BEFORE THE
FLORIDA PUBLIC SERVICE COMMISSION

In the Matter of:

PETITION TO DETERMINE NEED FOR WEST COUNTY ENERGY CENTER UNIT 3 ELECTRICAL POWER PLANT, BY FLORIDA POWER & LIGHT COMPANY.	DOCKET NO. 080203-EI
PETITION FOR DETERMINATION OF NEED FOR CONVERSION OF RIVIERA PLANT IN PALM BEACH COUNTY, BY FLORIDA POWER & LIGHT COMPANY.	DOCKET NO. 080245-EI
PETITION FOR DETERMINATION OF NEED FOR CONVERSION OF CAPE CANAVERAL PLANT IN BREVARD COUNTY BY FLORIDA POWER & LIGHT COMPANY.	DOCKET NO. 080246-EI

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VOLUME 3

Pages 302 through 447

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PROCEEDINGS:	HEARING
BEFORE:	CHAIRMAN MATTHEW M. CARTER, II COMMISSIONER LISA POLAK EDGAR COMMISSIONER KATRINA J. McMURRIAN COMMISSIONER NANCY ARGENZIANO COMMISSIONER NATHAN A. SKOP
DATE:	Monday, June 23, 2008
PLACE:	Betty Easley Conference Center Room 148, 4075 Esplanade Way Tallahassee, Florida

REPORTED BY: LINDA BOLES, RPR, CRR
Official FPSC Reporter
(850) 413-6734

APPEARANCES: (As heretofore noted.)

I N D E X

WITNESSES

EXHIBITS

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27		408
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P R O C E E D I N G S

(Transcript follows in sequence from Volume 2.)

CHAIRMAN CARTER: We are back on the record. And when we finished, we took up the exhibits and we had the opening comments of the witness. And I think, Mr. Anderson, you were ready to tender the witness; is that correct?

MR. ANDERSON: Yes.

CHAIRMAN CARTER: Okay. Commissioners? Commissioner Skop, you're recognized.

COMMISSIONER SKOP: Thank you, Mr. Chairman, and thank you, Ms. Tindell.

Just with respect to your prefiled testimony, I've reviewed that and that clarified many of the concerns and enlightened -- I thought the testimony was well put together, and actually, in fact, it's probably one of the best testimonies I've seen since I've been on the Commission in terms of being able to explain everything in laymen's terms where it's plain and simple. So I'd like to thank you for that because, again, it resolved many of the concerns that, that I had in terms of trying to figure out what was going on with the conversion projects.

With respect to your prefiled testimony on Page 4, it stated that "FPL is confident of the accuracy of its construction cost estimates and projected unit capabilities." If that is indeed the fact, then I would, I would think that

FPL would be willing to stipulate to, to the staff perception that the consumer protection aspects of the Bid Rule should be equally applicable in this case. I'd like to get your comments on that.

MR. ANDERSON: Commissioner Skop, could we offer to brief that because it really was asking a witness to potentially stipulate to a legal matter. And I fully respect your interest in the subject matter, but --

COMMISSIONER SKOP: Okay. I'll withdraw the questions. But you are confident in the accuracy of the estimates that you have provided within your testimony; is that correct?

THE WITNESS: Yes. We believe that our cost estimates are reasonable and based on good assumptions and a good methodology, and I support that with our track record and the experience that we have in the market, our knowledge of the marketplace.

COMMISSIONER SKOP: Thank you. And with respect to the converted units at least for Cape Canaveral articulated on Page 7 of the prefiled testimony, the improved base heat rate for those projects, and that would in your experience result in substantial fuel savings?

THE WITNESS: Yes, that's correct.

COMMISSIONER SKOP: Okay. And --

THE WITNESS: I'm sorry. Can I qualify my previous

statement?

COMMISSIONER SKOP: Yes.

THE WITNESS: I did want to point out, as I mentioned, as I had mentioned previously, that the projections that we have offered and given are based on our best assessment of the market, our best assessment of projections. But no one, of course, with any certainty can predict the future and we have seen what's been going on in the current volatile marketplace. However, you know, our projections we believe are reasonable.

COMMISSIONER SKOP: And I thank you for that and I appreciate that. Because we all know that commodity prices are going up substantially; natural gas has gone up, I believe, 72 percent year to date. Metal prices and all types of things are going up.

I think my concern, and, again, it's a valid one on behalf of the Commission, is that in the context of the current proceeding where we've had three need determinations consolidated, two of which are on accelerated time frames based on our rule, which is okay because, again, we have the judicial economies of being able to accommodate all three in the subject of one proceeding, which there is some economies there, but also too we're being asked in the same proceeding to waive the Bid Rule requirement and that's a concession on our part.

And in terms of protecting the consumer, again, as

staff has properly noted in Issue 24 and such, there is risk, and that risk can be mitigated due to extraordinary circumstances. If commodity prices go up, then certainly that's the basis for saying prices went up, which everyone understands. But to unilaterally just come in and expect that, notwithstanding being on an accelerated docket to begin with, to ask for additional concessions, you know, we need to protect the public interest. And so I think that's my point is that, you know, I'm not trying to hold anyone to a firm number, but again I see an unwillingness on FPL's part to want to kind of -- it's almost like you're asking for more and more and more and more and the Commission is already, you know, doing some things that facilitate trying to move in the right directions, but at what point -- you know, we need to protect the public interest. So I think that's where my concern is on that.

I understand your perspective, but I also appreciate staff's perspective, which is a perspective that I share in terms of trying to make sure that the, that the consumer is protected because, again, costs are going up and we all understand that. But, again, we need to -- any time you're moving quickly, there's a heightened sense of scrutiny. And then when you're asking for additional concessions on top of that, that's also a heightened level of scrutiny, and I think that we need to be diligent on the Commission to make sure that we're doing the right things. Because, again, if the Bid Rule

were not waived, you know, you'd be bound by that to begin with.

But, anyway, let me move forward. And, again, I do -- getting back to your testimony, it was very informative and I think that it answered a lot of the technical questions and the fuel savings and environmental benefit questions that I had.

The, just in recapping in terms of Cape Canaveral, on Page 15 of the prefiled testimony I guess FPL estimates that the total cost of the project will be $1.115 billion -- I mean million dollars; is that correct?

THE WITNESS: Yes.

COMMISSIONER SKOP: Okay. And on both Canaveral and Riviera Beach they've not yet requested siting certification from the DEP; correct?

THE WITNESS: That's correct.

COMMISSIONER SKOP: Okay. And with respect to the Riviera Beach project, I guess on Page 16 of the prefiled testimony it mentions that the plant aesthetics will improve significantly. And, again, I'm from that area and I guess in that regard I guess the stacks that are coming down, they're kind of often used as a useful aid for navigation for coming back from the Bahamas. I'm going to kind of miss those.

But I just was wondering in terms of aesthetics and to take a little bit more lighter approach to this, you know,

certainly I'm sure the people on the island would appreciate that, and I was kind of wondering whether there was any thought to seeking a contribution in aid of construction from that. I guess -- that's a joke. Bad joke.

THE WITNESS: Okay.

COMMISSIONER SKOP: But people on the island -- and I guess you'd have to live down there to understand that. But that didn't go over too well.

COMMISSIONER ARGENZIANO: Bad joke.

(Laughter.)

COMMISSIONER SKOP: Bad joke. But, you know, if it helps the general body of ratepayers, I'm okay with that, you know.

But the cost of the Riviera project I guess on Page 20 of the prefiled testimony is estimated at $1.276 million; is that correct?

THE WITNESS: That's correct.

COMMISSIONER SKOP: Okay. And just finally two more questions. On Page 21, I guess that FPL anticipates receiving a final order from the Commission by October 2008.

THE WITNESS: Actually our current timeline is perhaps September, but September, October. I mean, we expect to get it this fall.

COMMISSIONER SKOP: Okay. Okay. Great. Thank you. And that may be the only additional -- oh, and then on, on, I

believe it was CT-5, that has the estimated construction schedule for the Canaveral site. And a lot of those conversion projects are going through the initial proceedings of coming to fruition; is that correct?

THE WITNESS: Yes. Yes.

COMMISSIONER SKOP: Okay.

THE WITNESS: We're meeting with local -- for Cape Canaveral, the County, Brevard County, and for the Riviera Beach, the City of Riviera Beach.

COMMISSIONER SKOP: Okay. Thank you very much. No further questions.

CHAIRMAN CARTER: Commissioners, anything further?

Staff?

MS. BROWN: Just one follow-up again about site certification.

CROSS EXAMINATION

BY MS. BROWN:

Q Mr. Silva referred me to you to clarify when you intend to seek site certification. Can you give us that time?

A Yes. We expect to be able to file under the Power Plant Siting Act in January, you know, as early as January or shortly thereafter. The answer is as quickly as possible. As you know, we have to get through all of our local approvals before we can file for that, and we are moving very quickly through local approvals. We've gotten tremendous local support

in both communities for the projects.

Q And you can assert today that you will in fact file with DEP for plant site certification?

A Your question relates to versus some other way of handling --

Q Versus not, ending up not filing with them.

A We have every intention of filing under the Power Plant Siting Act the site certification application.

Q And if that intention changes, will you inform the Commission as soon as it does, if it does?

A I believe that we're in, you know, we have constant communications with the Commission and staff, and we would, of course, update you as part of that, that dialogue.

Q Okay. Thanks.

CHAIRMAN CARTER: Thank you.

Mr. Anderson, you're recognized, sir.

MR. ANDERSON: Thank you. We have nothing for this witness, which would just leave the matter of the exhibits.

CHAIRMAN CARTER: Okay. Let's deal with the exhibits.

MR. ANDERSON: I believe they were numbers 53 through 56.

CHAIRMAN CARTER: Any objections? Without objection, show it done.

(Exhibits 53 through 56 admitted into the record.)

The witness may be excused.

You may call your next witness.

MS. CANO: Thank you, Chairman Carter. FPL calls as its next witness Dr. Rosemary Morley.

CHAIRMAN CARTER: Rosemary?

MS. CANO: Morley.

CHAIRMAN CARTER: Morley. Let me find -- just one second, please.

Okay. Rosemary Morley.

MS. CANO: And I don't believe this witness has been sworn yet.

CHAIRMAN CARTER: Okay. Ms. Morley, have you been sworn in?

THE WITNESS: No, I have not.

CHAIRMAN CARTER: Would you please stand and raise your right hand?

DR. ROSEMARY MORLEY

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

You're recognized.

MS. CANO: Thank you.

DIRECT EXAMINATION

BY MS. CANO:

Q Good afternoon, Dr. Morley.

A Good afternoon.

Q Would you please state your name and business address for the record?

A Rosemary Morley, 9250 West Flagler, Miami, Florida 33174.

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

A I'm employed by Florida Power & Light as the Director of Forecasting and Analysis.

Q Have you prepared and filed 20 pages of prefiled direct testimony in Docket 080203-EI?

A Yes, I have.

Q And did you also prepare and file 17 pages of prefiled direct testimony in Docket 080245 and 080246-EI?

A Yes, I have.

Q Did you file any errata to your testimony?

A No, I did not.

Q Do you have any changes or revisions to make to your direct testimony at this time?

A No, I do not.

Q If I were to ask you the same questions contained in your prefiled direct testimony today, would your answers be the same?

A Yes, they would.

MS. CANO: Mr. Chairman, I ask that the prefiled direct testimony of Dr. Morley be inserted into the record as though read.

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

BY MS. CANO:

Q And are you also sponsoring exhibits to your direct testimony?

A Yes, I am.

Q And do those exhibits consist of Exhibits RM-1 through RM-13 in Docket 080203 and RM-1 through RM-13 in Docket 080245 and 080246-EI?

A Yes, they are.

MS. CANO: Mr. Chairman, I would note that Dr. Morley's exhibits have been premarked for identification on staff's exhibit list as Numbers 14 through 26 in Docket 080203 and Numbers 64 through 76 in Dockets 080245 and 246.

CHAIRMAN CARTER: Thank you.

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

FLORIDA POWER & LIGHT COMPANY

TESTIMONY OF DR. ROSEMARY MORLEY

DOCKET NO. 08____-EI

APRIL 8, 2008

Q. Please state your name and business address.

A. My name is Dr. Rosemary Morley, and my business address is 9250 West Flagler, Miami, Florida 33174.

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

A. I am employed by Florida Power & Light Company (FPL) as the 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. Between 1996 and 2007 I was the Rate

Development Manager for FPL. During that time I testified on a number of issues, including the forecast of billing determinants by rate class and the Company's load research studies. I am a member of the National Association of Business Economists and the Institute of Business Forecasting and Planning.

Q. Are you sponsoring any exhibits in this case?

A. Yes. I am sponsoring Exhibits RM-1 through RM-13, which are attached to my direct testimony.

Exhibit RM-1	Total Average Customers
Exhibit RM-2	Summer Peak Load Per Customer (KW)
Exhibit RM-3	Summer Peak Weather
Exhibit RM-4	Florida Real Personal Income
Exhibit RM-5	Real Price of Electricity
Exhibit RM-6	Impact of the 2005 Energy Policy Act
Exhibit RM-7	Lee County Electric Cooperative - Summer Peak
Exhibit RM-8	Summer Peak Load (MW)
Exhibit RM-9	Winter Peak Load Per Customer (KW)
Exhibit RM-10	Winter Peak Load (MW)
Exhibit RM-11	Net Energy for Load Use Per Customer (KWH)
Exhibit RM-12	Lee County Electric Cooperative – Net Energy for Load
Exhibit RM-13	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 present the two load forecasts used in the overall RFP process. I describe the load forecast used in the initial resource need projection (Initial Load Forecast) and the revised load forecast developed in early 2008 (Revised Load Forecast). FPL witness Sim will explain how FPL utilized both forecasts.

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. My testimony shows that FPL is expected to experience continued growth in its customer base between 2008 and 2017. My testimony shows that summer peak demand under the Revised Load Forecast will continue to grow albeit at a somewhat slower rate than that experienced historically. By 2017 the cumulative increase over last year's summer peak demand is projected to be 6,659 MW. Finally, my testimony explains that FPL's net energy for load under the Revised Load Forecast is expected to grow at an annual rate of 3.4% between 2008 and 2017.

FPL'S EXISTING CUSTOMER BASE

Q. Please describe FPL's service territory.

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

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

A. FPL currently serves about 4.5 million customers, as shown on Exhibit RM-1. This amounts to a population of almost 9 million people.

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 planning 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, weather and the price of electricity 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. As discussed later in my testimony, the models used to forecast customer growth, net energy for load and demand vary in terms of the specific independent variables used. However, the assumptions regarding population growth, the economy, weather and the price of electricity are the basic building blocks of the load forecast.

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

A. FPL relies on population projections produced by the University of Florida's Bureau of Economic and Business Research (BEBR). The projected economic conditions are secured from reputable economic forecasting firms such as Global Insight (formerly known as DRI-WEFA). The weather factors are obtained from the National Oceanic and Atmospheric Administration (NOAA). The price of electricity reflects the Commission-approved base rates and adjustment clauses.

Q. What vintage of data did the Initial Load Forecast rely on?

A. For the Initial Load Forecast FPL relied on the load forecast described by FPL witness Green in the Turkey Point Units 6 & 7 Need Determination (Docket No.

070650-EI) with an adjustment for the expected load increases from Lee County Electric Cooperative (Lee County), which I describe later in my testimony. The load forecast described by FPL witness Green in Docket No. 070650-EI was based on BEBR's population projections released in July 2006 and other similarly timed inputs.

Q. What vintage of data did FPL rely on for the Revised Load Forecast?

A. For the Revised Load Forecast, FPL relied on the most recent forecasts of independent variables available at the time the forecast was developed. The BEBR's population projections produced in November 2007 were utilized. Forecasted economic conditions as of November 2007 were obtained from Global Insight. The weather factors reflect actuals as of December 2007. The price of electricity forecast used in the peak and energy forecast is based on the fuel forecast supporting FPL's currently approved clause factors.

Q. Other than the vintage of data and the addition of the expected load increases from Lee County, are there any other differences between the models described by FPL witness Green in Docket No. 070650-EI and those used to develop the Revised Load Forecast?

A. No. The models used in the Revised Load Forecast are consistent with those described by FPL witness Green in Docket No. 070650-EI. In its recommendation in that docket, the Commission Staff stated the following:

> Staff reviewed FPL's forecast assumptions, regression models, and the projected system peak demands and believes they are appropriate for the use in this docket. The forecast assumptions were drawn from independent sources which the Commission has relied upon in prior case. The regression models used to calculate the projected peak demands conform to accepted economic and

statistical practices. Finally, staff believes that the projected peak demands produced by the models appear to be a reasonable extension of historical trends.

The Revised Load Forecast relies on the same forecasting process used in Docket No. 070650-EI.

CUSTOMER GROWTH FORECAST

Q. Please explain the development of FPL's customer growth forecast in the Revised Load Forecast.

A. The growth in 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 relies on population projections produced by BEBR. BEBR typically updates its population projections for the state of Florida on a county-by-county basis once a year. FPL's customer growth forecast in the Revised Load Forecast is based on BEBR's population projections released in November of 2007, the most recent BEBR projections available at the time the forecast was developed.

Q. How do BEBR's November 2007 population projections compare with prior projections?

A. While somewhat lower than prior projections, BEBR's November 2007 population projections continue to show substantial long-term population growth in Florida. Specifically, BEBR's November 2007 projections show a 1.7% annual growth rate in Florida's population between 2008 and 2017. Although the

percentage increase in population is lower than that experienced during the 1980's and 1990's, the absolute numbers remain very large. BEBR's projections show an average annual population increase of 345,223 residents between 2008 and 2017. By contrast, the annual population increase in the last twenty years was 338,096. By 2017 the cumulative increase in the state's population is projected to be 3.4 million above last year's level.

Q. What is FPL's projected customer growth in the Revised Load Forecast?

A. The projected customer growth in the Revised Load Forecast is consistent with BEBR's November 2007 population projections. As shown on Exhibit RM-1, the number of FPL customers is expected to increase at an annual rate of 1.7% between 2008 and 2017. An annual growth rate of 1.7% is predicted for Florida's population during the same time period. Consistent with BEBR's population projections, the absolute increase in the number of FPL customers remains very large. In fact, the annual average customer growth of 80,689 projected for 2008 thru 2017 is higher than the annual average customer growth of 78,692 experienced since 1990.

Q. How does the projected customer growth in the Revised Load Forecast compare with that in the Initial Load Forecast?

A. The customer forecast in the Initial Load Forecast is also shown in Exhibit RM-1. Consistent with the higher population projections assumed at that time, customer growth rates in the Initial Load Forecast are higher than those in the Revised Load Forecast during the 2008-2010 period. After 2010, the annual percentage growth rates in both forecasts are similar. However, due to slower growth rates in the

earlier years, the absolute level of customers remains lower in the Revised Load Forecast.

Q. Is FPL's projected customer growth in the Revised Load Forecast reasonable?

A. Yes. The forecast incorporates the most recent BEBR population projections available at the time the forecast was developed and relies on the forecasting methods previously reviewed and accepted by the Commission.

SUMMER PEAK DEMAND FORECAST

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

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

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, changing patterns of customer behavior (including an increasing stock of electricity-consuming appliances) and more

efficient heating and cooling appliances. FPL has developed peak demand models to capture these behavioral relationships.

The summer peak forecast is developed using an econometric model. The model is a per-customer model that includes: the real price of electricity, Florida real personal income as an economic driver, average temperature on the day of the peak and a heat buildup weather variable consisting of the sum of the cooling degree hours during the peak day and three prior days. The forecasted summer peak usage per customer is shown on Exhibit RM-2. The forecasted summer peak usage per customer is multiplied by the projected total customers to derive an initial estimate of FPL's system summer peak. Adjustments are then made for the 2005 Energy Policy Act and the addition of Lee County's load. The final estimate of FPL's system summer peak is shown on Exhibit RM-8.

Q. What weather assumptions did FPL assume for the summer peak projections in the Revised Load Forecast?

A. FPL uses the average temperature on the day of the peak and the sum of the cooling degree hours during the day of the peak and three prior days in its summer peak projections. In forecasting these weather variables, FPL relies on a normal weather outlook. Normal weather is based on historical averages since 1980. Exhibit RM-3 shows the actual and forecasted values for the two weather variables included in the summer peak per customer model.

Q. What assumptions regarding the economy were assumed for the summer peak projections in the Revised Load Forecast?

Florida's real personal income provided by Global Insight is used as the economic driver in the summer peak projections. Global Insight's forecast shows that real personal income will grow at a somewhat slower rate than that experienced in recent years. Real personal income grew by 4.4% annually between 1982 and 2006 and by 4.3% in the last five years. By comparison, real personal income is forecasted to grow at an annual rate of 4.0% between 2007 and 2017. Exhibit RM-4 shows the actual and forecasted values for Florida's real personal income.

Q. How does the forecast of real personal income utilized in the Revised Load Forecast compare with that utilized in the Initial Load Forecast?

A. For the Initial Load Forecast, FPL relied on economic data available as of July 2006. As described by FPL witness Green in Docket 070650-EI, for its Initial Load Forecast FPL reduced Global Insight's July 2006 forecast of real personal income to more closely reflect its historical rates growth rate. Specifically, FPL assumed an annual growth of 3.0% in real personal income between 2007 and 2017 based on the data available at that time.

Q. Why isn't FPL proposing a similar adjustment to Global Insight's forecast of real personal income in the Revised Load Forecast?

A. The Revised Load Forecast utilizes Global Insight's November 2007 forecast of real personal income. Global Insight's November 2007 forecast is significantly lower than its July 2006 forecast and the more recent forecast is not high relative to historical growth rates. In its July 2006 forecast, Global Insight was projecting increases in real personal income of 4.9% and 5.3% for 2008 and 2009 respectively. By contrast, in the Revised Load Forecast Global Insight is

projecting growth of 3.8% and 4.3% in 2008 and 2009. Over the longer term, Global Insight's forecast in the Revised Load Forecast shows a 4.0% growth rate between 2007 and 2017, which is less that the 4.3% growth rate experienced in the last five years. In addition, the actual 2006 real personal income has been revised upward and is higher than that assumed in the Initial Load Forecast. On balance, Global Insight's November 2007 forecast of real personal income appears reasonable so no adjustment to that forecast is needed.

Q. What assumptions regarding the price of electricity were assumed for the summer peak projections in the Revised Load Forecast?

The real price of electricity assumed is shown in Exhibit RM-5. The forecast shows that the real price of electricity is projected to decline by 0.9% annually between 2008 and 2017. This forecast reflects fuel factors approved by the Commission in November 2007.

Q. What impact did the 2005 Energy Policy Act have on the summer peak projections in the Revised Load Forecast?

A. In 2005, Congress passed the Energy Policy Act mandating certain appliance efficiency standards and insulation for new construction, which is expected to reduce electricity demand in the future. FPL estimated the 2005 Energy Policy Act would reduce the projected peak demand by approximately 387 MW in 2008 to as much as 1,256 MW in the year 2014. The annual estimated impact of the 2005 Energy Policy Act is shown on Exhibit RM-6. To arrive at FPL's projected peak demand values in the Revised Load Forecast the estimated impact from the

2005 Energy Policy Act was deducted as line item adjustments from the originally projected peaks for the corresponding years.

Q. Why is FPL adjusting its summer peak projections for Lee County?

A. FPL is projected to begin providing electric service to Lee County in 2010. Lee County is 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 will provide partial requirements service to two of the three Lee County delivery points, which serve approximately 25 percent of Lee County's load, for the term January 1, 2010 through December 31, 2013. Lee County's peak load requirement will be approximately 200 MW during this first phase. In the long-term phase, which commences in January 2014, FPL will serve Lee County's full retail load. During this second phase, Lee County's peak load requirement will initially be about 900 MW, growing annually thereafter. Because Lee County's load is not reflected in FPL's historical loads, a line item adjustment was made to the summer peak forecast to account for this load. Exhibit RM-7 shows the amount of Lee County's annual summer peak load projected to be served by FPL.

Q. How will the power sales to Lee County affect FPL's retail customers?

A. FPL expects costs to retail customers to be lower over the term of the contract as result of the Lee County power sales than they would otherwise be. This is because, among other reasons, service under the Lee County contract will result in the allocation of a smaller share of total system costs to serving FPL's retail

customers. On balance, FPL's retail customers would not be disadvantaged and, in fact, are expected to be better off as a result of the Lee County power sales.

Q. Were the same adjustments for the 2005 Energy Policy Act and Lee County made in the Revised Load Forecast also made in the Initial Load Forecast?

A. Yes.

Q. What is FPL's projected summer peak demand in the Revised Load Forecast?

A. As shown on Exhibit RM-8, FPL is projecting an annual increase of 2.8% in the summer peak demand between 2008 and 2017. This growth rate reflects the projected increases in the number of customers and in use per customer, as well as the adjustments for the 2005 Energy Policy Act and Lee County discussed above. While the projected percentage growth is slower than that experienced historically, the absolute level of growth remains very large. An annual increase of 696 MW is projected between 2008 and 2017. By 2017, the cumulative increase over last year's summer peak demand is projected to be 6,659 MW.

Q. How does FPL's summer peak demand forecast in its Revised Load Forecast compare with that developed in the Initial Load Forecast?

A. The summer peak demand forecasts developed in both the Initial Load Forecast and the Revised Load Forecast are shown in Exhibit RM-8. Both forecasts have similar percentage growth rates between 2008 and 2017. In the Initial Load Forecast, FPL's summer peak demand was projected to grow at an annual rate of 2.7% between 2008 and 2017 while the Revised Load Forecast shows an annual growth rate of 2.8% during the same period. Nevertheless, the absolute level of

the summer peak demand is consistently lower in the Revised Load Forecast because the peak demands in the first years of the forecast are projected to be lower in the Revised Load Forecast than in the Initial Load Forecast.

Q. Is FPL's projected summer peak demand in the Revised Load Forecast reasonable?

A. Yes. FPL's projected summer peak demand is based on reasonable assumptions, is consistent with historical experience, and relies on the forecasting methods previously reviewed and accepted by the Commission.

WINTER AND MONTHLY PEAK DEMAND FORECASTS

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

A. Like the system summer peak model, the winter peak model is also an econometric model. The winter peak model is a per-customer model that includes two weather-related variables: the square of the minimum temperature on the peak day and heating degree hours from the prior day until 9:00 a.m. of the peak day. In addition, the model also has an economic term, Florida real personal income. The winter peak usage per customer is shown on Exhibit RM-9. The projected winter peak load per customer value is multiplied by the total customers to derive FPL's system winter peak as shown on Exhibit RM-10.

Q. What is FPL's projected winter peak demand in the Revised Load Forecast?

A. The winter peak grows from 16,815 MW in 2007 to 28,418 MW in 2017 or 11,603 MW in absolute terms as shown in Exhibit RM-10. The apparent

accelerated growth in the winter peak forecast is a reflection of the fact that in the 2007 winter season, FPL's service territory did not experience a "normal" winter peak.

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

A. The forecasting process consists of the following:

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

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

Q. Are FPL's winter peak demand and monthly peak demand forecasts reasonable for planning purposes?

A. Yes. FPL's winter peak demand and monthly peak demand forecasts are based on reasonable assumptions, are consistent with historical experience, and rely on the forecasting methods previously reviewed and accepted by the Commission.

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 does not have to be attuned to account for billing cycle adjustments, which might distort the real time match between the production and consumption of electricity.

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

A. The model used to forecast net energy for load is a per-customer model that includes: the real price of electricity, Florida real personal income as an economic driver, cooling degree hours and heating degree hours.

Q. What has been FPL's recent net energy per customer?

A. Net energy per customer declined by 0.4% in 2006 and by another 0.9% in 2007. Mild weather and a substantial increase in the price of electricity contributed to these declines. In addition, the current housing slump may be depressing consumer spending for many goods, including electricity. The downturn in housing is a cyclical phenomenon and most experts predict the state's housing sector will begin to rebound within the next twelve months.

Q. What is FPL's projected net energy per customer in the Revised Load Forecast?

A. FPL's net energy per customer model shows an annual growth rate of 1.4% between 2008 and 2017. This projected rate of growth is a function of long-run economic growth and projected declines in the real price of electricity, in addition to an assumption of normal weather.

Q. How does FPL's projected net energy per customer in the Revised Load Forecast compare historically?

A. FPL's projected growth in net energy per customer in the Revised Load Forecast is higher than the 0.5% annual growth rate in net energy per customer experienced between 1980 and 2007. However, historical growth rates in net energy per customer ending in 2007 or 2006 are heavily influenced by the substantial increase in electricity prices experienced in 2006. By contrast, periods of declining electricity prices have typically been accompanied by faster increases in net energy per customer. For example, net energy per customer grew at 1.5% annually during the mid-1990's and early 2000's, the most recent period of generally declining electricity prices. The projected growth in net energy per customer in the Revised Load Forecast is consistent with the growth in net energy per customer experienced during this historical period of declining prices.

Q. How is FPL's projected net energy per customer converted into a forecast of net energy for load?

A. A preliminary estimate of net energy for load is developed by multiplying FPL's projected net energy for load per customer by the customer forecast. An

adjustment is then made to reflect the additional net energy for load resulting from sales to Lee County. Exhibit RM-12 shows the contribution to net energy for load attributed to Lee County.

Q. What is FPL's projected net energy for load in the Revised Load Forecast?

A. FPL's projected net energy for load is expected to grow at rates similar to those experienced historically. As shown in Exhibit RM-13, FPL is projecting a 3.4% annual growth rate in net energy for load between 2008 and 2017. This projected annual growth in net energy for load reflects a somewhat slower rate of customer growth combined with additional load from Lee County. As a result, the projected growth rate is only slightly higher than the 3.2% annual growth rate experienced between 1980 and 2007. 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 4,654 GWh between 2008 and 2017 versus an annual increase of 2,439 GWh experienced between 1980 and 2007.

Q. How does FPL's projected net energy for load in the Revised Load Forecast compare with that in the Initial Load Forecast?

A. The projected long-run percentage growth rates are very similar in both the Revised Load Forecast and the Initial Load Forecast. The Revised Load Forecast shows a 3.4% annual growth rate in net energy for load between 2008 and 2017 while the Initial Load Forecast shows a 3.3% annual growth rate during the same period. Nevertheless, the absolute level of net energy for load is somewhat lower

in the Revised Load Forecast due to a lower forecasted net energy for load in 2008.

Q. Are FPL's projected net energy for load in the Revised Load Forecast reasonable?

A. Yes. FPL's projected net energy for load are based on reasonable assumptions, are consistent with historical experience, and rely on the forecasting methods previously reviewed and accepted by the Commission. A forecast is considered reasonable if good judgment is used in estimating (availing oneself of the appropriate and most credible assumptions on hand) and testing the model and if the results or outputs make sense when compared to prior similar situations. FPL followed this approach in preparing the forecast.

The models employed by FPL have good descriptive statistics with high degrees of statistical significance. FPL is confident that the relationship that exists between the level of net energy for load and the economy, weather, customers, price of electricity, 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

TESTIMONY OF DR. ROSEMARY MORLEY

DOCKET NO. 08____-EI

APRIL 30, 2008

Q. Please state your name and business address.

A. My name is Dr. Rosemary Morley, and my business address is 9250 West Flagler, Miami, Florida 33174.

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

A. I am employed by Florida Power & Light Company (FPL) as the 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. Between 1996 and 2007, I was the Rate

Development Manager for FPL. During that time I testified on a number of issues, including the forecast of billing determinants by rate class and the Company's load research studies. I am a member of the National Association of Business Economists and the Institute of Business Forecasting and Planning.

Q. Are you sponsoring any exhibits in this case?

A. Yes. I am sponsoring Exhibits RM-1 through RM-13, which are attached to my direct testimony.

Exhibit RM-1	Total Average Customers
Exhibit RM-2	Summer Peak Load Per Customer (KW)
Exhibit RM-3	Summer Peak Weather
Exhibit RM-4	Florida Real Personal Income
Exhibit RM-5	Real Price of Electricity
Exhibit RM-6	Impact of the 2005 Energy Policy Act
Exhibit RM-7	Lee County Electric Cooperative - Summer Peak
Exhibit RM-8	Summer Peak Load (MW)
Exhibit RM-9	Winter Peak Load Per Customer (KW)
Exhibit RM-10	Winter Peak Load (MW)
Exhibit RM-11	Net Energy for Load Use Per Customer (KWH)
Exhibit RM-12	Lee County Electric Cooperative – Net Energy for Load
Exhibit RM-13	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 present the load forecast used in this filing.

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. My testimony shows that FPL is expected to experience continued growth in its customer base between 2008 and 2017. My testimony shows that summer peak demand is projected to continue to grow albeit at a somewhat slower rate than that experienced historically. By 2017 the cumulative increase over last year's summer peak demand is projected to be 6,659 MW. Finally, my testimony explains that FPL's net energy for load is expected to grow at an annual rate of 3.4% between 2008 and 2017.

FPL'S EXISTING CUSTOMER BASE

Q. Please describe FPL's service territory.

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

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

A. FPL currently serves about 4.5 million customers, as shown on Exhibit RM-1. This amounts to a population of almost 9 million people.

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 planning 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, weather and the price of electricity 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. As discussed later in my testimony, the models used to forecast customer growth, net energy for load and demand vary in terms of the specific independent variables used. However, the assumptions regarding population growth, the economy, weather and the price of electricity are the basic building blocks of the load forecast.

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

A. FPL relies on population projections produced by the University of Florida's Bureau of Economic and Business Research (BEBR). The projected economic conditions are secured from reputable economic forecasting firms such as Global Insight (formerly known as DRI-WEFA). The weather factors are obtained from the National Oceanic and Atmospheric Administration (NOAA). The price of electricity reflects the Commission-approved base rates and adjustment clauses.

Q. What vintage of data did FPL rely on for the load forecast utilized in this filing?

A. FPL relied on the most recent forecasts of independent variables available at the time the forecast was developed. The BEBR's population projections produced in November 2007 were utilized. Forecasted economic conditions as of November 2007 were obtained from Global Insight. The weather factors reflect actuals as of December 2007. The price of electricity forecast used in the peak and energy forecast is based on the fuel forecast supporting FPL's currently approved clause factors.

Q. Is the load forecast utilized in this filing based on the same methodology used in prior filings?

A. Yes. The load forecast utilized in this filing is based on the same methodology reviewed and accepted by the Commission in Docket No. 070650-EI, Petition to determine need for Turkey Point Nuclear Units 6 and 7 electrical power plant, by Florida Power & Light Company.

Q. Has the load forecast utilized in this filing been used in another filing?

A. Yes. The load forecast utilized in this filing was also utilized in Docket No. 080203 –EI, Petition to determine need for West County Energy Center Unit 3 electrical power plant, by Florida Power & Light Company, where it was referred to as the Revised Load Forecast.

CUSTOMER GROWTH FORECAST

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

A. The growth in customers in FPL's service territory is 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 relies on population projections produced by BEBR. BEBR typically updates its population projections for the state of Florida on a county-by-county basis once a year. FPL's customer growth forecast is based on BEBR's population projections released in November of 2007, the most recent BEBR projections available at the time the forecast was developed.

Q. How do BEBR's November 2007 population projections compare with prior projections?

A. While somewhat lower than prior projections, BEBR's November 2007 population projections continue to show substantial long-term population growth in Florida. Specifically, BEBR's November 2007 projections show a 1.7% annual growth rate in Florida's population between 2008 and 2017. Although the percentage increase in population is lower than that experienced during the 1980's and 1990's, the absolute numbers remain very large. BEBR's projections show an average annual population increase of 345,223 residents between 2008 and 2017. By contrast, the annual population increase in the last twenty years was 338,096. By 2017 the cumulative increase in the state's population is projected to be 3.4 million above last year's level.

Q. What is FPL's projected customer growth?

A. The projected customer growth is consistent with BEBR's November 2007 population projections. As shown on Exhibit RM-1, the number of FPL customers is expected to increase at an annual rate of 1.7% between 2008 and 2017. An annual growth rate of 1.7% is predicted for Florida's population during the same time period. Consistent with BEBR's population projections, the absolute increase in the number of FPL customers remains very large. In fact, the annual average customer growth of 80,689 projected for 2008 thru 2017 is higher than the annual average customer growth of 78,692 experienced since 1990.

Q. Is FPL's projected customer growth reasonable?

A. Yes. The forecast incorporates the most recent BEBR population projections available at the time the forecast was developed and relies on the forecasting methods previously reviewed and accepted by the Commission.

SUMMER PEAK DEMAND FORECAST

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

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

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, changing patterns of customer behavior (including an increasing stock of electricity-consuming appliances) and more efficient heating and cooling appliances. FPL has developed peak demand models to capture these behavioral relationships.

The summer peak forecast is developed using an econometric model. The model is a per-customer model that includes: the real price of electricity, Florida real personal income as an economic driver, average temperature on the day of the peak and a heat buildup weather variable consisting of the sum of the cooling degree hours during the peak day and three prior days. The forecasted summer peak usage per customer is shown on Exhibit RM-2. The forecasted summer peak usage per customer is multiplied by the projected total customers to derive an initial estimate of FPL's system summer peak. Adjustments are then made for the 2005 Energy Policy Act and the addition of Lee County's load. The final estimate of FPL's system summer peak is shown on Exhibit RM-8.

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

A. FPL uses the average temperature on the day of the peak and the sum of the cooling degree hours during the day of the peak and three prior days in its summer peak projections. In forecasting these weather variables, FPL relies on a normal weather outlook. Normal weather is based on historical averages since 1980. Exhibit RM-3 shows the actual and forecasted values for the two weather variables included in the summer peak per customer model.

Q. What assumptions regarding the economy were assumed for the summer peak projections?

A. Florida's real personal income provided by Global Insight is used as the economic driver in the summer peak projections. Global Insight's forecast shows that real personal income will grow at a somewhat slower rate than that experienced in

recent years. Real personal income grew by 4.4% annually between 1982 and 2006 and by 4.3% in the last five years. By comparison, real personal income is forecasted to grow at an annual rate of 4.0% between 2007 and 2017. Exhibit RM-4 shows the actual and forecasted values for Florida's real personal income.

Q. What assumptions regarding the price of electricity were assumed for the summer peak projections?

A. The real price of electricity assumed is shown in Exhibit RM-5. The forecast shows that the real price of electricity is projected to decline by 0.9% annually between 2008 and 2017. This forecast reflects fuel factors approved by the Commission in November 2007.

Q. What impact did the 2005 Energy Policy Act have on the summer peak projections?

A. In 2005, Congress passed the Energy Policy Act mandating certain appliance efficiency standards and insulation for new construction, which is expected to reduce electricity demand in the future. FPL estimated the 2005 Energy Policy Act would reduce the projected peak demand by approximately 387 MW in 2008 to as much as 1,256 MW in the year 2014. The annual estimated impact of the 2005 Energy Policy Act is shown on Exhibit RM-6. To arrive at FPL's projected peak demand values the estimated impact from the 2005 Energy Policy Act was deducted as line item adjustments from the originally projected peaks for the corresponding years.

Q. Why is FPL adjusting its summer peak projections for Lee County?

A. FPL is projected to begin providing electric service to Lee County in 2010. Lee County is 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 will provide partial requirements service to two of the three Lee County delivery points, which serve approximately 25 percent of Lee County's load, for the term January 1, 2010 through December 31, 2013. Lee County's peak load requirement will be approximately 200 MW during this first phase. In the long-term phase, which commences in January 2014, FPL will serve Lee County's full retail load. During this second phase, Lee County's peak load requirement will initially be about 900 MW, growing annually thereafter. Because Lee County's load is not reflected in FPL's historical loads, a line item adjustment was made to the summer peak forecast to account for this load. Exhibit RM-7 shows the amount of Lee County's annual summer peak load projected to be served by FPL.

Q. How will the power sales to Lee County affect FPL's retail customers?

A. FPL expects costs to retail customers to be lower over the term of the contract as result of the Lee County power sales than they would otherwise be. This is because, among other reasons, service under the Lee County contract will result in the allocation of a smaller share of total system costs to serving FPL's retail customers. On balance, FPL's retail customers would not be disadvantaged and, in fact, are expected to be better off as a result of the Lee County power sales.

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

A. As shown on Exhibit RM-8, FPL is projecting an annual increase of 2.8% in the summer peak demand between 2008 and 2017. This growth rate reflects the projected increases in the number of customers and in use per customer, as well as the adjustments for the 2005 Energy Policy Act and Lee County discussed above. While the projected percentage growth is slower than that experienced historically, the absolute level of growth remains very large. An annual increase of 696 MW is projected between 2008 and 2017. By 2017, the cumulative increase over last year's summer peak demand is projected to be 6,659 MW.

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

A. Yes. FPL's projected summer peak demand is based on reasonable assumptions, is consistent with historical experience, and relies on the forecasting methods previously reviewed and accepted by the Commission.

WINTER AND MONTHLY PEAK DEMAND FORECASTS

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

A. Like the system summer peak model, the winter peak model is also an econometric model. The winter peak model is a per-customer model that includes two weather-related variables: the square of the minimum temperature on the peak day and heating degree hours from the prior day until 9:00 a.m. of the peak day. In addition, the model also has an economic term, Florida real personal income. The winter peak usage per customer is shown on Exhibit RM-9. The

projected winter peak load per customer value is multiplied by the total customers to derive FPL's system winter peak as shown on Exhibit RM-10.

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

A. The winter peak grows from 16,815 MW in 2007 to 28,418 MW in 2017 or 11,603 MW in absolute terms as shown in Exhibit RM-10. The apparent accelerated growth in the winter peak forecast is a reflection of the fact that in the 2007 winter season, FPL's service territory did not experience a "normal" winter peak.

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

A. The forecasting process consists of the following:

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

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

Q. Are FPL's winter peak demand and monthly peak demand forecasts reasonable for planning purposes?

A. Yes. FPL's winter peak demand and monthly peak demand forecasts are based on reasonable assumptions, are consistent with historical experience, and rely on the forecasting methods previously reviewed and accepted by the Commission.

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 does not have to be attuned to account for billing cycle adjustments, which might distort the real time match between the production and consumption of electricity.

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

A. The model used to forecast net energy for load is a per-customer model that includes: the real price of electricity, Florida real personal income as an economic driver, cooling degree hours and heating degree hours.

Q. What has been FPL's recent net energy per customer?

A. Net energy per customer declined by 0.4% in 2006 and by another 0.9% in 2007. Mild weather and a substantial increase in the price of electricity contributed to these declines. In addition, the current housing slump may be depressing consumer spending for many goods, including electricity. The downturn in housing is a cyclical phenomenon and most experts predict the state's housing sector will begin to rebound within the next twelve months.

Q. What is FPL's projected net energy per customer?

A. FPL's net energy per customer model shows an annual growth rate of 1.4% between 2008 and 2017. This projected rate of growth is a function of long-run economic growth and projected declines in the real price of electricity, in addition to an assumption of normal weather.

Q. How does FPL's projected net energy per customer compare historically?

A. FPL's 1.4% projected growth in net energy per customer between 2008 and 2017 is consistent with the long-run growth in net energy per customer experienced prior to 2004. Net energy per customer grew at an annual rate of 1.5% between 1993 and 2003.

Q. Should net energy per customer since 2004 be included in your historical comparisons?

A. No. Historical growth rates in net energy per customer ending in 2007 or 2006 are heavily influenced by the substantial increase in electricity prices experienced in 2006. Likewise, two unusually active hurricane seasons in 2004 and 2005 depressed net energy use per customer in 2004 and 2005.

Q. How is FPL's projected net energy per customer converted into a forecast of net energy for load?

A. A preliminary estimate of net energy for load is developed by multiplying FPL's projected net energy for load per customer by the customer forecast. An adjustment is then made to reflect the additional net energy for load resulting from sales to Lee County. Exhibit RM-12 shows the contribution to net energy for load attributed to Lee County.

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

A. FPL's projected net energy for load is expected to grow at rates similar to those experienced historically. As shown in Exhibit RM-13, FPL is projecting a 3.4% annual growth rate in net energy for load between 2008 and 2017. This projected annual growth in net energy for load reflects a somewhat slower rate of customer growth combined with additional load from Lee County. As a result, the projected growth rate is only slightly higher than the 3.2% annual growth rate experienced between 1980 and 2007. 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 4,654 GWh between 2008 and 2017 versus an annual increase of 2,439 GWh experienced between 1980 and 2007.

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

A. Yes. FPL's projected net energy for load is based on reasonable assumptions, is consistent with historical experience, and rely on the forecasting methods previously reviewed and accepted by the Commission. A forecast is considered

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

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

Q. Does this conclude your direct testimony?

A. Yes.

BY MS. CANO:

Q Have you prepared a summary of your direct testimony?

A Yes, I have.

Q Would you please provide that at this time?

A Yes. Good afternoon, Commissioners. The purpose of my testimony is to address the load forecasts FPL utilized in evaluating the need for the West County Energy Center Unit 3 and for the Cape Canaveral and Riviera Beach conversions.

Specifically my testimony supports the company's forecast of customers, peak demands and energy sales through 2017. In developing these forecasts, FPL relied on the methodologies the Commission has reviewed and accepted in past cases. We also incorporated the most current inputs available, the most current inputs available at the time the forecast was developed, relying on recognized industry experts such as the University of Florida.

Our forecast shows that FPL will continue to experience a growing customer base in the years ahead. Population growth is a primary driver behind our customer forecast. Despite the cyclical downturn we are currently experiencing, demographic experts tell us that the state's population will continue to expand. Population growth in absolute numbers will remain large even if the percentage increases are somewhat smaller than we have experienced in the past. Consistent with these population projections, FPL is

forecasting an annual increase of at least 1.5 percent in our customers between now and 2017. This amounts to adding over 70,000 customers per year. A larger customer base along with the economy's growing demand for electricity will contribute to higher peak loads in the future. We are forecasting an annual increase in the summer peak load of more than 2.5 percent between now and 2017. This amounts to an average increase of more than 600 megawatts per year. By 2017 FPL's summer peak is projected to reach about 28,000 megawatts or a cumulative increase of more than 6,000 megawatts over last year.

Moreover, these projections reflect the higher efficiency standards mandated by the 2005 National Energy Policy Act. Just as FPL is projected to experience increases in its customer base and summer peak demands, a similar pattern of long-run growth is projected for the company's winter peak load and energy sales.

In conclusion, FPL relied on the methodologies reviewed and accepted in past cases and on the most current inputs available from trusted sources in developing our load forecast. This forecast calls for positive long-run growth in FPL's customer base, peak demands and energy sales. This concludes my summary.

MS. CANO: Thank you. This witness is available for questioning.

CHAIRMAN CARTER: Thank you, Ms. Cano.

Commissioner Skop, you're recognized.

COMMISSIONER SKOP: Thank you, Mr. Chairman.

Dr. Morley, I just had a few questions. And, again, I'm not an economist, but I just wanted to -- I saw some things that caught my eye.

At least on Page 10 of the prefiled testimony for the conversion projects, it stated in the response to the question beginning on Line 5 and the answer beginning on Line 7, starting with Line 8, "The forecast shows that the real price of electricity is projected to decline by .9 percent annually between 2008 and 2017." And maybe there's an economic reason for that or maybe I'm looking at it, but it seems to me that electric prices are going up, unless that's inflation, some sort of inflation adjusted rate or something like that. But I just wanted to get some clarification on that point.

THE WITNESS: Yes, it is an inflation adjusted rate and it is consistent with the fuel factors as approved in November of 2007.

COMMISSIONER SKOP: Okay. And moving on to some of the assumptions that are beginning in the exhibits, and it's going to take me a second to kind of page through these, how sensitive just generally are these assumptions that are made, and I know they're based on economic data and other data, but how sensitive are these assumptions in terms of a sensitivity analysis to the analysis that was done to show the cumulative

present value revenue requirement? For instance, if these parameters changed slightly, what would the impacts, the associated impacts be, or was any analysis done in that regard?

THE WITNESS: If I could clarify when you're talking about the present value analysis, are you referring to the benefits of the West County Unit?

COMMISSIONER SKOP: Just in general, generally speaking. I mean, I read the analysis and I guess it segued, talked about how the growth and the loads and all these factors kind of played into the screening analysis tool that was used. And so I'm kind of wondering how sensitive the model is to the assumptions that were used within your testimony.

THE WITNESS: If you're speaking about how sensitive the net present value of the benefits of the units are, I think that would probably be better addressed to Dr. Sim.

COMMISSIONER SKOP: Okay. Thank you. And moving forward, I guess I'm trying to find the page, on Exhibit RM-4 it shows Florida real personal income, and the forecast beginning in 2007 through, I guess, 2013 shows growth of about 4 percent or more per year. Is that a realistic assumption in terms of income growth? I mean, given the state of the economy and the fact that raises and such like that, at least for the state, the state is not receiving any raises this year, so if our population of state workers were part of the demographic, I don't think that would hold true. But I just wanted to get

some insight on that.

THE WITNESS: Yes, it is a realistic forecast. It's provided by Global Insight, which is a recognized leader in providing that type of information.

I would also note that the forecast calls this year for income growth of 3.8 percent, and that does represent a significant slowdown from what we've seen in the past couple of years where we've seen income growth of 6 and 7 percent. So it is slower growth but growth nonetheless, and it is provided by a reputable source.

COMMISSIONER SKOP: Okay. And then going back to the attachment on RM-5, the real price of electricity for the forecast, I guess 2007 through 20 -- I mean, the forecast is 2008 through 2017, and then I guess on Page 10 they talked about the real price of electricity is projected to decline by .9 percent. I guess I'm trying to understand how that correlates to the numbers shown on that exhibit because the numbers, unless it's a summation of those numbers -- I'm just trying to make some sense of that. Is that an averaging or summation of those numbers?

THE WITNESS: If -- to make sure I'm on the same page you are, we're on RM-5.

COMMISSIONER SKOP: RM-5.

THE WITNESS: And if you look down where it says "Forecast" --

COMMISSIONER SKOP: Yes, ma'am.

THE WITNESS: -- it has a decline of .04, and that's a decline of .9 percent. That's based on taking the difference between the forecasted number from 2008, which is 5.1, and the number for 2017, which is 4.62. So that's a decline on a compound annual basis.

COMMISSIONER SKOP: Okay. So it's not a summation over that period, it's just basically the difference between the starting point and ending point; is that correct?

THE WITNESS: On a compound annual basis, yes.

COMMISSIONER SKOP: All right. Thank you. And moving on -- and, again, I think my questions are some of the same ones that maybe Commissioner Argenziano kind of was looking at earlier or she requested the updated data.

In terms of on RM-9 where it shows winter peak load per customer for the forecast for 2008 and shows a growth of 31.1 percent but the follow on numbers are substantially much lower, is that a typo?

THE WITNESS: No, it isn't a typo. What happened is, with our winter peak is we do not always have a true cold weather winter peak. When we have mild weather, as we did in 2007, in terms of the winter peak you can get a big bump up.

COMMISSIONER SKOP: Okay. And moving forward to RM-10, is that also the same typo that exists on the winter peak load, 32.8 percent down for 2008 for the forecast?

THE WITNESS: To clarify, it's not a typo. The reason it appears large for 2008 is because we did not have a true cold weather peak in 2007.

COMMISSIONER SKOP: Okay. I'm sorry. Okay. I'm sorry. Sometimes it's hard to hear, and we're trying to resolve that, that issue.

That may be the only remaining question that I had. I just wanted to get some clarification on the assumptions and the data set. Thank you very much.

THE WITNESS: You're welcome.

CHAIRMAN CARTER: Commissioner Argenziano, you're recognized.

COMMISSIONER ARGENZIANO: Thank you. I think really just one, and it goes to the projections of growth that you used. I guess the only ones you used were from the University of Florida. Was there any other contributed?

THE WITNESS: For -- I'm sorry.

COMMISSIONER ARGENZIANO: I'm sorry. Go ahead.

THE WITNESS: For population we rely on the University of Florida, which is the recognized standard in the industry. For our other economic inputs we relied on Global Insight, who is like a leading firm in the area. For population we obtained the most recent forecasts from the University of Florida available at the time we did the forecast, and that was the November 2007 projections from the

University of Florida.

COMMISSIONER ARGENZIANO: Do you recall -- and it was geared just for FPL's area, for that, just that area or for the whole state projection?

THE WITNESS: It is for the whole state. What we do in order to come up with our customer forecast, we have a model. It's an econometric model. It relies on Florida population in order to come up with our projections of customers. We find it's a very, very good statistical fit.

COMMISSIONER ARGENZIANO: And that's what you've used in the past?

THE WITNESS: That's correct.

COMMISSIONER ARGENZIANO: And how far off the mark, or were you dead-on in the past?

THE WITNESS: In general with customers we tend to be within about a half a percent on a year-ahead basis, so I think it's a pretty good --

COMMISSIONER ARGENZIANO: Okay. And one other question. Do you recall the numbers from the University of Florida -- I don't have it, I plan to get it -- what the projection was per day of new residents?

THE WITNESS: Per day?

COMMISSIONER ARGENZIANO: What the numbers were. Obviously there was a projection. I don't know how they break it down. Usually it's, you hear that 1,000 people are moving

in every day to Florida.

THE WITNESS: Yeah.

COMMISSIONER ARGENZIANO: That's not so true anymore. But I just didn't know what the numbers were on the years corresponding on the chart.

THE WITNESS: I'm not sure I'm good at dividing by 365 in my head.

COMMISSIONER ARGENZIANO: That's all right.

THE WITNESS: But the projection from November from the University of Florida was for about 340,000 customers per year on average between 2008 and 2017.

COMMISSIONER ARGENZIANO: And they did not differentiate geographically where in the state that growth was taking place?

THE WITNESS: Not in that forecast, no.

COMMISSIONER ARGENZIANO: Okay. Okay. Thank you.

CHAIRMAN CARTER: Thank you, Commissioners. Anything further?

Staff?

MS. BROWN: No questions.

CHAIRMAN CARTER: Ms. Cano?

MS. CANO: No questions. Thank you.

CHAIRMAN CARTER: Okay. Let's deal with exhibits.

MS. CANO: Yes, please. The exhibits have been marked as 14 through 26 and 64 through --

CHAIRMAN CARTER: Exhibits 14 through 26, are there any objections? No objections. Show it done.

(Exhibits 14 through 26 admitted into the record.)

MS. CANO: And we'd also like to move in Exhibits 64 through 76.

CHAIRMAN CARTER: Exhibits 64 through 76, any objections? No objections. Show it done.

(Exhibits 64 through 76 admitted into the record.)

The witness may be excused.

THE WITNESS: Thank you.

CHAIRMAN CARTER: You may call your next witness.

MS. CANO: FPL calls as its next witness Heather Stubblefield.

CHAIRMAN CARTER: Ms. Stubblefield, Heather Stubblefield. Hang on a second, please.

MS. CANO: This witness has not yet --

CHAIRMAN CARTER: You may proceed.

MS. CANO: This witness has not yet been sworn.

CHAIRMAN CARTER: Ms. Stubblefield, would you please stand and raise your right hand?

HEATHER C. STUBBLEFIELD

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

CHAIRMAN CARTER: Ms. Cano, you're recognized.

MS. CANO: Thank you.

DIRECT EXAMINATION

BY MS. CANO:

Q Would you please state your name and business address for the record?

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

Q By whom are you employed and in what capacity?

A I'm employed by Florida Power & Light and as Manager of Project Development.

Q Have you prepared and filed 11 pages of prefiled direct testimony in Docket 080203-EI?

A Yes, I have.

Q And did you also prepare and file nine pages of prefiled direct testimony in Docket 080245 and 080246-EI?

A Yes, I did.

Q Did you file any errata to your testimony?

A No, I did not.

Q Do you have any changes or revisions to make to your prefiled direct testimony at this time?

A No, I do not.

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

A Yes.

MS. CANO: Mr. Chairman, I ask that the prefiled

direct testimony of Ms. Stubblefield be inserted into the record as though read.

CHAIRMAN CARTER: The prefiled testimony will be inserted into the record as though read.

BY MS. CANO:

Q Are you also sponsoring exhibits to your direct testimony?

A Yes, I am.

Q And do those exhibits consist of four pages in HCS-1 in Docket 080203 and four pages in HCS-1 in Dockets 080245 and 080246-EI?

A Yes.

MS. CANO: Mr. Chairman, I would note that Ms. Stubblefield's exhibits have been premarked for identification on staff's exhibit list as Number 27 in Docket 080203 and as Number 77 in the conversion dockets.

CHAIRMAN CARTER: Thank you. You may proceed.

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

FLORIDA POWER & LIGHT COMPANY

DIRECT TESTIMONY OF HEATHER C. STUBBLEFIELD

DOCKET NO. 08_____-EI

APRIL 8, 2008

Q. Please state your name and 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 is your position?

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

Q. Please summarize 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 (LNG) initiatives. In 2005, I transferred to the Energy Marketing and Trading division of FPL to support project development activities.

Q. Please describe your duties and responsibilities as they relate to this docket.

A. In my current position, I am responsible for evaluating gas transportation

alternatives for FPL's 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. Are you sponsoring any exhibits in this case?

A. Yes. I am sponsoring Exhibit HCS-1, FPL's Fuel Cost 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 self-build options to determine the best, most cost-effective next planned generating unit (NPGU) and in the evaluation of the NPGU and proposals received in response to FPL's 2007 Request for Proposals (RFP) for firm capacity beginning in the June 2011 to June 2012 time frame; (2) the proposed fuel and fuel transportation for West County Energy Center Unit 3 (WCEC 3); (3) the firm natural gas transportation cost assumptions used by FPL in the RFP evaluation; and (4) the improvement in system efficiency and resulting fuel cost savings realized by the addition of WCEC 3 in June 2011 as opposed to delaying a capacity addition until June 2013 when additional capacity would be needed to meet the 20% reserve margin criterion.

Q. Please summarize your testimony.

A. FPL's fossil fuel price forecast reflects the projected supply, demand and price for fuel oil, natural gas, coal, and petroleum coke, as well as, the transportation of these fuels to the existing and proposed sites. FPL's long-term fossil fuel

price forecast is reasonable for the evaluation of FPL's NPGU and proposals received in response to the RFP. This fuel price forecast was also used in FPL's recent nuclear uprates need filing (Docket No. 070602) and in FPL's recent need filing for two new nuclear units at Turkey Point (Docket No. 070650).

WCEC 3 will burn natural gas as its primary fuel source. FPL will supply natural gas to WCEC 3 by utilizing its existing firm transportation rights on the Gulfstream Natural Gas System's (Gulfstream) pipeline. In order to maintain the deliverability of natural gas to FPL's existing facilities, FPL will acquire sufficient additional firm natural gas transportation capacity on the Florida Gas Transmission System (FGT) pipeline. Contracting for firm transportation with FGT instead of acquiring additional transportation on Gulfstream offered FPL two distinct advantages: (1) FGT's proposal for expansion was more cost-effective; and (2) FGT's proposal for expansion provided more flexibility for moving natural gas around FGT's system, which has the capability to deliver gas to all of FPL's generation facilities with the exception of the West County Energy Center (WCEC). Finally, WCEC 3 will utilize light fuel oil 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 the entire WCEC site to operate at full capacity for seventy-two (72) hours of continuous operation.

The addition of WCEC 3 in June 2011, as opposed to delaying a capacity addition until 2013 when additional capacity would be needed to meet the 20%

reserve margin criterion, will result in a reduction in natural gas and heavy oil consumption during the 24-month period of approximately 31,600,000 MMBtu. The 31,600,000 MMBtu reduction is composed of approximately 18,000,000 MMBtu of natural gas and 13,600,000 MMBtu (or approximately 2.125 million barrels) of heavy oil. This reduction in natural gas and heavy oil consumption is projected to provide a fuel savings benefit of $273 million ($ nominal) over the 24-month period.

I. FUEL FORECAST

Q. What fossil fuel price forecast was used in the evaluation of FPL's self-build options to determine its NPGU and in the evaluation of its NPGU and proposals received in response to the RFP?

A. FPL's July 31, 2007 update of its long-term fossil fuel price forecast was used in the evaluation of FPL's self-build options to determine its NPGU and in the evaluation of FPL's NPGU and proposals received in response to the RFP. This fuel forecast was published for use by RFP participants shortly after FPL issued the RFP and remained unchanged throughout the RFP evaluation process.

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

A. For fuel oil and natural gas commodity prices, FPL's forecast applied the following methodology: (1) for 2007 through 2009, the methodology used the July 31, 2007 forward curve for New York Harbor 1% sulfur heavy oil, U. S.

Gulf Coast 1% sulfur heavy oil and Henry Hub natural gas commodity prices; (2) for the next two years (2010 and 2011), FPL used a 50/50 blend of the July 31, 2007 forward curve and projections from the PIRA Energy Group; (3) for the 2012 through 2020 period, FPL used the annual projections from the PIRA Energy Group; and (4) for the period beyond 2020, FPL used the rate of real (constant dollar) price changes from the Energy Information Administration (EIA). All constant dollar changes were then converted to nominal dollars using a 2.5% annual escalation rate. In addition to the development of commodity prices, price forecasts were also prepared for fuel oil and natural gas transportation costs. The addition of commodity and transportation projections resulted in delivered price forecasts.

Coal and petroleum coke prices were based upon the following approach: (1) the price forecasts for Central Appalachian coal, South American coal, and petroleum coke were provided by JD Energy; (2) the marine transportation rates from the loading port for coal and petroleum coke to an import terminal were also provided by JD Energy; (3) the terminal throughput fee was based on a range of offers from comparable facilities throughout the southeast U.S.; and (4) the rail transportation rates from Central Appalachia and from the import terminal facility were based on the proposed rail transportation rates.

Q. Please identify the key factors in forecasting the future price of fossil fuels.

A. Future fuel oil and natural gas prices, and to a much lesser extent, coal and petroleum coke prices, are inherently uncertain due to a significant number of

unpredictable and uncontrollable drivers that influence the short and long-term prices of fuel oil, natural gas, coal, and petroleum coke. These drivers include: (1) current and projected worldwide demand for crude oil and petroleum products; (2) current and projected worldwide refinery capacity/production; (3) expected worldwide economic growth, in particular in China and the other Pacific Rim countries; (4) Organization of Petroleum Exporting Countries (OPEC) production, the availability of spare OPEC production capacity and the expected growth in spare OPEC production capacity; (5) non-OPEC production and expected growth in non-OPEC production; (6) the geopolitics of the Middle East, West Africa, the former Soviet Union, Venezuela, and other countries; (7) the impact upon worldwide energy consumption of various factors including worldwide environmental legislation and politics; (8) current and projected North American natural gas demand; (9) current and projected U. S., Canadian, and Mexican natural gas production; (10) the worldwide supply and demand of LNG; and (11) the growth in solid fuel generation on a U.S. and worldwide basis.

Q. Is FPL's long-term fossil fuel price forecast reasonable for the evaluation of capacity options such as FPL's NPGU and proposals received in response to the RFP?

A. Yes. FPL's long-term fossil fuel price forecast is reasonable for the evaluation of FPL's NPGU and proposals received in response to the RFP. FPL's fuel price forecasts reflect the projected supply, demand and price for fuel oil, natural gas, coal, and petroleum coke, as well as, the transportation of these fuels to the

existing and proposed sites. This fuel cost forecast was also used by FPL in Docket No. 070602 and Docket No. 070650.

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

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

II. FUEL TYPE AND FUEL TRANSPORTATION

Q. What is the primary fuel type that will be utilized in WCEC 3?

A. WCEC 3 will burn natural gas as the primary fuel source.

Q. How will natural gas be supplied to WCEC 3?

A. Natural gas will be supplied to WCEC 3 through the Gulfstream pipeline.

Q. Has FPL contracted for additional firm natural gas transportation on the Gulfstream pipeline to support WCEC 3?

A. No. Although FPL will supply natural gas to WCEC 3 via the Gulfstream pipeline, FPL will use its existing firm transportation rights on the Gulfstream pipeline to supply WCEC 3.

Q. How will the addition of WCEC 3 impact the deliverability of natural gas to existing FPL facilities?

A. FPL has contracted for additional firm natural gas transportation on the planned Phase VIII expansion of the FGT pipeline to ensure the continued deliverability of natural gas to FPL's existing facilities.

Q. How does obtaining firm natural gas transportation on FGT help supply WCEC 3 and ensure the continued deliverability of natural gas to FPL's existing facilities?

A. In essence, FPL is optimizing the current Gulfstream infrastructure as well as the current and proposed FGT infrastructure to ensure efficient and economic gas deliveries to FPL's generation fleet. FPL will be utilizing the gas transportation on Gulfstream, previously designated for deliveries to FPL's Martin Plant (Martin) located in Martin County, Florida and FPL's Manatee Plant (Manatee) located in Manatee County, Florida, for WCEC 3. Martin is composed of five generating units; two dual-fuel (natural gas/heavy fuel oil) conventional steam units and three combined cycle units totaling approximately 3,600 MW. Manatee is composed of three generating units; two dual-fuel (natural gas/heavy fuel oil) conventional steam units and one combined cycle unit totaling approximately 2,700 MW. FPL will utilize the new FGT gas transportation to serve Martin and Manatee, replacing the Gulfstream capacity that is shifting to WCEC 3. Currently, the Gulfstream pipeline completely supplies the Manatee facility and partially supplies the Martin facility. Gulfstream will completely supply WCEC Units 1 and 2 after the construction of those units is complete and after Gulfstream completes its expansion into the WCEC. As part of FGT's planned Phase VIII expansion, FGT will connect to Manatee and will also connect to Martin through a west to east pipeline. The ability to supply Manatee with FGT supply, and Martin with additional FGT supply, will enable FPL to support WCEC 3 with its existing firm transportation rights on the Gulfstream

pipeline.

Q. Why did FPL choose to contract for firm transportation with FGT instead of acquiring additional transportation on Gulfstream?

A. FGT's proposal for infrastructure expansion was more cost-effective than the Gulfstream proposal and provided more flexibility to FPL for moving natural gas around the FGT pipeline system, which has the capability to deliver gas to all of FPL's generation facilities with the exception of the WCEC. Also, once the FGT Phase VIII expansion is placed into service, Manatee will be directly connected to both pipelines (Gulfstream and FGT), which will enhance the reliability of supply to that facility. Martin will also experience an enhancement to the reliability of supply, as the FGT expansion will add a third pipeline connection from FGT into the facility.

Q. Will WCEC 3 have a backup fuel source in the event of a natural gas supply disruption?

A. Yes. WCEC 3 will be capable of burning light fuel oil in the event of a natural gas supply disruption. Light fuel oil will be trucked to the site and stored on-site in sufficient quantities to allow the entire WCEC site to operate at full capacity for seventy-two (72) hours of continuous operation.

III. FIRM NATURAL GAS TRANSPORTATION ASSUMPTIONS

Q. What are the long-term firm natural gas transportation costs assumed by FPL in its evaluation of FPL's NPGU and the proposals received in response to the RFP?

A. For the purposes of the analysis, FPL developed an estimated transportation cost of $1.165 per MMBtu based on preliminary proposals from both FGT and Gulfstream to evaluate FPL's NPGU and the proposals received in response to the RFP.

IV. SYSTEM BENEFITS

Q. Does the addition of WCEC 3 in June 2011, as opposed to delaying a capacity addition until June 2013 when additional capacity would be needed to meet the 20% reserve margin criterion, provide a benefit to FPL's system?

A. Yes. As described in the testimony of FPL witnesses Silva and Sim, bringing WCEC 3 into service in June 2011 compared to bringing in-service a similar combined cycle unit in June 2013 provides an economic advantage of $460 million cumulative present value of revenue requirements in 2008 dollars (CPVRR). On a more detailed level, the addition of WCEC 3 in June 2011, will improve FPL's average system heat rate over the 24-month period (June 2011 to June 2013) from 8,311 Btu/KWh to 8,194 Btu/KWh. This represents an overall

system efficiency improvement of 117 Btu/KWh (1.4%) and a reduction in natural gas and heavy oil consumption of approximately 31,600,000 MMBtu over the 24-month period. The 31,600,000 MMBtu reduction is composed of approximately 18,000,000 MMBtu of natural gas and 13,600,000 MMBtu (or approximately 2.125 million barrels) of heavy oil. This efficiency improvement is projected to result in approximately $273 million ($ nominal) in fuel cost savings over the 24-month period, which is part of the $460 million CPVRR in projected customer savings attributed to beginning operations of WCEC 3 in 2011.

Q. Does this conclude your testimony?

A. Yes.

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

FLORIDA POWER & LIGHT COMPANY

DIRECT TESTIMONY OF HEATHER C. STUBBLEFIELD

DOCKET NO. 08_____-EI

APRIL 30, 2008

Q. Please state your name and 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 is your position?

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

Q. Please summarize 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 (LNG) initiatives. In 2005, I transferred to the Energy Marketing and Trading division of FPL to support project development activities.

Q. Please describe your duties and responsibilities as they relate to this docket.

A. In my current position, I am responsible for evaluating gas transportation

alternatives for FPL's 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. 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 proposed conversion of its Cape Canaveral and Riviera plants (the Conversion Projects); (2) the proposed fuel and fuel transportation plan for the Conversion Projects; and (3) the firm natural gas transportation cost assumptions used by FPL in the evaluation of the Conversion Projects.

Q. Please summarize your testimony.

A. FPL's fossil fuel price forecast reflects the projected supply, demand and price for fuel oil, natural gas, coal, and petroleum coke, as well as the transportation of these fuels to the existing and proposed sites. FPL's long-term fossil fuel price forecast is reasonable for the evaluation of FPL's Conversion Projects.

Both converted plants, Cape Canaveral and Riviera, will burn natural gas as the primary fuel source. FPL is currently in discussions with numerous gas transportation providers capable of providing gas transportation services to both plants. FPL's criteria for evaluation include delivery flexibility, reliability and

economics. Negotiations are expected to be complete in late 2008 or early 2009 which will allow the selected gas transportation company to meet the delivery requirements of both plants. The expected in-service dates of the Conversion Projects are June 2013 for the Cape Canaveral plant and June 2014 for the Riviera plant. Because of FPL's increased reliance on natural gas, FPL will continue to pursue alternatives to enhance the reliability and increase the supply diversity of FPL's gas transportation portfolio. These alternatives could include the addition of a new interstate pipeline, additional underground natural gas storage, and identifying alternate supply sources, including access to new producing regions as well as the addition of LNG supply.

Finally, both Cape Canaveral and Riviera will utilize light fuel oil 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 the Cape Canaveral to operate at full capacity for one hundred eighty-eight (188) hours of continuous operation and for Riviera to operate at full capacity for one hundred five (105) hours of continuous operation.

I. FUEL FORECAST

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

A. FPL's March 13, 2008 update of its long-term fossil fuel price forecast was used in the evaluation of FPL's Conversion Projects.

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

A. For fuel oil and natural gas commodity prices, FPL's forecast applied the following methodology: (1) for 2008 through 2010, the methodology used the March 13, 2008 forward curve for New York Harbor 1% sulfur heavy oil, U. S. Gulf Coast 1% sulfur heavy oil and Henry Hub natural gas commodity prices; (2) for the next two years (2011 and 2012), FPL used a 50/50 blend of the March 13, 2008 forward curve and projections from the PIRA Energy Group; (3) for the 2013 through 2020 period, FPL used the annual projections from the PIRA Energy Group; and (4) for the period beyond 2020, FPL used the rate of real (constant dollar) price changes from the Energy Information Administration. All constant dollar changes were then converted to nominal dollars using a 2.5% annual escalation rate. In addition to the development of commodity prices, price forecasts were also prepared for fuel oil and natural gas transportation costs. The addition of commodity and transportation projections resulted in delivered price forecasts.

Coal and petroleum coke prices were based upon the following approach: (1) the price forecasts for Central Appalachian coal, South American coal, and petroleum coke were provided by JD Energy; (2) the marine transportation rates from the loading port for coal and petroleum coke to an import terminal were also provided by JD Energy; (3) the terminal throughput fee was based on a range of offers from comparable facilities throughout the southeast U.S.; and (4) the rail transportation rates from Central Appalachia and from the import terminal facility were based on the proposed rail transportation rates.

Q. Please identify the key factors in forecasting the future price of fossil fuels.

A. Future fuel oil and natural gas prices, and to a much lesser extent, coal and petroleum coke prices, are inherently uncertain due to a significant number of unpredictable and uncontrollable drivers that influence the short and long-term prices of fuel oil, natural gas, coal, and petroleum coke. These drivers include: (1) current and projected worldwide demand for crude oil and petroleum products; (2) current and projected worldwide refinery capacity/production; (3) expected worldwide economic growth, in particular in China and the other Pacific Rim countries; (4) Organization of Petroleum Exporting Countries (OPEC) production, the availability of spare OPEC production capacity and the expected growth in spare OPEC production capacity; (5) non-OPEC production and expected growth in non-OPEC production; (6) the geopolitics of the Middle East, West Africa, the former Soviet Union, Venezuela, and other countries; (7) the impact upon worldwide energy consumption of various factors including worldwide environmental legislation and politics; (8) current and projected

North American natural gas demand; (9) current and projected U. S., Canadian, and Mexican natural gas production; (10) the worldwide supply and demand of LNG; and (11) the growth in solid fuel generation on a U.S. and worldwide basis.

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

A. Yes. FPL's long-term fossil fuel price forecast is reasonable for the evaluation of FPL's Conversion Projects. FPL's fuel price forecasts reflect the projected supply, demand and price for fuel oil, natural gas, coal, and petroleum coke, as well as the transportation of these fuels to the existing and proposed sites.

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

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

II. FUEL TYPE AND FUEL TRANSPORTATION

Q. What is the primary fuel type that will be utilized in the converted Cape Canaveral and Riviera plants?

A. Both Cape Canaveral and Riviera will burn natural gas as the primary fuel source.

Q. Does FPL currently have natural gas delivery capability to the Cape Canaveral and Riviera plants?

A. Yes, FPL has the ability to deliver natural gas to Cape Canaveral and Riviera via the existing Florida Gas Transmission Company (FGT) pipeline; however, there is not currently adequate firm gas transportation in FPL's existing portfolio to supply the plants once they are converted. In addition, the current FGT facilities are not adequate to allow for the increased gas deliveries and the higher delivery pressure required by the Conversion Projects. FPL is in discussions with multiple natural gas pipeline companies capable of building the facilities to provide natural gas to both Cape Canaveral and Riviera. FPL will continue these negotiations to determine the best project on the basis of delivery flexibility and economics. These negotiations are expected to be complete in late 2008 or early 2009 which will allow the selected pipeline to meet the gas delivery requirements of both plants.

Q. Will additional investment in the natural gas infrastructure in Florida be needed in the future to maintain natural gas supply reliability?

A. Yes. The existing natural gas pipeline infrastructure into peninsular Florida is comprised of two pipelines from the Gulf Coast region. While this infrastructure has provided a high level of reliability over the years, the demands on both pipelines have continued to grow. Even with expansion of the existing pipelines to meet additional demand, the need to consider alternatives that will help promote the diversity and reliability of natural gas supply is crucial to FPL. These alternatives include the addition of a new interstate pipeline, additional

underground natural gas storage, and identifying alternate supply sources, including access to new producing regions as well as the addition of LNG supply. FPL has recognized the need to implement alternative strategies and is actively pursuing them. For example, in an effort to create supply diversity and help strengthen reliability, FPL has contracted for additional natural gas storage and firm transportation on a new pipeline that will bring on-shore natural gas supply from East Texas into the Mobile Bay area in the Gulf of Mexico. While both projects help strengthen reliability by mitigating FPL's exposure to supply disruptions, the new pipeline also provides long-term supply diversity. The cost of implementing these strategies varies depending on the type of alternative being considered. However, it is important to recognize that FPL must continue to make these types of investments in order to maintain natural gas reliability in the future as demand for natural gas grows. In determining the appropriate gas transportation provider for the Conversion Projects, FPL will continue to pursue strategies that increase the reliability and supply diversity of the gas transportation portfolio.

Q. Will the converted Cape Canaveral and Riviera plants have a backup fuel source in the event of a natural gas supply disruption?

A. Yes. Both Cape Canaveral and Riviera will be capable of burning light fuel oil in the event of a natural gas supply disruption. For Cape Canaveral, light fuel oil will be trucked to the site and stored on-site in sufficient quantities to allow the site to operate at full capacity for one hundred eighty-eight (188) hours of continuous operation. For Riviera, light fuel oil will be trucked to the site and

stored on-site in sufficient quantities to allow the site to operate at full capacity for one hundred five (105) hours of continuous operation. In addition, both plants will be able to receive backup fuel from waterborne deliveries, which is a significant advantage, particularly in emergency situations compared to inland plants.

III. FIRM NATURAL GAS TRANSPORTATION ASSUMPTIONS

Q. What are the long-term firm natural gas transportation costs assumed by FPL in its evaluation of FPL's Conversion Projects?

A. For the purposes of the analysis, FPL developed an estimated transportation cost of $1.40 per MMBtu based on preliminary discussions with pipeline transportation companies.

Q. Does this conclude your testimony?

A. Yes.

BY MS. CANO:

Q Have you prepared a summary of your testimony?

A Yes, I have.

Q Would you please provide that to the Commission at this time?

A Yes. Good afternoon, Chairman Carter and Commissioners. The purpose of my testimony is to explain the fuel transportation plan and fuel transportation cost assumptions for West County Energy Center 3 and the conversion of Cape Canaveral and Riviera and to present the fossil fuel price forecast used by FPL in its economic evaluation of these projects.

All three plants will utilize natural gas as the primary fuel source with light oil as the backup supply. FPL will supply natural gas to West County Energy Center 3 by utilizing its existing firm transportation rights on the Gulfstream Pipeline. In order to maintain the deliverability of natural gas to FPL's existing facilities, FPL will acquire sufficient additional firm natural gas transportation on the Florida Gas Transmission or FGT pipeline.

Contracting for firm transportation with FGT instead of acquiring additional transportation on Gulfstream offered FPL two distinct advantages. First, FGT's proposal for expansion was more cost-effective. Secondly, FGT's proposal for expansion provided FPL with more flexibility to move

natural gas around FGT's pipeline system, which has the capability to deliver gas to all of FPL's plants with the exception of West County Energy Center.

For the conversions of Cape Canaveral and Riviera there are several viable gas transportation alternatives which can meet the schedule and delivery requirements of both plants. FPL is currently in discussion with several pipeline companies to determine the gas transportation alternative which offers the best overall value to FPL's customers. FPL continues to pursue alternatives to enhance system reliability and increase supply diversity of FPL's gas transportation portfolio. These alternatives could include the addition of a new interstate pipeline, additional underground natural gas storage, identifying alternative supply sources including access to new producing regions as well as the addition of liquified natural gas.

FPL's fossil fuel price forecast reflects the projected supply demand and price for fuel oil, natural gas, coal and petroleum coke, as well as the transportation of these fuels to FPL's existing and proposed facilities. Although projections for future prices of fuel are inherently uncertain due to a significant number of unpredictable and uncontrollable factors that influence short- and long-term prices, FPL's fossil fuel price forecast is reasonable for economic evaluation purposes. Thank you.

MS. CANO: Thank you. This witness is available for questioning.

CHAIRMAN CARTER: Thank you.

Commissioner Argenziano.

COMMISSIONER ARGENZIANO: Yes. Thank you. Just, you had just mentioned that FPL was considering underground gas storage. Why only underground? How come not aboveground?

THE WITNESS: We have looked at aboveground natural gas storage, the proposed facility in Indiantown in Martin County, Florida. It's very expensive to do aboveground storage. The gas has to be delivered off the pipeline, it has to be liquified and then stored, and that liquefaction process is very expensive. Then it has to be regasified and introduced into the pipeline system. So above, aboveground storage is much more expensive than underground storage, which will allow you to inject the gas in its gas form and then pull it back out in its gas form. So we have looked at that project, but we didn't feel that the economics of the project really would be in the best interest of our customers.

COMMISSIONER ARGENZIANO: Okay. So was it quite a bit more expensive to go aboveground? And I guess the liquified process is not combustible then; is that, is that true?

THE WITNESS: It is, you know, it is not combustible in a liquid form.

COMMISSIONER ARGENZIANO: Right.

THE WITNESS: But as it vaporizes around that liquid it is, it can be combustible. But it is, it's not combustible as a direct liquid.

COMMISSIONER ARGENZIANO: So it is more cost-effective to go underground?

Okay. And I guess the question I had before earlier to the wrong witness goes to you, and that is about the forecasts for natural gas. And I think I heard you say that you cannot predict what the costs are going to be, but they're trending upward; is that correct?

THE WITNESS: Yes, that is correct.

COMMISSIONER ARGENZIANO: So is that taken into consideration when the cost to build the plants and retrofit the plants are -- we're supposed to look at cost efficiency and I'm not sure that we really can if -- and I'm trying to figure out how FPL is evaluating whether, or has evaluated whether to move on with this with the uncertainty of the cost of natural gas.

And then the second part of that question is I have been, everything I have been reading shows an indication that we just may be running out of natural gas. And as that occurs, of course, supply and demand is going to drive it up even quicker and maybe higher. And I wondered if you've really looked into that and what you found.

THE WITNESS: Yes. As far as the fuel forecast being an accurate measure in these evaluations, we do believe it is an accurate measure to use. One of the advantages of these projects that we're proposing is because of the lower heat rate offered on a systemwide basis we can now generate more megawatts with less natural gas. So it is, it is prudent for us to look at ways to reduce the natural gas needed to produce a megawatt so that, you know, as far as the pricing goes, the higher the gas price goes, the better off we are because we are trying to reduce the amount of gas we are burning in these units and we can reduce the overall system gas that would be required.

COMMISSIONER ARGENZIANO: I think, I think I understand that and appreciate that to a certain degrees. But the higher the natural gas goes, the more that's going to be passed on to the consumer. Of course, it benefits you and your consumers to have you have to use less; I understand that point. But it's still going to, I guess, impact -- I guess what I'm trying to get at is at what point is it not cost-effective anymore to have natural gas? And I'm, I guess, not afraid. I guess what I want the answers to is how FPL has determined that the costs won't soar so high that it would make the plants not very cost-effective even though you can save more now, you know, of the gas itself.

THE WITNESS: Right. And I hate to defer you, but as

far as the modeling of that, I would have to defer to Dr. Sim. But I would like to, to add, to address the second part of your question about the supply availability.

There is a significant amount of natural gas available. One of the things FPL has worked very diligently on over the last few years is looking for alternative supply sources that can be delivered into Florida. We brought the Southeast Supply Header Project to this Commission, and that was approved to allow us to access gas from the Texas, Oklahoma, Louisiana area. This was newly discovered, what they considered unconventional, although I'm thinking the term unconventional will go away shortly because it's becoming very conventional, shale gases. This gas has two benefits. I mean, it's onshore so it's not subject to weather disruptions. And we are very closely integrated with the producer community to understand how they see these projects developing.

We began talking with them when we first looked at the Southeast Supply Header Project a few years ago. We have since had conversations with them, and their estimates have doubled or tripled of what they think they're going to be able to extract from these new producing regions. The technology has improved their ability to produce this gas and they have, you know, since found new regions of this shale that they are trying to develop. So at this point it's, you know, incumbent upon us to make sure the infrastructure gets in place so that

Florida has access to this supply.

COMMISSIONER ARGENZIANO: To the point of shale, the shale, does it require more energy to extract?

THE WITNESS: It doesn't require more energy. It's, instead of a vertical drill, it's more of a horizontal. It is more expensive than traditional drilling. But with gas prices where they are, one advantage of that is it's a big incentive for these producers to go out and drill in these areas because, you know, because of the economics for them at this point.

COMMISSIONER ARGENZIANO: So then you're saying that it would be beneficial, even though the energy costs are higher or the costs are higher, it still would be beneficial as far as the differences between the --

THE WITNESS: Right.

COMMISSIONER ARGENZIANO: Okay. And I guess I'll save the -- let me make sure I don't have any other questions.

Supply you're saying we have. But transportation now -- and I guess costs may increase on the supply side.

THE WITNESS: Right. As we build the infrastructure to ensure that we can receive delivery of these new supplies.

COMMISSIONER ARGENZIANO: And I guess if there's confidence -- I would imagine that FPL wouldn't want to sink a bunch of money into plants that they can't get natural gas for.

THE WITNESS: Right. So we're very confident.

COMMISSIONER ARGENZIANO: So you feel confident that

there's enough?

THE WITNESS: We're very confident. One advantage of these new supplies is we have now, instead of the big major oil companies, these are more, these are smaller independent producers who are not in the business of wanting to market their gas on a day-to-day basis. They are willing to lock in long-term contracts and commit this gas because that's, that's the way they operate their business. So I think we can have an advantage there of getting long-term commitments on supply that have been more difficult to do in the past.

COMMISSIONER ARGENZIANO: But basically just unsure as to how high the costs will go.

THE WITNESS: That is correct.

COMMISSIONER ARGENZIANO: Have you gotten a number though that says it's not efficient after this point?

THE WITNESS: Again, I would have to, I would have to defer to Dr. Sim.

COMMISSIONER ARGENZIANO: Okay. Dr. Sim comes next. Thank you. Thank you very much.

CHAIRMAN CARTER: Also, Commissioner, if you happen to think -- I want to recognize Commissioner Skop, but if you happen to think of some more, we'll come back to you.

COMMISSIONER ARGENZIANO: Okay. Thank you.

CHAIRMAN CARTER: Commissioner Skop, you're recognized, sir.

COMMISSIONER SKOP: Thank you, Mr. Chairman.

I just had a few questions for Ms. Stubblefield. I guess Commissioner Argenziano raised some of the, some of the points I had.

On Page 3 of the prefiled testimony for the conversion plants, I guess at the top of the page it mentions that they have, negotiations are underway but at the present time they have no firm gas transport capability to the conversion plants; is that correct?

THE WITNESS: That is correct.

COMMISSIONER SKOP: Okay. And it also states beginning on Page, Page 3, Line 5, "Because of FPL's increased reliance on natural gas, FPL will continue to pursue alternatives," and I think that gets into the line of questioning that Commissioner Argenziano had with respect to the aboveground storage. I'm duly aware of the fact that, you know, new pipeline capacity is good. I think that you mentioned the one that you came before the Commission for. And I am aware of the fact that with natural gas prices rising as high as they have, that the, the exploration and the harvesting of shale natural gas is now cost-effective as opposed to no one would do that years ago when gas was at $3 per MMBtu. So that's attractive in itself.

But I guess my concern is that Florida is a peninsula. Particularly your utility is heavily dependent upon

natural gas, I mean, heavily. And I know that there's no quick solution because I can't snap my fingers and have nuke plants here overnight, that's not going to happen, and coal seems for the moment to be off the table. So we have to do something to keep the lights on.

But I remain concerned about our continued reliance on natural gas and the fact that transport is critical infrastructure. And you can have all the, you know, salt dome storage or underground storage you want in Louisiana or wherever it may be, but if you can't get it here to Florida through a pipeline, if something happens, God forbid, to the pipeline, we could be, you know, our economy could be brought to its knees in Florida.

And so I'm wondering, when you mentioned that you looked at the aboveground storage, and perhaps this is a question to staff, at some point, and I'll get to this because this is my other question that I had about your testimony, at some point when we're buying additional firm transport capability, I mean, basically we're buying the next increment necessary to meet our peak load demand. I mean, there's a lot of underutilized capacity through most part of the year in a pipeline capacity. So it seems to me like we're having to cover peak and that's not necessarily always cost-effective.

But, again, if something were to happen to that pipeline -- and, again, I don't know if your analysis has

encompassed the externalities of what would happen if we didn't have, if we didn't have that supply of natural gas. Like what would the impact be to Florida's economy, for instance, if there was a supply interruption? I'm not necessarily talking about a reduction in production, but I'm talking about firm transport. If something happened and it couldn't be readily repaired, I mean, we have some generating units that have fuel as a backup fuel supply. But, I mean, that dependency on natural gas continues to grow unbounded. So at some point having aboveground storage, and perhaps staff might be able to at some point in the future look at this conclusively, but I'd like to see some sort of unbiased analysis on whether we're starting to encroach upon cost-effectiveness for, you know, in-state storage in Florida.

And I've heard there's a couple of alternatives. I've heard, you know, there's the sea-based liquid natural gas like a terminal which could, you know, flow in. There's certainly the project that you mentioned that I won't mention by name. But also I guess surprisingly I found that there was some old oil drilling in Florida that could potentially be used as a reservoir, and that was down in the southwest quadrant of the state, which completely blew my mind because I never knew we had oil in Florida at one point in time but apparently it was here. At least somebody was trying to wildcat for it.

But I guess to my point, I guess the last statement

that you, that you had in your prefiled testimony, and it was, actually second to the last question, on Page 9 you talk about the estimated transport cost for new pipeline capacity and transport is $1.40 per MMBtu. And that, and that cost is over and above the cost of natural gas, which is $12 per MMBtu right now. So we're looking at about, you know, probably about, I don't know, $14 per MMBtu delivered at current prices. And at some point I'd like to probably see, and, again, I'm looking at Mr. Ballinger, some sort of unbiased economic analysis, you know, doing a what-if scenario to the extent that if we lose pipeline capability or transport capability due to whatever event might happen in the world, that, you know, would there be a perceived benefit of having some form of Florida-based storage as opposed to trying to have underground storage in another state and you're still detrimentally relying upon that, that pipeline capability to deliver it.

So, again, I'd like to just kind of get your thoughts on that, whether you looked at the externalities in that model when you looked at the aboveground storage on Commissioner Argenziano's point.

THE WITNESS: Yeah. We have, we have looked at all the projects that you have discussed, the offshore LNG, the old oil reservoir storage and the aboveground storage. And when you look at the backup fuel that we have at almost all of our facilities, that usually can handle any type of weather

interruption.

Our only experience in actually having a pipeline infrastructure issue was in the late '90s when FGT had an issue that took that pipeline out of service in North Florida for about 60 hours, I believe. And during that time, you know, we were still able with the backup fuel to operate. And I believe it happened on a Friday afternoon. By Monday morning they were back up and fully operational. So the pipelines are, have the capability to get out very quickly and repair something that could happen along the infrastructure. So I would like to at least give the assurance that we talked to them and we ensure that they have that, those capabilities to ensure that they can fix a problem as quickly as possible.

But our evaluation of the aboveground storage to date when compared to the other alternatives, long-haul transportation, the backup fuel that we have, we just haven't been able to economically make it make sense for our customers at this point. But we will continue to evaluate any alternative that comes up within the State of Florida or outside the State of Florida to ensure that what we do is ensure the reliability and the supply diversity for our customers.

COMMISSIONER SKOP: And I appreciate that. And I guess my point would be, you know, one can't predict what would ever happen in the world, and certainly the event that I'm

talking about would be probably catastrophic. But in terms of that analysis, the externalities of what would happen to Florida's economy if we weren't able to keep the lights on because we were dependent and we ran out of a backup fuel supply -- and I know that at least with the conversion plants I think one of the things that's a very positive aspect is that they do have the ability to continually resupply using waterborne delivery as you articulate in your testimony.

But I guess my concern is that, you know, along the lines of some of the concerns raised by Commissioner Argenziano, is that additional transport capability right now is getting pretty pricey, not to mention natural gas is getting pretty pricey. And just as part of a continuous review process I think it's important for us to, you know, just have some sort of visibility of the comparative costs between Florida-based natural gas storage options, which I know are expensive, but they're kind of like a rainy day insurance policy, you'll probably never use them, but, you know, if you structure it properly, maybe you can have that security blanket, as opposed to going through the process of every time we bring another combined cycle plant online in Florida we're having to continuously address inadequate gas transport capability. And I think you mentioned that on Page 7 of your testimony is that the current FGT facilities are not adequate to allow for increased gas deliveries and higher pressure required for the

conversion project. So the transport in itself is a big issue, and what I do see is those costs rising significantly as we add new transport infrastructure. And so, again, I'm just looking at that breakeven analysis. At what point is it going to be, you know, somewhat cost beneficial to have that aboveground transport? So, I mean, aboveground storage or even inground storage in Florida. You know, because, like I say, I didn't, until a week ago or two I didn't know that we had an old oil well in Florida. But apparently one exists, so.

THE WITNESS: And to your point, one of the things that we are looking at for the conversion projects is the potential introduction of a third pipeline into the state which would address some of the infrastructure issues. Again, we are at a price where for the current pipelines to expand we may be able to do something as cost-effective for our customers and introduce a third pipeline into the state with access to new supply. So we are exploring all the alternatives.

COMMISSIONER SKOP: Okay. Just as one final follow-up question, I guess, to Commissioner Argenziano's question. You mentioned that in terms of locking up some of the supply, I think that that came from the shale natural gas producers, they seem more, more in tune with having longer term contracts than some of the large gas companies. In terms of the smaller companies that you're referring to, are those companies that are, that are heavily into the shale environment

such as Chesapeake or, or other companies?

THE WITNESS: Yes.

COMMISSIONER SKOP: Okay. All right. Thank you.

CHAIRMAN CARTER: Commissioner Argenziano.

COMMISSIONER ARGENZIANO: Thank you, Mr. Chair.

A couple of things. In thinking about them, when you -- of course I'm going back to supply. Where is the supply going to come from? And if you're pointing to shale as a possibility now, is that, are you referring to the Appalachian Basin?

THE WITNESS: Yes.

COMMISSIONER ARGENZIANO: Okay. That would be kind of -- it's hard -- I think there's a large estimate of how much natural gas is there.

THE WITNESS: Right.

COMMISSIONER ARGENZIANO: I think from what I remember reading is that only maybe 10 percent could actually be extracted from that large capacity that's there.

THE WITNESS: There are, there are certain advances in technology that may need to be created before they can reach all that is available. But --

COMMISSIONER ARGENZIANO: Does -- let me ask you this. This part I don't know, because we're talking about tiny gas that's trapped there for how many millions of years possibly in bits of shale. I guess there has to be at least

two pieces of shale for anything to be trapped there. But does that involve actually destroying the shale and the rock?

THE WITNESS: No. It doesn't, it doesn't involve destroying.

COMMISSIONER ARGENZIANO: Just extracting.

THE WITNESS: It's just extracting.

COMMISSIONER ARGENZIANO: And, again, because this is what gets me, the 10 percent of the estimated amount that's in the Appalachian Basin from what I recall that can be extracted, that would be enough for the life of these plants?

THE WITNESS: I'm not sure of the exact number that's projected from that. The Appalachian gas would most likely serve the mid-Atlantic and northeast markets. Most likely where we would receive our gas would be from the shale plays in Texas, Oklahoma, Arkansas, Louisiana. Those would most likely be what would serve our markets.

COMMISSIONER ARGENZIANO: Okay. I was under the impression that the majority of the gas, natural gas from shale really was in that Appalachian Basin rather than --

THE WITNESS: No. No. There's, there's huge supplies.

COMMISSIONER ARGENZIANO: Okay.

THE WITNESS: I don't know if you've seen, but they actually are drilling right around DFW airport in Dallas.

COMMISSIONER ARGENZIANO: That's right. That's

right. Yeah.

THE WITNESS: I mean, it's unbelievable the amount of drilling that's going on in Texas to reach this shale gas.

COMMISSIONER ARGENZIANO: Interesting. Okay. And I guess what gets me is that when you think about now we have to go to finding, you know, natural gas between these layers of shale, it's like maybe it is running out. But I guess what I want comfort in is that it's going to be sustainable at least for the life of these plants; if we're going to spend that kind of money, that the supply will be there and not run out.

THE WITNESS: Yeah. I think all the projections that we look at from government web sites show that, you know, for 50 plus years that we have significant --

COMMISSIONER ARGENZIANO: Uh-oh. From government web sites? All right. You've got me worried. (Laughter.) Okay. Thank you. I appreciate it.

THE WITNESS: You're very welcome.

CHAIRMAN CARTER: Thank you.

Commissioner Skop, you're recognized, sir.

COMMISSIONER SKOP: Thank you, Mr. Chair. And then to Commissioner Argenziano's point, I guess, as Ms. Stubblefield has pointed out, I guess she mentioned the drilling right around the airport. Actually I read an article recently where they're actually doing it in the Dallas/Ft. Worth area in people's back yards. I mean, the

mineral rights in Texas, I mean, it's like they're any place, anything they can tap into a gas supply. I mean, the prices are so high that it's become that attractive. Because typically I think, and correct me if I'm wrong, Ms. Stubblefield, is they would never have even thought to have gone after the shale at three dollars and even fifty cents per MMBtu.

THE WITNESS: No.

COMMISSIONER SKOP: So it's just because the prices have risen so high it makes that technology cost-effective to pursue extracting gas in those options.

COMMISSIONER ARGENZIANO: Mr. Chairman.

CHAIRMAN CARTER: You're recognized.

COMMISSIONER ARGENZIANO: That, that makes my point that it's so high. So something that's expensive, would have otherwise been considered extremely expensive to do now becomes feasible because the costs are so high. But what happens down the line when we're already looking between little pieces of shale to extract gas, what happens down the line? And it may serve well for the life of these plants because, Heaven knows, we really need to reduce CO2 and I understand that. But I just want to make sure that we don't build plants that we then -- you know, and is that the most cost-efficient way to go rather than put money into other alternatives, which I kind of wish there was more than one-tenth percent out there. But from what

I heard from the company, that nobody is ponying up with the alternatives.

So I just, my concern is I'd hate to see us spending all this money -- and although we're talking about reducing CO2, which is the policy of the state and something I truly believe in, but spending that kind of money for something that may be all of the sudden one day, oh, there's no more gas or it's so cost inefficient that it may not be worthwhile. Thank you.

CHAIRMAN CARTER: I'd hate to be the guy in Texas with a backyard, go out and put some steaks on the grill in the backyard and --

COMMISSIONER ARGENZIANO: And I heard that he's selling the gas underground to pay for his water bills.

CHAIRMAN CARTER: Oh.

(Laughter.)

Thank you. Ms. Cano.

MS. BROWN: Mr. Chairman, could I ask one final question?

CHAIRMAN CARTER: Oh, sorry, Ms. Brown. You're recognized. You are recognized.

CROSS EXAMINATION

BY MS. BROWN:

Q Good afternoon. You were talking about the FGT outage that happened a while ago. Were you referring to the

Perry accident where lightning struck the compressor station?

A Yes.

Q And that was a huge catastrophe; correct?

A Yes.

Q And they were back up in three days?

A Yes. I believe that's correct.

MS. BROWN: Okay. Thank you. That's all.

CHAIRMAN CARTER: Commissioner Skop.

COMMISSIONER SKOP: Thank you, Mr. Chair.

And, again, I think to Ms. Brown's concern also, I mean, that was an isolated incident. I think the instance I was thinking of whether it might be a coordinated effort or some other more extreme natural disaster where -- you know, we've seen that in American history. So, again, I'd just look at some point looking at all options and making sure that the -- the cost-effectiveness between various options is certainly something to take a look at. I mean, I'm very aware that the land-based storage option is extremely expensive. But as the price of additional incremental transport of pipeline capacity moves up and suddenly, you know, it becomes, instead of a no-brainer type of approach, it then becomes, well, maybe we should run the numbers on an unbiased basis just to get a comfort level. I'd be happy, I mean, as a Commissioner for actually seeing those because I, you know, again, I don't have an unbiased analysis to consider. I mean, it would be

interesting to see what those numbers are and where they may go, particularly in light of the fact that if we're exploring for shale, natural gas from shale and the prices are high, it's probably a strong likely indicator that prices may be here for a while and may not recede back to historical levels unfortunately. So thank you.

CHAIRMAN CARTER: Thank you.

Commissioners, anything further? Commissioner Argenziano.

COMMISSIONER ARGENZIANO: It may be for Dr. Sim and it's more for my education. Extracting, and you may know this, I don't know, but extracting, extracting the natural gas from shale requires a lot of water, doesn't it?

THE WITNESS: That, I'm sorry, I cannot answer.

COMMISSIONER ARGENZIANO: I think it's hydraulic fracturing, I think that's what it's called. Okay. Maybe Dr. Sim can answer it. Okay. Thank you.

CHAIRMAN CARTER: Don't want to lose water in the process of getting gas.

COMMISSIONER ARGENZIANO: Well, if you have any water.

CHAIRMAN CARTER: Yeah. Right. If you have it in the first place.

Thank you, Ms. Cano.

Commissioner? One second. Yes, Commissioner.

COMMISSIONER SKOP: Just to Commissioner Argenziano's point, at least my understanding, I may be wrong because I'm not a technical expert, but I think it was hydraulic fracturing. And then once you create that, that crack between, it allows the seepage to -- okay.

CHAIRMAN CARTER: Ms. Cano, you're recognized.

MS. CANO: FPL has no redirect.

CHAIRMAN CARTER: Okay. Let's deal with exhibits.

MS. CANO: Exhibit Number 27 --

CHAIRMAN CARTER: Number 27.

MS. CANO: -- and 77 FPL offers for the record.

CHAIRMAN CARTER: Any objections? No objections. Show it done.

(Exhibits 27 and 77 admitted into the record.)

The witness may be excused. Please call your next witness.

MR. ANDERSON: FPL calls as its next witness Kennard Kosky.

CHAIRMAN CARTER: Mr. Anderson, you're recognized.

MR. ANDERSON: Thank you, Chairman Carter.

Good afternoon, Mr. Kosky.

THE WITNESS: Good afternoon.

MR. ANDERSON: Have you been sworn as a witness yet?

THE WITNESS: No, I have not.

CHAIRMAN CARTER: Mr. Kosky, would you please stand

and raise your right hand?

KENNARD F. KOSKY

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

DIRECT EXAMINATION

BY MR. ANDERSON:

Q Would you please tell us your name and business address?

A My name is Kennard Kosky. My business address is 6241 Northwest 23rd Street, Gainesville, Florida 32653.

Q By whom are you employed and in what capacity?

A I'm employed by Golder Associates, Inc., as a principal in the Gainesville office.

Q Have you prepared and filed 45 pages of prefiled direct testimony in this proceeding regarding West County Unit 3?

A Yes, I have.

Q Have you also prepared and filed 41 pages of prefiled direct testimony in the conversion cases of Cape Canaveral and Riviera?

A Yes, I have.

Q Did you file any errata to your testimony?

A Yes, I did.

Q Other than your errata, do you have any further changes or revisions to your prefiled direct testimony?

A Not at this time.

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

A Yes, they would.

MR. ANDERSON: FPL asks that Mr. Kosky's prefiled direct testimony be inserted into the record as though read.

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

BY MR. ANDERSON:

Q You're sponsoring some exhibits?

A Yes, I did.

Q For West County 3 that's KFK-1 and 2?

A I believe there were three exhibits.

Q Okay. Three? Okay.

A Including my resume.

Q Very good. Thank you. And for the conversion cases, KFK-1 through 8; is that right?

A That is correct.

MR. ANDERSON: Okay. Have you -- Mr. Chairman, these have been marked as hearing ID numbers 28, 29, 30, and 78 through 85.

CHAIRMAN CARTER: Thank you.

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

FLORIDA POWER & LIGHT COMPANY

DIRECT TESTIMONY OF KENNARD F. KOSKY

DOCKET NO. 08_____-EI

APRIL 8, 2008

Q. Please state your name and business address.

A. My name is Kennard F. Kosky and my business address is 6241 NW 23rd Street, Suite 500, Gainesville, Florida 32653.

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. I am a Principal with the firm in the Gainesville office involved primarily in the environmental aspects of electric power plants.

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 30 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 primary technical activities have involved developing air emission inventories, evaluating air pollution control technologies and performing air quality impact evaluations of these facilities. 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 FPL's West County Energy Center Unit 3 (WCEC 3)?

A. I had the overall responsibility for the preparation of the Site Certification Application (SCA) for WCEC 3. I signed and sealed the SCA as a Professional Engineer. I also had overall responsibility for the preparation of the Prevention of Significant Deterioration (PSD)/Air Construction Permit Application for WCEC 3 and signed and sealed the application as a Professional Engineer.

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	Reductions in carbon dioxide (CO_2) emissions for 2011 through 2017 in FPL's system with WCEC 3
Exhibit KFK-3	2017 CO_2 emissions in FPL's system without WCEC 3, with WCEC 3 and with WCEC 3 and the opportunity to convert existing units

Q. What is the purpose of your testimony?

A. My understanding is that the Commission will consider and determine the need for WCEC 3 pursuant to the utility laws and regulations that it is responsible for administering. These laws and regulations that consider and determine need do not include environmental regulation. However, because electric power plants constructed in Florida must comply with environmental regulations, the costs of compliance are part of the project. Accordingly, the purpose of my testimony is to provide the Commission an overview of the key environmental aspects of WCEC 3.

Based upon my training, experience and analysis conducted in relation to this project, my testimony reaches and supports the following key conclusions: (i) the selection of advanced combined cycle technology and environmental controls for WCEC 3 not only meets, but is better than the extensive

environmental regulatory requirements; (ii) the technology selected for WCEC 3 is the best available alternative from an environmental perspective; and (iii) 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 WCEC 3. My testimony demonstrates that the use of natural gas, the cleanest fossil fuel, combined with advanced combined cycle technology and state-of-the-art air pollution control equipment for WCEC 3 will meet or be better than the environmental regulatory requirements. WCEC 3 will have minimal environmental impacts while reducing overall carbon dioxide (CO_2) emissions in FPL's system.

The addition of WCEC 3 in 2011 also provides the opportunity for FPL to consider the conversion of existing units as described in detail in FPL's Witness Silva's testimony. If those opportunities are able to be pursued, the combination of WCEC 3 and conversions together would allow FPL's overall system CO_2 emissions to be reduced to the 2017 target level stated in Governor Crist's Executive Orders.

Regulation of CO_2 emissions has not been implemented, but is likely in the future. However, implementation of potential future CO_2 regulations favor

WCEC 3, since the operation of WCEC 3 in 2011 and beyond would result in FPL system wide CO_2 reductions. The future environmental compliance costs considered by FPL in its analyses concerning WCEC 3 are reasonable and appropriate.

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 WCEC 3. Section II presents information on how WCEC 3's design will not only meet, but be better than these requirements. Section III describes the existing and possible future environmental requirements and their potential influence on future environmental compliance costs of WCEC 3. In this section, I will describe how these existing and possible future environmental costs were included in FPL's analysis.

SECTION I: ENVIRONMENTAL APPROVALS AND REQUIREMENTS

Q. What are the environmental approvals applicable to WCEC 3?

A. FPL is required to obtain federal, state and regional environmental approvals and permits for WCEC 3. The principal environmental approval is Site Certification under Florida's Power Plant Siting Act (PPSA). This is a comprehensive review of all environmental aspects of WCEC 3 coordinated through the Florida Department of Environmental Protection (FDEP), involving all state and regional agencies with environmental responsibility

and those agencies potentially affected by WCEC 3. This includes, but is not limited to, the FDEP, Florida Department of Community Affairs, Florida Department of Transportation, Florida Fish and Wildlife Conservation Commission, South Florida Water Management District (SFWMD) and Palm Beach County. This comprehensive environmental review evaluates WCEC 3's environmental controls and determines compliance with applicable environmental standards. This ultimately leads to a comprehensive analysis by agencies and Conditions of Certification that set forth environmental requirements. WCEC 3 will also be required to meet federal requirements. A PSD/Air Construction Permit must be issued by the FDEP, which addresses the federally approved PSD regulations.

Q. Please summarize the major requirements for the environmental approvals of WCEC 3.

A. The major requirements include (i) demonstrating that the air quality standards are met; (ii) installing Best Available Control Technology (BACT) from an environmental regulatory perspective; (iii) preventing adverse impacts to fish and wildlife; (iv) using the lowest quality water; and (v) minimizing impacts to surface and ground waters.

Q. What is the current status of obtaining environmental approvals?

A. The SCA and the application for the PSD/Air Construction Permit were filed on December 6, 2007, and are currently under review.

quality water from the Upper Floridan Aquifer as backup supplies. Wastewater will be released using Underground Injection Control (UIC) wells being developed for WCEC Units 1 and 2. WCEC 3 will not have industrial water discharges to surface waters or groundwater that can impact the environment. Air emissions from WCEC 3 will be minimized by use of the cleanest fuels (natural gas and ultra low sulfur light oil), advanced combined cycle technology and installation of state-of-the-art air pollution control equipment for emissions of nitrogen oxides (NO_x).

Q. Will FPL's environmental compliance plan for WCEC 3 meet, or be better than, the applicable environmental requirements?

A. Yes. FPL's environmental compliance strategy will meet all applicable environmental requirements and standards. Indeed, many of the environmental designs will be better than the requirements and standards since they are based on proven technologies.

Q. How will WCEC 3 affect FPL's emission rates as they compare to other utilities?

A. Currently, FPL's overall emission profile is low compared to all other utilities in the U.S. In a study conducted by the Natural Resources Defense Council (NRDC), FPL emission rates in pounds per megawatt hour (lb/MWh) for SO_2, NO_x and CO_2 were found to be one of the lowest in the country. SO_2 and NO_x are the primary air emissions when burning fossil fuels, while CO_2 is the primary greenhouse gas emitted. The addition of WCEC 3 will further reduce

FPL's system emission profile for all these air emissions by displacing emissions from less efficient units.

Q. What are greenhouse gases?

A. Greenhouse gases (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.

Q. What effect will the operation of WCEC 3 have on FPL's emissions of CO_2?

A. Adding WCEC 3 in 2011 will reduce FPL's emissions of CO_2 by an average of about 1.7 million tons per year over the years 2011 through 2017. I prepared Exhibit KFK-2, which shows the CO_2 reductions over this period. The reduction in CO_2 emissions is a result of the efficiency of WCEC 3. WCEC 3 will be one of the most efficient natural gas fired generating units in FPL's system, which will displace generation produced by less efficient units in FPL's system, consequently reducing the amount of CO_2 emissions. The increased efficiency can be shown by the CO_2 emission rate in pounds of CO_2 emitted per megawatt of energy produced per hour (lb/MWh). For example, the CO_2 emission rate for WCEC 3 will be about 750 lb/MWh, while the CO_2 emission rates for the FPL existing steam units is about 1,500 lb/MWh, or twice as much as WCEC 3.

The decrease in FPL's system CO_2 emission rate has been occurring since 2000 with the addition of conversion projects and advanced combined cycle plants. The decrease in CO_2 emissions will continue with WCEC 3. From 2000 through 2006, FPL's system generation increased from 98,700 gigawatt-hours (GWh) to 116,300 GWh, an increase of about 18 percent. In contrast, the CO_2 emission rates decreased from 1,269 MWh to 1,079 MWh, a decrease of about 15 percent. The addition of WCEC 3, among other measures, will continue FPL's major efforts to reduce CO_2 emissions in FPL's system toward reaching the Florida CO_2 reduction goals stated in Governor's Crist's Executive Orders.

Q. Will the operation of WCEC 3 by 2011 allow opportunities of further reductions in CO_2 emissions?

A. Yes. It is my understanding that the addition of WCEC 3 by 2011 will allow, from an electric reserve margin perspective, the opportunity to convert FPL's existing units as is discussed in detail by FPL's Witness Silva. While a decision to convert these facilities will need to be evaluated from environmental, engineering and economic perspectives, if FPL were to proceed with conversions made possible in part by the addition of WCEC 3, FPL's CO_2 emissions would be reduced further as a direct result of the conversion of these plants.

Q. What effect would the conversion of some existing units have on FPL's emissions of CO_2?

A. FPL's emissions of CO_2 would decrease by an additional 900,000 tons in 2017 with the conversion of some of FPL's existing units that would be made possible by adding WCEC 3 in 2011. I prepared Exhibit KFK-3, which shows the 2017 FPL system CO_2 emissions without WCEC 3, with WCEC 3, and with WCEC 3 and the conversion of some of FPL's existing units. As shown on the exhibit, with addition of WCEC 3 in 2011 together with the conversion of some of FPL's existing units, FPL's CO_2 emissions will reach the goal stated in Governor Crist's Executive Orders for 2017.

Q. Would WCEC 3 and the conversions have similar environmental benefits on other air emissions when operational?

A. Yes. There will be considerable reductions in the air emissions of particulate matter, NO_x, and SO_2. Together, WCEC 3 and the conversions would decrease emissions of these pollutants by over 30,000 tons/year compared to current actual emissions. These reductions will be a direct environmental benefit for Florida's future.

SECTION III: FUTURE ENVIRONMENTAL CONSIDERATIONS

Q. What additional future environmental requirements will potentially be applicable to WCEC 3?

A. The Environmental Protection Agency (EPA) promulgated the Clean Air Interstate Rule (CAIR). CAIR establishes state limits on annual and seasonal emissions on NO_x and annual emissions of SO_2. The limits apply to 25 states,

primarily in the eastern U.S., and the District of Columbia (DC). The limits were established in two timeframes: NO_x - 2009 through 2014; and 2015 and beyond, and SO_2 - 2010 through 2014; and 2015 and beyond. EPA's rule includes a cap-and-trade system that allows affected facilities to meet the requirements through either the addition of control technologies or acquisition of allowances through a market based system. The cap-and-trade system in EPA's CAIR regulations is similar to the successful Acid Rain Program referred to as Title IV that was initially developed through the 1990 amendments of the Clean Air Act. In implementing CAIR, the EPA allowed states to utilize model rules in implementing CAIR or develop specific regulations to meet the requirements of CAIR. The FDEP has adopted the EPA model rule that would allow the use of the national cap-and-trade system.

Q. How will EPA's CAIR regulations influence WCEC 3?

A. FPL will be required to hold allowances for the actual emissions from WCEC 3 of NO_x and SO_2. The allowances would have a potential economic impact, since allowances must be obtained through a state pool or the cap-and-trade system. However, WCEC 3 will emit very little SO_2. In addition, the emissions of NO_x will be highly controlled and very low compared to other fossil fired units.

Q. Are there any laws regulating CO_2?

A. No, there are no current rules regulating CO_2.

Q. Did FPL consider possible CO_2 regulations in the economic analysis of WCEC 3 and the proposals received in response to the Request For Proposal (RFP)? If so, how?

A. Yes. Although there are no current laws regulating emissions of CO_2, FPL considered the potential future regulation of CO_2 using projections developed from federal legislative initiatives and the basic framework of the cap-and-trade system. Over the last several years there have been federal legislative initiatives that have proposed different forms of 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 CO_2 emissions. These federal legislative initiatives formed the basis for the potential costs that may occur in the future.

Q. Please explain the compliance costs for the CAIR and potential CO_2 regulations that were included in the economic analysis of WCEC 3 and the proposals received in response to the RFP.

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 for WCEC 3 and in its Request for Proposals evaluation, and presented to the RFP participants shortly after the RFP was issued, were based on the then-current information from ICF International in a confidential report titled "U.S. Emission & Fuel Markets Outlook, 2006 edition." The ICF report provides allowance cost forecasts that are based on integrated modeling of the electric, fuel and

environmental markets in the U.S. The allowance costs used for WCEC 3 and the RFP were the mid-range ICF forecasted compliance costs. These allowance costs are the same as FPL recently included in its two nuclear filings. In those filings, the mid-range forecast was referred to as the ENV II forecast. The allocations of SO_2, NO_x, and mercury allowances were based on the CAIR and CAMR rules developed by the FDEP. For CO_2, it was assumed that allowances would be purchased under a cap-and-trade system similar to an auction.

Q. Has the ICF updated their projections since the 2006 report? If so, how did their projections change and what influence would it make on FPL projections related to WCEC 3?

A. Yes. ICF International issued a report titled "U.S. Emission & Fuel Markets Outlook 2007." The new ICF projections incorporate newer information regarding potential CO_2 compliance costs. A comparison of the 2006 and 2007 ICF projections for the mid-range forecasted compliance costs indicate that the newer projections are higher than the previous forecasted compliance costs. However, as I have shown in Exhibit KFK-2, FPL's system will have a net reduction in CO_2 emissions with WCEC 3. Since allowance costs will likely be based on a cap-and-trade system, there will be an overall reduction in potential CO_2 compliance costs with WCEC 3 in FPL's system. Using the most recent ICF forecast for CO_2 allowance costs, the value of the CO_2 reductions in the FPL system with the addition of WCEC 3 is greater than using the 2006 ICF forecast CO_2 allowance costs. For example, the CO_2

reduction in FPL's system with WCEC 3 is projected to be 1,691,000 tons lower in 2015 than without WCEC 3 (see Exhibit KFK-2). The value of this reduction using the 2006 ICF mid-range allowance forecast is about $19.2 million, while the value of the CO_2 reduction using the 2007 ICF allowance forecast is about $29.6 million, using the values for 2015 as an example.

Q. In your opinion, are the allowance costs used in FPL's economic evaluation of WCEC 3 and the RFP proposals, reasonable and appropriate 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

In re: Florida Power & Light Company's Petition to determine need for West County Energy Center Unit 3 electrical power plant.	DOCKET NO. 080203-EI
In re: Florida Power & Light Company's Petition for determination of need for conversion of Riviera Plant in Palm Beach County.	DOCKET NO. 080245-EI
In re: Florida Power & Light Company's Petition for determination of need for conversion of Cape Canaveral Plant in Brevard County.	DOCKET NO. 080246-EI Filed: June 19, 2008

ERRATA SHEET

DIRECT TESTIMONY OF KENNARD F. KOSKY; DOCKET 080203-EI

PAGE #	LINE #	CORRECTION
9	11	Replace "over the years 2011 through 2017" with "over the years from 2011 through 2017."

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

FLORIDA POWER & LIGHT COMPANY

DIRECT TESTIMONY OF KENNARD F. KOSKY

DOCKET NO. 08_____-EI

APRIL 30, 2008

Q. Please state your name and business address.

A. My name is Kennard F. Kosky and my business address is 6241 NW 23rd Street, Suite 500, Gainesville, Florida 32653.

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. I am a Principal with the firm in the Gainesville office involved primarily in the environmental aspects of electric power plants.

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 30 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 three conversions or repowering projects where combined cycle units replaced older steam generating units. These projects were the FPL Lauderdale, Fort Myers and Sanford Repowering Projects. My primary technical activities have involved developing air emission inventories, evaluating air pollution control technologies and performing air quality impact evaluations of these facilities. 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 converting FPL's existing Riviera and Cape Canaveral Plants to combined cycle technology?

A. I had the responsibility for directing feasibility studies for the Riviera and Cape Canaveral Plants. This included a Prevention of Significant

Deterioration (PSD) emission analysis for the Riviera Plant conducted in 2007 and air quality, noise and water quality feasibility analyses performed for both Riviera and Cape Canaveral Plants in 2008.

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 emissions (tons/year) for Riviera Plant (before and after conversion)
Exhibit KFK-3	SO_2, NO_x and Particulate Matter emissions (tons/year) for Cape Canaveral Plant (before and after conversion)
Exhibit KFK-4	SO_2, NO_x and Particulate Matter emission rate (lb/MWh) for Riviera Plant before and after conversion
Exhibit KFK-5	SO_2, NO_x and Particulate Matter emission rate (lb/MWh) for Cape Canaveral Plant (before and after conversion)
Exhibit KFK-6	Carbon dioxide (CO_2) emission rate (lb/MWh) for Riviera Plant (before and after conversion)
Exhibit KFK-7	Carbon dioxide (CO_2) emission rate (lb/MWh) for Cape Canaveral Plant (before and after conversion)

Exhibit KFK-8 CO_2 emissions reductions in FPL's system with the conversions of Riviera and Cape Canaveral Plants

Q. What is the purpose of your testimony?

A. My understanding is that the Commission will consider and determine the need for the conversions of the existing Riviera and Cape Canaveral Plants pursuant to the utility laws and regulations that it is responsible for administering. These laws and regulations that consider and determine need do not include environmental regulation. However, because electric power plants constructed in Florida must comply with environmental regulations, the costs of compliance are part of the project. Accordingly, the purpose of my testimony is to provide the Commission an overview of the key environmental aspects of these conversion projects.

Based upon my training, experience and analysis conducted in relation to this project, my testimony reaches and supports the following key conclusions: (i) the selection of advanced combined cycle technology and environmental controls for the conversions not only meets, but is better than the extensive environmental regulatory requirements; (ii) the technology selected for the conversions is the best available alternative from an environmental perspective; and (iii) 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 converting Riviera and Cape Canaveral Plants. My testimony demonstrates that the use of natural gas, the cleanest fossil fuel, combined with advanced combined cycle technology and state-of-the-art air pollution control equipment for these conversions will meet or be better than the environmental regulatory requirements. Converting these plants 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. The conversions together with other system improvements would allow FPL's overall system CO_2 emissions to be reduced by millions of tons. Existing cooling water and land infrastructure will be utilized that allows the location of 2,500 MW of capacity in existing areas where only 1,400 MW of capacity can now be generated.

Regulation of CO_2 emissions has not been implemented, but is likely in the future. However, implementation of potential future CO_2 regulations favors conversions, since their operation would result in FPL system wide CO_2 reductions. The future environmental compliance costs considered by FPL in its analyses are reasonable and appropriate.

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 converting the Riviera and Cape Canaveral Plants. Section II presents information on how the conversions will not only meet, but be better than these requirements. Section III describes the existing and possible future environmental requirements and their potential influence on future environmental compliance 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 are the environmental approvals applicable to conversion of the Riviera and Cape Canaveral Plants?

A. FPL is required to obtain state and local environmental approvals for the conversions. The key environmental approvals will be from the Florida Department of Environmental Protection (FDEP), who is responsible for issuance of Air Construction Permits and modification to the Industrial Wastewater Facility Permits, which are part of federally delegated programs. Local land use and zoning approvals will also be required.

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

A. The conversions will result in improvements in environmental performance because less efficient and higher emitting existing steam units will be replaced. The environmental regulatory agencies will evaluate these environmental improvements and issue environmental approvals for the construction and operation of the new combined cycle units at the Riviera and Cape Canaveral Plants.

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 time resulting from challenges is uncertain, but historically has extended potential regulatory approvals by months.

SECTION II: ENVIRONMENTAL COMPLIANCE AND BENEFITS

Q. What general features of converting Riviera and Cape Canaveral Plants serve to meet environmental requirements?

A. The conversion of existing Riviera and Cape Canaveral Plants with advanced natural gas fired combined cycle units are an ideal opportunity to use existing power plant sites and infrastructure to achieve environmental improvements. The Riviera and Cape Canaveral Plants provide the infrastructure for a new combined cycle unit that includes an existing developed site, existing cooling

water systems, 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 light oil), advanced combined cycle technology and installation of state-of-the-art air pollution control equipment for emissions of nitrogen oxides (NO_x). In contrast, the air emissions from the existing Riviera and Cape Canaveral Plants reflect the use of older technology and heavy fuel oil that 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. For example, the existing steam generating units at the Riviera and Cape Canaveral Plants require cooling water flow for all the generation produced. In contrast, new combined cycle units require cooling water for only about one-third of the generation produced. After the conversions of the Riviera and Cape Canaveral Plants are complete, the total generation of both plants combined will be about 2,500 MW on the same locations that about 1,400 MW are produced today. This is about an 80 percent increase in generation capacity at existing power plant sites without any increase in land area and with improvements in environmental performance.

Q. Will FPL's environmental compliance plan for the conversion of the Riviera and Cape Canaveral Plants meet, or be better than, the applicable environmental requirements?

A. Yes. The conversion of the Riviera and Cape Canaveral Plants will meet all applicable environmental requirements and standards. Indeed, many of the environmental controls will be better than the requirements and standards because they are based on proven technologies.

Q. What environmental benefits will result when conversions are operational?

A. There will be considerable reductions in the air emissions of particulate matter, NO_x, and SO_2. Exhibit KFK-2 shows the reduction from actual air emissions for the conversion of the Riviera Plant. As shown, the air emissions of particulate matter, NO_x, and SO_2 before the conversion is about 890 tons/year, 4,700 tons/year and 11,300 tons/year, respectively. In contrast, the cumulative amount of these air emissions will be less than 400 tons/year. More importantly, the amount of generation associated with the new combined cycle unit reflected in Exhibit KFK-2 is about 4.6 times higher than that associated with the existing Riviera Plant. Similar decreases in air emissions would occur for the conversion of the Cape Canaveral Plant as shown in Exhibit KFK-3. Particulate matter, NO_x, and SO_2 before the conversion of the Cape Canaveral Plant is about 570 tons/year, 3,500 tons/year and 6,600 tons/year, respectively. In contrast, the cumulative air emissions after the conversion to combined cycle technology will be less than

400 tons/year. The reductions directly attributable to the conversion of the Riviera and Cape Canaveral Plants will be a significant environmental benefit for Florida's future.

Q. How will the conversions of the Riviera and Cape Canaveral Plants affect FPL's emission rates as they compare to other utilities?

A. The conversions of the Riviera and Cape Canaveral Plants will continue to 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 particulate matter, SO_2 and NO_x. Exhibits KFK-4 and KFK-5 show the lb/MWh emission rates of the Riviera and Cape Canaveral Plants before and after the conversions are complete. As shown in these exhibits the emission rates significantly decrease with the conversions. This will further reduce FPL's system emission profile for all these air emissions by displacing emissions from less efficient units.

Q. What are greenhouse gases?

A. Greenhouse gases (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.

Q. What effect will the conversions have on FPL's emission rates of CO_2?

A. The CO_2 emission rate after the conversions of the Riviera and Cape Canaveral Plants complete will be about one-half the CO_2 emission rate prior

to the conversion. This reduction in CO_2 emission rate is a result of the efficiency of advanced combined cycle technology and the use of natural gas. The conversions will be among the most efficient natural gas fired generating units in FPL's system, 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 the CO_2 emission rate in pounds of CO_2 emitted per megawatt of energy produced per hour (lb/MWh). Exhibits KFK-6 and 7 show the lb/MWh emission rates before and after the conversions for the Riviera and Cape Canaveral Plants to combined cycle technology. As shown in these exhibits, the CO_2 emission rate for the new combined cycle units will be about 750 lb/MWh, while the CO_2 emission rates for both the FPL Riviera and Cape Canaveral Plant is about 1,500 lb/MWh, or twice as much. The conversions, among other measures, will continue FPL's major efforts to reduce CO_2 emissions in FPL's system.

Q. What effect would the conversions of the Riviera and Cape Canaveral Plants have on FPL's system emissions of CO_2?

A. The conversions will reduce FPL's system emissions of CO_2 by 15.7 million tons from 2013 through 2040. I prepared Exhibit KFK-8, which shows the cumulative 2017 through 2040 FPL system CO_2 emissions with the conversions. As shown on the exhibit, there will be significant reduction in CO_2 emissions FPL's system as a direct result of the conversion of the Riviera and Cape Canaveral Plants.

SECTION III: FUTURE ENVIRONMENTAL CONSIDERATIONS

Q. What future environmental requirements will potentially be applicable to the conversion of the Riviera and Cape Canaveral Plants?

A. The Environmental Protection Agency (EPA) promulgated the Clean Air Interstate Rule (CAIR). CAIR establishes state limits on annual and seasonal emissions on NO_x and annual emissions of SO_2. The limits apply to 25 states, primarily in the eastern U.S., and the District of Columbia (DC). The limits were established in two timeframes: NO_x - 2009 through 2014; and 2015 and beyond, and SO_2 - 2010 through 2014; and 2015 and beyond. EPA's rule includes a cap-and-trade system that allows affected facilities to meet the requirements through either the addition of control technologies or acquisition of allowances through a market based system. The cap-and-trade system in EPA's CAIR regulations is similar to the successful Acid Rain Program referred to as Title IV that was initially developed through the 1990 amendments of the Clean Air Act. In implementing CAIR, the EPA allowed states to utilize model rules or develop specific regulations to meet the requirements of CAIR. The FDEP has adopted the EPA model rule that would allow the use of the national cap-and-trade system.

Q. How will EPA's CAIR regulations influence conversions?

A. FPL will be required to hold allowances for the actual emissions from the conversions of NO_x and SO_2 in the same manner as the existing units. The allowances would have a potential economic impact, since allowances must be obtained through a state pool or the cap-and-trade system. However, as I have shown in Exhibits KFK-2 and KFK-3, there will be decreases in emissions of SO_2 and NO_x. This will result is lower compliance costs for these air emissions after the conversions compared to the existing units.

Q. Are there any laws regulating CO_2?

A. No, there are no current laws regulating CO_2.

Q. Did FPL consider possible CO_2 regulations in the economic analysis of the conversions? If so, how?

A. Yes. Although there are no current laws regulating emissions of CO_2, FPL considered the potential future regulation of CO_2 using projections developed from federal legislative initiatives and the basic framework of the cap-and-trade system. Over the last several years there have been federal legislative initiatives that have proposed different forms of 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 CO_2 emissions. These federal legislative initiatives formed the basis for the potential costs that may occur in the future.

Q. Please explain the compliance costs for the CAIR and potential CO_2 regulations that were included in the economic analysis of the conversions.

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 then-current information from ICF International in a confidential report titled "U.S. Emission & Fuel Markets Outlook 2007." The ICF report provides allowance cost forecasts that are based on integrated modeling of the electric, fuel and environmental markets in the U.S. The allowance costs used were the mid-range ICF forecasted compliance costs. The allocations of SO_2, NO_x, and mercury allowances were based on the CAIR and CAMR rules developed by the FDEP. For CO_2, it was assumed that allowances would be purchased under a cap-and-trade system similar to an auction.

Q. In your opinion, are the allowance costs used in FPL's economic evaluation of the conversions, reasonable and appropriate 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

In re: Florida Power & Light Company's Petition to determine need for West County Energy Center Unit 3 electrical power plant.	DOCKET NO. 080203-EI
In re: Florida Power & Light Company's Petition for determination of need for conversion of Riviera Plant in Palm Beach County.	DOCKET NO. 080245-EI
In re: Florida Power & Light Company's Petition for determination of need for conversion of Cape Canaveral Plant in Brevard County.	DOCKET NO. 080246-EI Filed: June 19, 2008

ERRATA SHEET

DIRECT TESTIMONY OF KENNARD F. KOSKY; DOCKET 080245-EI and 080246-EI

PAGE #	LINE #	CORRECTION
11	19	Replace "cumulative 2017 through 2040 FPL system" with "cumulative 2013 through 2040 FPL system"

BY MR. ANDERSON:

Q Mr. Kosky, have you prepared a summary of your testimony?

A Yes, I have.

Q Would you provide your summary to the Commission, please?

A Yes, I will.

Good afternoon, Chairman and members of the Commission. My name is Kennard Kosky, and I've spent the last 30 years involved as an environmental engineer in the licensing and siting of electric power facilities. My experience includes the overall responsibility for the preparation of the site certification applications for West County Units 1 and 2 and West County 3, and I directed the preparation of environmental applications and analyses for the converted projects that include Lauderdale, Fort Myers and Sanford plants.

My role today is to provide assurance as an independent Florida professional engineer that West County 3 and the conversions can be and can comply with environmental requirements; in addition, the expected costs of environmental compliance that have been included in FP&L's economic analyses are reasonable and appropriate.

To put the environmental benefits of West County 3 into perspective I have shown the avoided CO2 emissions from

2011 through 2017 in Exhibit KFK-2 from my West County 3 testimony. As shown in this exhibit, FP&L's system emissions of CO2 will decrease by over one million tons each year over the years 2011 through 2017.

As discussed by FP&L Witnesses Silva and Sim, the addition of West County 3 in 2011 will allow the opportunity to convert FP&L's existing Riviera and Cape Canaveral plants from the older steam generating technology to advanced combined cycle technology. Converting these plants will reduce by over 100,000 tons the emissions of particulate matter, sulfur dioxide and nitrogen oxides.

Exhibits KFK-4 and KFK-5 from my conversions testimony show the pounds per megawatt hour emission rates of the Riviera and Cape Canaveral plants before and after the conversions are complete. As shown in these exhibits, the emission rates with the conversions will decrease by almost 100 fold, resulting in substantial emission reductions at those plants. In addition to the reductions of emissions from the converted units directly, FP&L's systems emissions will be further reduced through the displacement of emissions from less efficient units in the FP&L system.

Most importantly, the conversions will reduce the total CO2 emissions from FP&L's system. This is illustrated in Exhibit KFK-8 from my conversions testimony which shows the reductions of CO2 emissions in FP&L's systems from 2013 through

2040 with the conversions in place. As shown on the exhibit, there will be a cumulative CO2 reduction of about 16 million tons in FP&L's system as a direct result of the conversions.

Moreover, the conversions allow the beneficial reuse of existing power plant infrastructure, which allows the location of efficient 2500 megawatts of capacity in existing areas where only 1400 megawatts of capacity can now be generated. This concludes my summary.

MR. ANDERSON: Mr. Kosky is available for questions.

CHAIRMAN CARTER: Commissioner Skop, you're recognized.

COMMISSIONER SKOP: Thank you, Mr. Chairman.

Good afternoon, Mr. Kosky.

THE WITNESS: Good afternoon.

COMMISSIONER SKOP: Just I believe one quick question I had on Page 8 of the prefiled testimony that you gave for the conversion plants.

With respect to the water consumption requirements of the conversion plants, I think you state on Page 8 at Line 13 that those would require substantially less cooling water; is that correct?

THE WITNESS: Well, it would require about the same amount of cooling water depending upon the plant. For cooling the steam cycle, because you're generating electricity with

very large combustion turbines, they don't need water. So in effect you're generating a lot of electricity with a lot less water.

COMMISSIONER SKOP: Okay. I guess I just was trying to clarify that point because, I mean, I understand certainly that you don't need to cool the turbines with the water like you would in some other instances. But, again, I was trying to flesh that out. So basically between Line 13 and Line 16 I guess you're saying that you're able to generate more electricity or higher density on the same property using somewhat less water; is that correct?

THE WITNESS: Yes.

COMMISSIONER SKOP: Okay. Thank you.

CHAIRMAN CARTER: Commissioners, anything further?

Staff?

MS. BROWN: No questions.

CHAIRMAN CARTER: Mr. Anderson.

MR. ANDERSON: We have nothing.

CHAIRMAN CARTER: Let's deal with exhibits.

MR. ANDERSON: Yes. There are Exhibits 28 through 30 and 78 through 85 which we offer into evidence.

CHAIRMAN CARTER: Any objections? Without objection, show it done.

(Exhibits 28 through 30 and 78 through 85 admitted into the record.)

The witness may be excused. Call your next witness.

MR. ANDERSON: FPL --

CHAIRMAN CARTER: One second. Let's do this, Commissioners. We've been making, moving on at a nice little clip. Let's give the Commissioners and the court reporter a little break here. I'm looking at 10 of by the clock on my right. I think the one on the left is close to being the same time. We're on recess until 10 of.

(Recess taken.)

(Transcript continues in sequence with Volume 4.)

STATE OF FLORIDA)
: CERTIFICATE OF REPORTER
COUNTY OF LEON)

I, LINDA BOLES, RPR, CRR, Official Commission Reporter, 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' attorneys or counsel connected with the action, nor am I financially interested in the action.

DATED THIS 27th day of June, 2008.

Linda Boles

LINDA BOLES, RPR, CRR
FPSC Official Commission Reporter
(850) 413-6734