megawatts that would start in June of 2014?

A. I agree that that is what Doctor Morley testifies to, and I believe that that's correct.

Q. Okay. And then also on Page 11, it looks like you signed a deal with Lee County that gives them an additional -- you sell them an additional 500 megawatts starting in 2014, is that correct?

A. The numbers are reflected in the testimony. I assume that they are correct. This is not a new contract. This is a contract that was entered into some years ago, and it's simply reflecting what the contract envisioned. And it's important here that in entering --

MR. MOYLE: I don't have a pending question, I don't think. I think he confirmed about the numbers.

CHAIRMAN BRISÉ: Okay. Thank you. The question was quite simple about the number. I think a yes or no, and then maybe a one sentence would be sufficient.

BY MR. MOYLE:

Q. All right. So just so we are clear, to the extent that the company had made a decision based on its forecast and looked at 2016, and said, you know, we're going to be tight in 2016, it could have decided not to enter into a contract with Seminole in which 200 firm megawatts from FPL's system is being sold to Seminole, correct?

MR. BUTLER: I'm going to object to this line of questioning. It apparently is going to some sort of assessment of whether FPL should have been entering into certain wholesale contracts, and I don't believe there is any question among those identified or any issue among those identified for resolution in this docket that goes to the question of, you know, appropriateness of wholesale purchases, the timing of them, et cetera. It's way beyond the scope of the identified issues for the proceeding.

CHAIRMAN BRISÉ: Mr. Moyle.

MR. MOYLE: Well, I think it is relevant, because it's a need determination case, and you are charged with determining is there a need. And to the extent that during the planning process that needs were made aware and known at the retail level, and then purchased power agreements, sales were made with

wholesale customers to take you below a 20 percent reserve margin, you know, that seems to be decisions that are not in the best interest of the customers and should not be the basis upon which a need determination is granted.

MR. BUTLER: Mr. Chairman, I would say that without conceding whether it would or wouldn't be an appropriate issue if it had been raised, it wasn't raised. And there is no issue in our list of seven issues that comes close to this. And, again, had Mr. Moyle intervened earlier and raised it as something for the proceeding, perhaps it would have been appropriate, but it is not among the issues that are identified for resolution today.

CHAIRMAN BRISÉ: Mary Anne.

MS. HELTON: Mr. Chairman, once again, this sounds like discovery to me. I mean, I think this would have been appropriate for Mr. Moyle to have asked in a deposition of Witness Morley prior to today, and to have raised as an issue at the time of the prehearing conference. But I think we are beyond that point.

CHAIRMAN BRISÉ: Thank you.

And I think I'm going to agree with that assessment so, therefore, I am going to sustain the objection. And if we could steer clear of, I guess, of

what would be considered discovery, that, too, would be appreciated.

MR. MOYLE: I was taught in law school that usually discovery questions were what, where, how, who, and the leading questions were isn't it true, but I'll try to focus on a couple of points. And given the timing and the fact that there is another one at 1:00 o'clock, I'll try to bring this in for a landing. Thank you for your patience on this. But, anyway.

Mr. Chairman, I have another exhibit I would like to pass out, if I could.

CHAIRMAN BRISÉ: Sure. All right. This would be Exhibit 43, but it is excerpted.

MR. MOYLE: It is an excerpt. It's already in the record, so just out of fairness to the witness to ask some question about it, I wanted to draw his attention to it. It doesn't hurt, I guess, to mark it.

(Exhibit 43 marked for identification.)

But out of a desire to, you know, move this along, I had questions on all of these. I'm going to just kind of go through and selectively pick them up. So they are not marked, but for the purposes of following along, I think, we can reference the interrogatories. So the first one I have a question about that I will ask is on Interrogatory Number 34

corrected. And, Mr. Silva, when you are at that point, if you will let me know, I would appreciate it.

MR. BUTLER: Mr. Moyle, for the benefit of the record, these have, it looks like, the Staff's Bates numbers at the bottom. Could you refer to the Bates number pages, please.

MR. MOYLE: Sure. This would be 61. And also for the record, the highlight is my highlight, not confidential.

MR. BUTLER: Thank you.

MR. SILVA: I am there, sir.

BY MR. MOYLE:

Q. Okay. So the greenfield combustion turbine site is the one at the very bottom, correct, and you have done this analysis also comparing it to the proposed Everglades project, is that right?

A. Yes. But to be clear, this greenfield combustion turbine is part of the plan that also would include the Port Everglades project, only later.

Q. I'm sorry, could you clarify that?

A. We have a plan that includes Port Everglades in 2016. That's the one we are trying to -- we are seeking a determination of need for. We have a different plan that has a combustion turbine in the early year in 2016 so that we can defer the addition of

the Port Everglades modernization to 2019, but the Port Everglades modernization is part of that resource plan, as well.

Q. Okay. And deferring -- in your process of integrated resource planning, you often used CTs as filler units, correct, to address a deficiency?

A. We evaluate them. We haven't added a simple cycle CT since I have been in this job, because they have not been cost-effective.

Q. And the capacity factor is shown as one percent. Does that mean it's only going to run one percent of the time? And when I say shows, I'm talking about the greenfield combustion turbine.

A. That's the way I read it, and that would make sense. A combustion turbine is not efficient, so it doesn't dispatch very frequently.

Q. And the capital costs are 178 million compared to the installed cost of the proposed project of 1.18?

A. Yes. But if you look at the next line, the capital cost in dollars per kW is higher than that of the Port Everglades facility. It is listed as smaller installed cost because it is a much smaller unit.

Q. But the reason -- isn't it true that the reason the capital costs are higher is because you take the capital costs and divide them over the amount of

time that the unit is running? So because the unit is only running one percent of the time, it has a high capital cost per kW?

A. No. In this instance, what I am referring to is the third line that says capital costs dollar per kW, 1,100, right? That's the capital costs just to put it in the ground. It has nothing to do with operation. And similarly above, the capital cost of the combined-cycle unit is only $928 per kW to install it.

Q. Let me flip you over to at the bottom, the Bates stamps number 116. Staff asked you to run some numbers in different scenarios, one removing two CTs in 2006, is that right?

A. Yes; 2016.

Q. I'm sorry, 2016. And in your answer on Page 117, you suggest that you couldn't perform that analysis, is that right?

MR. BUTLER: I'm sorry, what are you referring to on Page 117?

MR. MOYLE: The highlighted portion under C.

MR. BUTLER: I actually don't have any highlighted portion on mine.

MR. MOYLE: I'm sorry.

THE WITNESS: Nor mine.

MR. MOYLE: It's under C, the first sentence.

"FPL does not have the information required to perform the economic analysis requested regarding the phased construction of PEEC."

MR. BUTLER: But you are referring to a reference to C. I thought you were asking your question about A, the removal of the two CTs.

BY MR. MOYLE:

Q. Did you do the analysis for A?

A. Yes.

Q. And is that reflected on Page 120 of the Bates stamped number?

A. I believe so, yes.

Q. Okay. And the removal of the two CTs in 2006, what was removed; how many megawatts were removed from the plant with the removal of those CTs?

A. It would have been two units of 162 megawatts for a little over 320 megawatts, 324 megawatts.

Q. So that is the amount that would be removed?

A. That is what was requested in the interrogatory.

Q. Okay. And after you did the analysis, isn't it true that the amount shown on Page 120, the cumulative value is less than the Everglades proposed cumulative value number?

A. Excuse me while I look at my data. Yes.

However, this comparison, at least we contend, is not a fair comparison because the result that's provided in 59, which was directed for us to do, does not maintain the 20 percent reserve margin during the life of the analysis. So we are not talking about systems with comparable reliability. And in the analysis we have to begin with some common ground, so maintaining a 20 percent reserve margin is essentially the first step in our analysis. Now, we did perform the analysis, but in our view it's not reflective of a fair comparison.

Q. So that approach requested by staff costs less money, but you quarrel with it because it falls below the 20 percent reserve margin?

A. No, we are not quarreling because of the outcome. If we had started out a different assumption, i.e., not maintaining a 20 percent reserve margin, then we would have done a different comparison where we might have done a resource plan that was different, consistent with the reserve margin requirement that was being assumed. But to compare one that was developed, aimed, and maintaining a 20 percent reserve margin to one that was not, you know, it just isn't a fair comparison. We didn't use the same assumptions is what I'm trying to say.

MR. BUTLER: Mr. Moyle, may I inquire how much

more you have?

MR. MOYLE: I'm going to try to wrap it up shortly.

MR. BUTLER: That would be good. Thank you.

BY MR. MOYLE:

Q. Referring you to Page 164, staff asked a question about a planning scenario where the reserve margin falls short by 13 megawatts. Am I understanding how FPL plans, that to the extent that there was a relatively small shortage, 13 megawatts, 50 megawatts, that that then prompts the need to look at things that go much beyond the particular need identified in the shortage? And, for example, in this case, you know, there's a 287-megawatt need in '16, and you are proposing 1300 megawatts. So I am correct in assuming, based on those facts, that when you would fall just below the 20 percent, then it's kind of the green light to put in a new plant, is that right?

A. No, it's not a green light to put in a new plant, and there's two parts to the answer. One of them is if the projected reserves fall below 20 percent, which is the minimum that we consider needed for reliability, yes, we then evaluate how to best meet that need. The magnitude of what we add could be 13 megawatts, or it could be 1300 megawatts. It's

whatever the analysis says is best for the customer. So the first step is do we meet the minimum 20 percent reserve margin? If not, we need to do something. It could be a purchase, a small unit, or a large unit, whatever is most cost-effective. In this instance, Port Everglades is by far the most cost-effective alternative to meet the need in 2016.

MR. MOYLE: Mr. Chairman, I'm trying to wrap it up here. I have a process question. There's a stipulation that was entered into and an order that sets the 20 percent reserve margin. Will we be able to cite to that in our proposed findings of fact and conclusions of law without having it be introduced, or would your preference be to have it provided as part of the record?

CHAIRMAN BRISÉ: I think I need to ask my legal staff on that.

MS. HELTON: Well, the order approving the stipulation back from -- I can't remember now how long ago setting the 20 percent, of course, Mr. Moyle would be able to rely on that order. With respect to the stipulation, do you mean the stipulation that had not you intervened in the case that staff would have recommended that the Commission approve with respect to its agreed-upon language with the company?

MR. MOYLE: No. The reserve margin was set

after a stipulation with some parties, so the order -- there is an order and a stipulation, and I want to cite that in my proposed findings of fact.

MS. HELTON: My recollection is that that stipulation would have been attached to the order. So, yes, you would be able to reference that in your post-hearing brief, if there is one.

MR. MOYLE: Thank you.

BY MR. MOYLE:

Q. Let me direct you to Page 190. So you were asked to assume no CO2 costs for the purposes of responding to this question. And isn't it true that when you assume no CO2 costs that the plan of removing two CTs results in a savings of monies as compared to what is being proposed with the Everglades plant?

A. Yes, that's the outcome shown in the response to this interrogatory. However, the case also does not maintain a 20 percent reserve margin. So, once again, it's not a fair comparison against the proposed Port Everglades case. It is apples and oranges, so to speak.

Q. All right. And when you assumed CO2 costs, you assumed that there would be some further regulation of CO2, is that right, in your analysis?

A. Yes. The original case has a cost assumed for sulfur dioxide, nitrous oxide, and carbon dioxide.

Q. And as we sit here today, those additional CO2 costs are not in existence, correct?

A. That is correct.

Q. So your assumption was based on future legislative action?

A. Legislation or regulation that may be imposed.

Q. Okay. And then the very last Exhibit 226, the fuel forecast.

A. Unless it is out of order, I don't have a 226.

MS. HELTON: It's on the last page.

THE WITNESS: Oh, okay. Thank you.

BY MR. MOYLE:

Q. So do you know as we sit here today whether the more recent fuel forecast of either November 14th, 2011, or January 3rd, 2012, have been used in this proceeding, or is it the August 1 forecast?

A. The original filing and direct testimony were based on the August 1, 2011, fuel price forecast which what was available at the time. During discovery we have essentially redone all of the cases using the November fuel price forecast, which is consistent in time with the recent midcourse correction in the fuel clause. The results of those analyses also favor the addition of Port Everglades in 2016.

Q. Okay. But you didn't do the same analysis

with respect to the January 3rd fuel forecast?

A. I'm sorry, can you repeat the question?

Q. Yes. You didn't update -- you didn't update the analysis with respect to using a January 3rd fuel forecast, correct?

A. No. I'm not aware that there is a long-term fuel price forecast dated January of this year.

Q. Do you know if these fuel forecasts, the November 14th and the January 3rd, are part of the record in this case?

A. I don't know. From reading the response, we seem to have provided them, but the response is confidential as I read it.

Q. Right. And I'm trying to understand whether the most recent fuel forecasts are part of this record that the Commission is being asked to decide on?

A. Well, I don't know if it's part of the record. I know that we did analysis based on it and provided responses to discovery based on it, on the November forecast.

MR. MOYLE: Okay. Thank you. And thank you, Mr. Silva. I appreciate your time. And also given somewhat the unique situation and circumstances in which I find myself, I'd like to also thank the Commission for its patience and indulgence in allowing me time and

latitude in conducting some cross-examination.

Thank you.

CHAIRMAN BRISÉ: Thank you.

Staff.

MR. MURPHY: Because our exhibits came in, we have no questions.

CHAIRMAN BRISÉ: All right. Thank you very much.

Commission? Commissioner Balbis.

COMMISSIONER BALBIS: Thank you, Mr. Chairman. I only have a few questions for this witness.

I want to thank you for coming here prepared. You know, I know that in the prehearing order it did list that Commissioners were to be asking questions, but with the latitude that we gave Mr. Moyle, I'm glad to see you were prepared for his questions, as well.

The existing four units at the facility, what is the total capacity of the four units that will be decommissioned?

THE WITNESS: Summer capability is 1187 megawatts.

COMMISSIONER BALBIS: And this proposed facility will provide 1,277 megawatts?

THE WITNESS: That's correct.

COMMISSIONER BALBIS: And one of the other

drivers for this facility is the existing purchased power agreements that are set to expire. What is approximately the total amount of those agreements?

THE WITNESS: In terms of calculating the need for 2016, yes, there are primarily two. One of them is the UPS contract for about 930 megawatts of capacity and the other one is the suspension of a purchased power agreement with St. Johns River Power Park, and that's 380 megawatts, or I'm sorry, 375 summer.

COMMISSIONER BALBIS: Okay. So about 1300 megawatts?

THE WITNESS: Yes.

COMMISSIONER BALBIS: Okay. And there has been a lot of discussion about fuel diversity. Could you explain any short-term or long-term either interruptions in natural gas supply or price fluctuations, what the company would be able to do with this facility and switching to alternative fuel on short and long-term?

THE WITNESS: From a cost perspective, the facility itself would not provide flexibility because the alternate fuel would be light oil, which has, from my recollection, always been higher than the price of natural gas no matter how high natural gas has been.

From the perspective of reliability, the unit,

the new unit can run on light oil. And because of the location of the port, being able to bring large ships laden with oil, but also connecting with the significant storage of this fuel at the port itself, which serves airports and other users, is very, very helpful in terms of maintaining reliability.

So although it would cost more to go to light oil, it would be there. From the perspective of economics, there are other units that use residual fuel oil and typically do not run much because of the low price of gas relative to residual or heavy fuel oil today. If that condition were to reverse, then, of course, within our system we would run more oil and less natural gas. That's part of the flexibility.

Now, today, we are even running natural gas ahead of some coal generation. Again, if the price of gas were to go up, then we would again baseload the coal units in favor of lower cost.

COMMISSIONER BALBIS: Okay. Thank you. And as far as any other supply interruptions in the testimony, I believe it was Mr. Gnecco's testimony, he indicated that the existing natural gas infrastructure will be utilized with the addition of some compression facilities, is that correct?

THE WITNESS: That's correct, Commissioner.

In other words, we don't need any more pipeline, only compression to deliver the right pressure to these particular new units, this particular new unit.

COMMISSIONER BALBIS: So as far as the existing infrastructure, you anticipate that the two main interstate pipelines, Florida Gas Transmission and Gulfstream, would be utilized to bring the natural gas into the state, is that correct?

THE WITNESS: At the outset, yes. Through 2017, we project that we have -- through the summer, the middle of 2017, we project that we have adequate deliverability capacity for our system. We are now updating our projection for what happens beginning in the middle of 2017 with a view towards enhancing infrastructure to bring additional gas into the state.

COMMISSIONER BALBIS: Okay. And then the last question concerning the fuel source. Mentioned in the testimony it indicates an order in '09 that required that FPL rebid the intrastate pipeline. I believe it was the EnergySecure Pipeline. Is FPL still pursuing that RFP?

THE WITNESS: That particular RFP was rescinded because the consideration is that the structure, the arrangement or strategy is going to be somewhat different in terms of what pieces might be bid

separately to help not just FPL, but other users in Florida. Those discussions are going with other users in Florida to try to design the best arrangement. And the idea is that once we confirm the timing of the need and the magnitude of the need, not just FPL's but other parties, that we will prepare a new RFP. It has been in preparation already, finalized in the RFP, then bring it to discussion with the staff, and then subsequently issued.

COMMISSIONER BALBIS: Okay. Thank you. And the last series of questions. There has been a lot of discussion on third-party providers of energy. And in August of last year, this Commission approved a waiver of going through the RFP process for FPL to see if there are other possible providers of energy in lieu of this project. And I believe in that order we stated that it is unlikely for a responder to the RFP to match these desirable attributes and resources. And I believe that order was not opposed nor were there any intervenors to that docket.

So the other way that FPL can assess whether a third-party provider is through a standard offer contract, and to your knowledge has FPL received any offers utilizing the standard offer contract in lieu of this project?

THE WITNESS: No, Commissioner, we have not.

COMMISSIONER BALBIS: Okay. Thank you. I have nothing further.

CHAIRMAN BRISÉ: Any further questions from Commissioners?

Mr. Butler, if would you like to redirect.

MR. BUTLER: I have just a couple. I'll try to be very brief.

REDIRECT EXAMINATION

BY MR. BUTLER:

Q. Mr. Silva, has FPL evaluated the economics of deferring or delaying the in-service date of the Everglades project, the PEEC project beyond 2016?

A. Yes, we have.

Q. Have you done an analysis for a one-year delay?

A. Yes, we have.

Q. And what does that show?

A. The results -- and I might add that this was done using the more recent November fuel price forecast, which is the lower and least favorable to the modernization -- it would save the customers $9 million to delay for one year. Now, I want it clear that $9 million is a very conservative estimate, because it assumes that any delay is only going to incur a

3 percent escalation cost increase to the cost of Port Everglades.

We are concerned that that may not at all be the case for two general reasons. One of them is the economics, the economic situation. Recovery of the national economics could causer greater competition for labor, materials, and equipment, which could raise the cost of the unit more than just the 3 percent increase.

The other is environmental, and that has two forms. One of them is if there is regulation or legislation, that combined with low gas prices pushes utilities to shut down coal generation and add new gas generation, that will increase demand for equipment, in particular, for combined-cycle units throughout the country. And, again, that could raise the cost.

The other is that -- and this is a little bit more difficult to explain -- right now we have the existing or recent emissions from the old units as an outset, if you will, when the environmental regulators, the EPA looks at what the unit will emit in the future, they will compare that to what it has emitted in the past, and they take the highest two years over a five-year period. Right now the highest two years in our five-year period is the 2006 through 2007.

If there is a delay in the unit, then those

years will begin to fall out, and we may no longer be able to offset the new emissions, the emissions of the new unit with the lower old emissions because the unit has not been operating as much lately. So that could require more stringent air emission standards that would cost more money. So long-winded explanation, I'm sorry, but I needed to explain that.

Q. Mr. Silva, just to clarify in your prior answer, if PEEC were delayed one year in service, would the cost to customers be higher or lower by the $9 million figure that you used?

A. The cost to customers with the delay would be $9 million higher, again, with the delay.

Q. Okay. And have you done a similar analysis for a two-year delay?

A. Yes, and the analysis shows that the increase in costs from delaying would be $32 million, again, with the same explanation as before.

Q. And, finally, have you done the analysis for a three-year delay?

A. Yes, we have, and the analysis result indicates that a three-year delay would cost the customers $72 million more.

MR. BUTLER: Thank you, Mr. Silva.

That's all the redirect that we have, Mr.

Chairman.

CHAIRMAN BRISÉ: Thank you very much.

At this time let's deal with the exhibits. So we have Exhibit 41 and 42. What would have been considered 43 and 44 were all excerpts from the record, so at this time if there are no objections, we will enter Exhibits 41 and 42.

MR. BUTLER: No objection.

CHAIRMAN BRISÉ: All right. Seeing none, no objection, let the record reflect that.

(Exhibit Number 41 and 42 admitted into the record.)

CHAIRMAN BRISÉ: We have, I guess, a couple of options how we proceed. My preference would be for us to take a bench decision. I don't know if that option is still available to us. Some of that depends on Mr. Moyle, if I'm correct.

MS. HELTON: Yes, sir, I believe so. I don't know if Mr. Moyle wants the opportunity to file a brief. If he does, then I don't believe that a bench decision is appropriate under Chapter 120.

CHAIRMAN BRISÉ: Okay. Thank you.

So, Mr. Moyle, it's --

MR. MOYLE: We'd like the opportunity to present, you know, after reviewing the record, our view

of the case in writing. So, thank you, we'd like to take advantage of that opportunity.

CHAIRMAN BRISÉ: All right. A couple of dates that are important. Transcripts will be due on the 23rd of February, and post-hearing briefs will be due on the 2nd of March. I don't know if there are any other matters that we need to deal with.

Staff?

MR. MURPHY: I'm not aware of any.

CHAIRMAN BRISÉ: Okay. Seeing that, Commissioners, if there is nothing else on this particular docket, we stand adjourned.

(The hearing concluded at 12:32 p.m.)

STATE OF FLORIDA)

: CERTIFICATE OF REPORTER

COUNTY OF LEON)

I, JANE FAUROT, RPR, Chief, Hearing Reporter Services Section, FPSC Division of Commission Clerk, do hereby certify that the foregoing proceeding was heard at the time and place herein stated.

IT IS FURTHER CERTIFIED that I stenographically reported the said proceedings; that the same has been transcribed under my direct supervision; and that this transcript constitutes a true transcription of my notes of said proceedings.

I FURTHER CERTIFY that I am not a relative, employee, attorney or counsel of any of the parties, nor am I a relative or employee of any of the parties' attorney or counsel connected with the action, nor am I financially interested in the action.

DATED THIS 23rd day of February, 2012.

JANE FAUROT, RPR
Official FPSC Hearings Reporter
(850) 413-6732

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Petition to determine need for Modernization of Port Everglades Plant, by Florida Power & Light Company.	DOCKET NO. 110309-EI FILED: February 20, 2012

THE FLORIDA INDUSTRIAL POWER USERS GROUP'S NOTICE OF POSITION ON ISSUES TO BE DECIDED

Pursuant to sections 120.569, 120.57(1), Florida Statutes, the Florida Industrial Power Users Group (FIPUG), through its undersigned counsel, files this Notice of Position On Issues To Be Decided. FIPUG's Petition to Intervene was granted on February 16, 2012. The Prehearing Order was issued on February 13, 2012 and identified a number of issues that are to be decided by the Commission. The Petitioner, Florida Power and Light Company (FPL), is not prejudiced by FIPUG taking a position on these disputed issues. FIPUG, as a party whose substantial interests are affected by the proceeding, has the right to take positions in accord with chapter 120, Florida Statutes. Furthermore, staff has taken no position on any issue in the case and has taken the following basic position in the case, as reflected in the Prehearing Order:

> Staff's positions are preliminary and based on materials filed by the parties and on discovery. The preliminary positions are offered to assist the parties in preparing for the hearing. Staff's final positions will be based upon all the evidence in the record and may differ from the preliminary positions stated herein.

Finally, the Notice of Hearing issued in this matter provides that the proceeding shall allow for FPL, intervenors, and members of the public to present evidence and testimony concerning the modernization of the Port Everglades power plant. Thus, there is no prejudice to FPL or the staff

for FIPUG to take positions on issues in the case. FPL has the burden of proof to present its case in an effort to persuade the Commission to grant its need determination petition.

ISSUE 1: Is there a need for the proposed modernization of Florida Power & Light's Port Everglades plant, taking into account the need for electric system reliability and integrity, as this criterion is used in Section 403.519(3), Florida Statutes?

POSITIONS

FPL: Yes. There is a need for PEEC, taking into account the need for electric system reliability and integrity. After accounting for all projected Demand Side Management ("DSM") from cost-effective programs approved by the Commission, FPL has future generating capacity starting at about 284 MW in 2016 and growing to 1,468 by 2021. PEEC will provide 1,277 MW of highly efficient capacity to help satisfy this need. Furthermore, PEEC will be a highly reliable source of energy, with a projected equivalent availability factor of approximately 95.4%. PEEC will also be highly reliable in terms of fuel supply because its coastal location facilitates the receipt of light oil backup fuel via both truck delivery and waterborne transportation, and because light oil will be stored on site in sufficient quantities to allow PEEC to operate at full capacity for approximately 72 hours. Additionally, PEEC is favorable from a transmission reliability perspective because it reduces the load-to-generation imbalance in the Miami-Dade and Broward County area and also provides voltage support.

STAFF: Staff has no position at this time.

FIPUG: No.

ISSUE 2: Are there any renewable energy sources and technologies or conservation measures taken by or reasonably available to Florida Power & Light Company which might mitigate the need for the proposed modernization of Florida Power & Light's Port Everglades plant?

POSITIONS

FPL: No. FPL's forecast of resource needs takes into account all projected DSM from cost-effective programs approved by the Commission. Additional cost-effective DSM cannot be counted on to contribute to system reliability. Similarly, all anticipated cost-effective firm generating capacity that will be available from renewable resources and qualifying facilities through 2016 is already reflected in FPL's resource plan.

STAFF: Staff has no position at this time.

FIPUG: Yes.

ISSUE 3: Is there a need for the proposed modernization of Florida Power & Light's Port Everglades plant, taking into account the need for adequate electricity at a reasonable cost, as this criterion is used in Section 403.519(3), Florida Statutes?

POSITIONS

FPL: Yes. There is a need for PEEC, taking into account the need for adequate electricity at a reasonable cost. The estimated total installed cost for PEEC is $1,185 million, in 2016 dollars. PEEC will take advantage of an existing site, existing infrastructure and existing connectivity to FPL's transmission system, thereby eliminating the costs for those components. Furthermore, FPL's analyses show that the resource plan that includes PEEC in 2016 will save customers $425 million to $838 million CPVRR as compared to the other available self-build alternatives, and at least $900 million CPVRR compared to third party-build alternatives. Accordingly, PEEC will provide needed electricity at a reasonable cost.

STAFF: Staff has no position at this time.

FIPUG: No.

ISSUE 4: Is there a need for the proposed modernization of Florida Power & Light's Port Everglades plant, taking into account the need for fuel diversity, as this criterion is used in Section 403.519(3), Florida Statutes?

POSITIONS

FPL: Yes. There is a need for PEEC, taking into account the need for fuel diversity. PEEC will be fueled by natural gas, and to enhance fuel supply reliability, it will use light oil as a backup fuel. Compared to returning to service the existing units at Port Everglades, adding PEEC will improve the plant's heat rate by 35% and will improve FPL's overall system heat rate by 1.3%. The improved heat rate, in turn, will reduce FPL's use of natural gas by about 90 million MMBtu and fuel oil by about 10.4 million barrels over a 30-year period.

STAFF: Staff has no position at this time.

FIPUG: No.

ISSUE 5: Will the proposed modernization of Florida Power & Light's Port Everglades plant provide the most cost-effective source of power, as this criterion is used in Section 403.519(3), Florida Statutes?

POSITIONS

FPL: Yes. PEEC is the most cost-effective alternative available, as this criterion is used in Section 403.519, Florida Statutes. FPL's economic analyses demonstrate that

adding PEEC in 2016 will result in customer savings of (i) $469 million CPVRR when compared to returning to service the existing Port Everglades units, (ii) $838 million CPVRR when compared to the adding a combined cycle unit at a greenfield site, and (iii) $425 million CPVRR when compared to adding a combustion turbine unit at a greenfield site in 2016 and deferring PEEC to 2019. In addition, when compared to third party-build alternatives, customer savings will amount to at least $900 million and may exceed $1.1 billion.

STAFF: Staff has no position at this time.

FIPUG: No.

ISSUE 6: Based on the resolution of the foregoing issues, should the Commission grant Florida Power & Light Company's petition to determine the need for the proposed modernization of Florida Power & Light's Port Everglades plant?

POSITIONS

FPL: Yes. The addition of PEEC in 2016 will result in the addition of highly efficient and reliable capacity, customer savings on a CPVRR basis, and significant environmental benefits. PEEC will save customers as much as $838 million CPVRR over the life of the plant compared to other self-build alternatives. Additionally, it will reduce FPL's system oil and natural gas fuel usage, and will improve FPL's already low emission profile by reducing CO_2, NO_x, SO_x and PM emissions.

STAFF: Staff has no position at this time.

FIPUG: No.

ISSUE 7: Should this docket be closed?

POSITIONS

FPL: Yes. Upon issuance of an order granting FPL's petitions to determine the need for PEEC, this docket should be closed.

STAFF: Staff has no position at this time.

FIPUG: Yes.

s/ Jon C. Moyle, Jr.

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CERTIFICATE OF SERVICE

I **HEREBY CERTIFY** that a true and correct copy of the foregoing The Florida Industrial Power Users Group's Notice Of Position On Issues To Be Decided has been furnished by electronic mail on the 19th of February, 2012 and hand delivery on the 20th day of February, 2012, to the following:

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s/ Jon C. Moyle, Jr.

Jon C. Moyle, Jr.