BEFORE THE
FLORIDA PUBLIC SERVICE COMMISSION

In re: Nuclear cost recovery clause. DOCKET NO. 120009-EI

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VOLUME 7

Pages 1150 through 1448

PROCEEDINGS:	HEARING
COMMISSIONERS PARTICIPATING:	CHAIRMAN RONALD A. BRISE COMMISSIONER LISA POLAK EDGAR COMMISSIONER ART GRAHAM COMMISSIONER EDUARDO E. BALBIS COMMISSIONER JULIE I. BROWN
DATE:	Tuesday, September 11, 2012
PLACE:	Betty Easley Conference Center Room 148 4075 Esplanade Way Tallahassee, Florida
REPORTED BY:	LAURA MOUNTAIN, RPR Wilkinson & Associates (850) 224-0127
APPEARANCES:	(As heretofore noted.)

I N D E X

WITNESSES

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EXHIBITS

P R O C E E D I N G S

(The transcript follows in sequence from Volume 6.)

CROSS EXAMINATION

BY MR. McGLOTHLIN:

Q Mr. Ferrer, my name is Joe McGlothlin, I'm with the Office of Public Counsel, and I have several questions for you about your testimony. Your testimony today relates to your firm's review of the uprate projects during 2011. Has Burns & Roe been involved in any consulting capacity with FPL for their uprates in prior years?

A No.

Q At page nine of your testimony you say that you compared FPL's EPU project organization and approach to the Nuclear Energy Institute document called Roadmap for Power Uprate Program Development and Implementation, do you not?

A Yes.

Q Who is the Nuclear Energy Institute?

A The Nuclear Energy Institute is the vanguard of the nuclear industry and is responsible to promote the culture that we have developed in the nuclear industry, in terms of operation, maintenance, construction, licensing, across the board.

Q And can you describe the document prepared by the Nuclear Energy Institute as one that builds on lessons learned from other uprate projects, is that correct?

A That is quite correct, and we certainly saw that in our in-depth review of the activities of 2011 by FP&L.

Q And the document builds on lessons learned for the purposes of developing best practices for uprate activities?

A Yes, sir.

Q At page nine, line seven, you say -- and should I say Burns & Roe, or should I say BREI? How do you say it?

A Burns & Roe is fine.

Q Burns & Roe concludes that the features suggested by the NEI uprate guidance document for a successful EPU project have all been implemented by FPL and were being maintained throughout 2011, correct?

A Correct. That was our judgment.

MR. McGLOTHLIN: I have a few questions about that statement, and for that purpose I'll need to distribute a document.

COMMISSIONER GRAHAM: Sure. I think we're at 132.

MR. McGLOTHLIN: And let me describe to you and to the witness what I have. I have the full document, which is a road map, which is something like 90 pages and covers a lot of ground, that I propose to give to the witness and counsel so they can confirm it's the same document we're referring to. Then I have an excerpt of only a few pages, which is all I need for my cross purposes, so that we don't kill more trees than we

have to.

COMMISSIONER GRAHAM: Sounds good.

MR. McGLOTHLIN: Oh, there you are. Those are the full documents and this is the excerpt. And could I have an exhibit number for the exhibit?

COMMISSIONER GRAHAM: 132.

(Exhibit 132 marked for identification.)

BY MR. McGLOTHLIN:

Q Mr. Ferrer, have you had an opportunity to peruse the document that's captioned Roadmap for Power Uprate Program Development and Implementation?

A Yes.

Q And you'll see at the top a designation 08-010, Revision 0?

A Correct.

Q Is this the same document to which you refer in your testimony?

A That is correct.

Q And do you also have the excerpt that has been marked as 132?

A I have it here.

Q If you'll turn to the -- beyond the cover page to one of the introductory pages that's captioned Executive Summary.

A Yes, here, I see it.

Q You see the statement at the bottom of the excerpt there that says the term power uprate as used in this report refers to Extended Power Uprate, Stretch Power Uprate, and Measurement Uncertainty Recapture?

A Correct.

Q So this document does apply to the uprate activities that you reviewed for FP&L?

A Correct. In fact, we reused it as part of our review during the process of interviews, et cetera.

Q The next page is page seven. And do I understand correctly that this overview is the basis for the statement in your testimony to the effect that the document builds on lessons learned and represents best practices and keys to success?

A True.

Q If you'll turn to the next page, which is page 12 of the document, you'll see 2.4, Feasibility Study.

A Yes.

Q I'll give you a chance to review that paragraph. I'm sure you're familiar with it already, but for purposes of my question, would you agree that according to this roadmap document, which is designed to provide best practices, a feasibility study should be thorough to ensure that potential impacts of the uprate are completely understood?

A I think the intent of this is to provide the

philosophy of the feasibility study, not that we completely understood every single aspect. It is impossible to do. And this document, as a whole, is a roadmap, not a detailed procedure. So when you make the statement that it's every absolute issue has to be -- will be identified, that is not correct.

Q Well, let me ask you this. Does the document that you cite state in 2.4 that a feasibility study should be thorough to ensure that potential impacts of the uprate are understood; does it say that?

A I apologize, but I do not read it in Section 2.4 that is in front of me.

Q Do you have page 12?

A I have page 12. Which line?

Q It's a sentence that begins: A feasibility study should be thorough, in the middle of the paragraph.

COMMISSIONER GRAHAM: That's not what mine says.

THE WITNESS: That's not what this says. I'm sorry, but it doesn't say that.

MR. MOYLE: It's the fourth sentence.

BY MR. McGLOTHLIN:

Q Do we have a pagination problem?

A I read, the station limitations at a given power level are identified as pinch points, the uprated power level beyond which a system -- which a system, a structure,

component or analysis required capability will not be met without modification. A feasibility study should be thorough -- yes, I see now -- to ensure that potential impacts of the uprate are completely understood.

Q All right.

A That doesn't mean --

Q Excuse me, you've answered my question, sir.

A Yeah, but --

Q Excuse me, my question is --

COMMISSIONER GRAHAM: Mr. Ferrer, they'll catch it on redirect.

BY MR. McGLOTHLIN:

Q Would you read the next sentence, where you left off, beginning with financial analysis?

A Yes. Financial analysis is best completed after compiling the margin impact analysis, after all needed modifications have been identified, and after the impact on grid stability has been reasonably determined.

Q Thank you. And with respect to the following page, which is page 13, under the 2.5, Cost Benefit, would you read the first sentence.

A A feasibility study is typically performed to provide the owner with the scope needed and the overall cost benefit analysis for an uprate project.

Q And below that you'll see a short paragraph

beginning with the word typically. Would you read that?

A Typically, the cost benefit study results will yield a Net Present Value or Internal Rate of Return. This result provides the basis for the business case for the uprate -- for the power uprate project.

Q And would you agree with me that as costs increase, that affects the business case for the project?

A Costs increases -- if you are redoing the financial analysis, cost increases must be taken into account, yes.

Q And as the costs increase, that affects the business case?

A It could, positively or negatively, theoretically.

Q On page 16, under 3.2, Scope and Deliverables --

A Yes.

Q -- would you read the sentence that begins a clear definition.

A A clear definition of the scope is even more critical when engineering activities will be performed by vendor organizations.

Q Do you know whether FPL's uprate activities involve engineering activities performed by vendor organizations?

A Absolutely.

Q Would you read the following sentence that begins

with following are actions.

A Following are actions that should be taken to ensure the scope is adequately defined at the beginning of the project.

Q And finally, would you read the key point, under Detailed Definition.

A Scope creep, the addition to the project of activities not already included in the detailed, defined and agreed to scope, should be actively managed throughout the project.

Q Is it fair to say that in this document the Nuclear Energy Institute, based upon lessons learned from other uprate projects, consider it a best practice and a key to success to have a detailed, defined and agreed to scope for the uprate project?

A From a philosophical point of view, which is what this is -- this is a guideline -- the answer is yes. However, from a practical point of view, Commissioners, it's impossible to do -- define every little aspect of an EPU project without doing all the detailed design up front.

So it is also irrational not to do the feasibility study until all the design is done. And what we saw, at least during the year 2011 -- I want to be very specific, we only looked at 2011 -- we saw actions by FP&L consistent with the guidelines presented in this guidance.

Q Yes, sir, you say that you looked at 2011, but in your testimony you said that Burns & Roe concludes that all of the uprate guidance document have been implemented by FPL, do you not?

A During 2011. We were specific to 2011. We were only focused on 2011. That was our scope charter.

Q Do you not say, at page nine, line 67, Burns & Roe concludes that the features suggested by the NEI uprate guidance document for a successful EPU project have all been implemented by FP&L and were being maintained throughout 2011?

A I said that. That is correct.

Q But you're saying now that that portion of your testimony related only to 2011 and not --

A That is what it says, were being implemented and maintained during 2011, and only 2011. That's what we did.

Q If you'll turn to the last two pages, 18 and 19 of this document.

A 18 and 19?

Q Yes, the last two pages of the handout.

A Okay, thank you.

Q Captioned Integrated Schedule, and there's a generic or illustrative critical path attached as the last page.

A Yes.

Q Understanding that this is a generic schedule, would you agree that according to the Nuclear Energy Institute a typical schedule for an uprate project from conception to completion would be about 48 months?

A Based on what they are presenting, yes, but every project, every site, is different. I do want to make that point.

MR. McGLOTHLIN: Those are all my questions.

COMMISSIONER GRAHAM: Okay. FIPUG?

MR. MOYLE: Thank you.

CROSS EXAMINATION

BY MR. MOYLE:

Q Sir, I just want to understand a little better why you were asked to review the management of the uprate facilities. Did FPL tell you that they wanted you to review it for the purposes of providing testimony in this case?

A No. What they advised us, that they wanted to see what our opinion was, and they hired us to do a completely independent due diligence, which is really our expertise, to -- of the activities in 2011 to see if they were prudently done. And I could have concluded -- my team and I could have concluded that some of them were not, but we did not. We concluded that they were.

We were given complete freedom. We reviewed thousands of documents or pages or documents, we interviewed

all the key personnel involved, including Terry Jones. We asked very, very difficult questions.

And throughout the discussions we saw three things: One, a tremendous emphasis on continuous improvement, as has been discussed before by Terry Jones; two, a complete zeal to try to save money to the customer; and, three, creativity in all the activities they were trying to implement, Commissioners.

Q Do you have anything else?

A I think that's sufficient.

Q Give me one example that you saw where they saved the customer some money.

A A few of them --

Q Just give me one, just give me one.

A Okay, one. They had a rig set up that customarily after they finished with the rig, to bring equipment in and out of St. Lucie, they would actually demolition it, pull it apart and then put it back together again.

So they were talking to each other and they say, gee, we could save money if we find a way of keeping it assembled in a different location so we don't have to dismantle it and put it back together again. And I thought that was a very interesting, creative way of doing it.

They found an area -- tight, mind you, but they found it -- they put it there, and they didn't have to

disassemble it again, and they used it three or four times during the course of the outage. And I saw the rig myself.

Q Okay. And during -- how many days, how many hours did you spend on this project?

A The total -- my total team spent in the sites, visiting the sites, about a week. We spent a total of about -- and again, I do not recall the invoices -- I would say about two months of effort, three or four or five of us involved.

Q Okay, I've got to assume, that with all that amount of time in there you may have seen a couple of instances where some activities were taking place that may not have saved ratepayers money, correct?

A No, that's not correct, I --

Q It was all a one-way street? The only thing you saw was FPL saving money?

A I would not qualify it as a one-way street. You've got to understand the site. You've got a power plant that has --

Q He answered my question.

A The answer is no, I did not see anything that was improper, that was not a -- that was not reasonable or was not prudent.

Q All right. So I'm a little confused by your answer when I asked you why you were hired, because you said

you're not hired to provide testimony?

A I was hired to do an independent review. And after we came back and said we believe you did it prudently, then we were hired to provide testimony.

Q So when you had your initial conversation, your initial scope of work, your testimony is that there was not any discussion about you providing testimony in this case?

MR. ROSS: Objection, asked and answered.

COMMISSIONER GRAHAM: I'll allow it. You can answer.

THE WITNESS: Okay. My recollection was we got a call from Mitch actually to me, and I happened to be in Lithuania, if I remember, Mitch, when you called me. And they asked me, is it possible you could do an independent review of activities, and if you were to conclude that it was prudent, would you mind giving testimony, and I said no.

BY MR. MOYLE:

Q And that was the initial contact?

A My recollection of that, yes, sometime in late December, mid December.

Q Well, on page four, line one, you say, quote, the purpose of this review was to determine whether FPL's project activities executed in 2011 were reasonable and prudent. That's a true statement, right?

A Yes, sir. That's exactly why we were hired.
Q And you're aware that reasonable and prudent is a legal standard that's used by the PSC?
A I've been aware of that term for many, many years. It's in the nuclear industry for many years.
Q Okay. And have you -- I assume your company has done other reviews where you come in and you review the operations and you come back with a list of things where you say, okay, we did a review of the management, and here are things you're doing right, here are some things that we think could be improved upon -- and is that a fair statement?
A That's a fair statement in other reviews, yes.
Q Okay. And that's not what you did in this case, correct?
A I did review all the areas that were pertinent to the 2011 activities, and we didn't see anything that was not reasonable and prudent vis-a-vis the definition under the PSC regulations.
Q So if you had been asked, as I just discussed, to say tell me the things we're doing right, tell me the things we're not doing right, is it your testimony that your findings would not have been any different?
A That is correct. Our findings were exactly what I just said. We found them to be reasonable and prudent.
Q Do you know what the --

A Not perfect. I want to make sure you understand. Sorry.

Q Do you -- I want to test your knowledge of the project a little bit. Do you know what this project, in part of your getting up to speed and preparing your testimony, do you know how much this project -- and when I say this project, for the purposes of this conversation, to make it a little quicker, I'll just use them combined, unless you're not comfortable doing that -- but what the original projected costs of the two uprate projects were?

A That was not part of our due diligence. We were not looking at that at all. I'm aware numbers have been said at the meeting today and other discussions, but I'm not involved in looking at what the original was versus what it is today. That was not part of our review.

Q So do you think, as we sit here today, independently, regardless, that the cost differential, if there is one, that cost differential might be an indicator of some management issues?

MR. ROSS: Objection, he's outside the scope of the witness's testimony.

COMMISSIONER GRAHAM: I'll allow him to answer it. He can tell him if he doesn't know.

THE WITNESS: I do not know.

BY MR. MOYLE:

Q Okay. I'm a history major, and you're a management expert -- that's your testimony, right?

A I'm an engineer in management, yes.

Q Okay. But you don't -- you cannot, as we sit here today, indicate whether cost increases necessarily potentially tie into management issues?

A We did not see -- we only looked at the costs during 2011. We were not involved in looking at cost increases or what caused the cost increases. That was not part of our review. It would have taken much longer to do that review. We were involved in the actions and decisions of FP&L personnel only, and that's what we looked at.

Q You said in your opening summary that you had limited access to FPL employees, is that correct?

A We had access to the -- to the point of us requesting who we wanted to see. Did we have three months of talking to them? No, they were busy running the EPU. We had access to them during the certain amount of times that we asked for, and we set it up and we asked for specific people, we selected the specific people we want to talk to.

Q Did you talk to the Chief Nuclear Officer?

A No, we were talking to the hands-on people, day-to-day decision-makers and action-takers in the EPU. That's what our scope of due diligence was.

Q Did you ask to talk to the Chief Nuclear Officer?

A No, I didn't feel it was necessary.
Q Do you know who the Chief Nuclear Officer is?
A I recall his name, but like I said, I don't memorize names of people throughout the industry. I don't believe it was necessary for me to talk to the CNO. I felt it was very important to talk to the project scheduler, to the site manager, to Terry Jones.
Q He's answered my question.
A Thank you.
Q Do you have an idea as we sit here today what the -- I'll call it a daily burn rate, but what I'm referring to is what the expenditures are on a daily basis for the combined projects.
A Certainly it would be very high but I did not calculate a number. Again, it was not a necessary issue. I was more interested in the decisions and actions that FP&L personnel were taking on a daily, weekly, monthly basis for the year 2011.
Q So you don't have any idea on the --
A I know it's a very large number, in the order of millions.
Q I'm sorry?
A In the order of millions, but I don't know the number.
Q On a daily basis?

A I would say so, close to it. I would say at least a million dollars a day easy.

Q Okay. And now let me refer you to your direct testimony on page seven. You're asked, at line three, please summarize the conclusions of BREI's review of EPU engineering and the engineering work control process.

A Right.

Q And on line eight you say, these are proactive measures taken by FPL to minimize cost and schedule impacts during construction caused by delays in issuance of engineering modification packages in work planning packages and by the discovery of the need of additional work during outage performance. Is that your testimony?

A Yes.

Q Did you dig into the delays caused by the issuance?

A Yes, we did, and we can -- I can explain how this decision was arrived at, if you like.

Q Why don't you just tell me the time frame, the delays, the delays associated -- if you can tell me the number of days --

A No, no, it doesn't work that way. What we were looking at at the time of the discussions and interviews that we were conducting for 2011 is the fact that the FP&L personnel started to recognize as early as late 2010 per the

statement to us, but definitely in 2011, that some of the processes and resource allocation that Bechtel had needed to be augmented, meaning the delays had now been accrued but they could end up in delays in the field.

So what they decided to do is -- and properly so -- decided to say, okay, we'll delay the start of the St. Lucie outage to make sure that we have 90 percent completed work packages, or almost 100 percent completed work packages before we implemented, so that they would not have problems, and additional costs, et cetera, et cetera.

And then they started to -- at some point in that period of time they have been already involved in setting up contracts, as Terry Jones said, he indicated earlier, with other vendors, other suppliers. Which we think was very appropriate, meaning they were using their own performance matrix. They were looking ahead and seeing that potential delays could occur and started to take action to avoid them. However, they did take -- they made a decision to delay the outage for St. Lucie 2 -- for St. Lucie 1.

Q How long did they decide to delay it?

A I believe it was three months. However, if you look at the actual schedules that ultimately were performed, the schedules were performed under, you can note St. Lucie 1 is already on line, so the ultimate impact was relatively minimal.

Q What was it, in terms of days, if you know?

A My recollection was the start only was three months behind the original schedule set sometime before.

Q So if it was delayed three months, call it 90 days, and you've got a million-dollar-a-day burn rate, that has a $90 million impact?

A No, no, no, it doesn't work -- it doesn't work that way because ultimately the plant went on line, back up roughly in the original schedule, or close to the original schedule. And Terry Jones can address that in more detail how that was done.

Q I want to ask you some questions about -- about this document and your review. Did you -- did you -- do you have an opinion as we sit here today with respect to doing a feasibility study and the recommendations of this road map? Do you think it's better to do that in a way where you look at each project on a stand-alone basis, or do you think it's better to mesh them together and throw everything together into one -- one pot, and then do the analysis on the combined issue?

A You're talking to a guy -- you're talking to a guy who believes that the more synergism you can have between stations, the better off we are. And it's exactly why the EPU was done a single entity. You do have a tremendous amount of synergisms. You're having the engineering done for

all four units, the design, the labor, the training.

I mean, it is inconceivable, particularly when the units are only about 150 miles or so away from each other -- that's not a lot of distance, as we ourselves drove from one station to the other. So we really believe that it would be imprudent to separate the units, really imprudent, I hate to tell you.

Q And that's your professional testimony that you think --

A Absolutely, and the opinion of our staff, the ones who conducted the independent review.

Q How many years did you work for Stone & Webster?

A I worked almost 30 years.

Q Did Stone & Webster, whenever they were doing economic analysis of their projects that they had kind of in the pipeline, did they not look at the projects on a stand-alone basis, but to say, you know, we should combine these projects and look at them in a combined fashion; they didn't do that, did they?

A In general -- well, let me explain what we did do. I'm going back to my youth now.

MR. MOYLE: Mr. Chairman, if I could just have a yes/no as to isn't it true that Stone & Webster didn't combine projects for the purposes of financial analysis, that could move it along.

MR. ROSS: Mr. Chairman, we've given Mr. Moyle some leeway, but there's no testimony, if you look at Mr. Ferrer's prefiled testimony, there's nothing in here about feasibility analysis. He's already testified about the NEI document, and now he's being asked questions about what he did 30 years ago, in terms of feasibility analysis. I think we're pretty far off the track.

COMMISSIONER GRAHAM: I'll allow the question. I'm interested myself.

THE WITNESS: You're interested? Well, I'll tell you what we did.

MR. MOYLE: See if you can get a yes/no.

THE WITNESS: Mr. Commissioner --

COMMISSIONER GRAHAM: Mr. Moyle -- Mr. Moyle, if you can rephrase the question.

BY MR. MOYLE:

Q All right. At Stone & Webster --

A Yes.

Q -- isn't it true that during your 30 years that it was not regular and routine financial practice to combine projects together for the purposes of doing a cost benefit analysis, that the projects were done on an individual basis; isn't that true, yes or no?

A Yes and no. It depends whether we were doing a

single unit site or a dual unit site. If we had the possibility of having two units, we definitely did it together, because it made a lot of sense. You train the people -- this is thousands of people, millions of dollars you're spending on training, and you want to do it all at once. You don't want to do it twice. If you are doing a single site, of course we did a single one. But here you have the opportunity to have four units.

COMMISSIONER GRAHAM: Okay, Mr. Ferrer, I think you answered his question.

BY MR. MOYLE:

Q Okay. And in your answer you said it was driven by whether you had a single site or not, correct?

A No, a single unit.

Q At Stone & Webster.

A Single unit construction versus dual unit construction. Not single site, single unit. And it was ground roots construction, greenfield construction, not the operations. I apologize. This is my first time I'm testifying in front of the Commission.

COMMISSIONER GRAHAM: You're doing a fine job.

THE WITNESS: Thank you, sir.

COMMISSIONER GRAHAM: If you're speaking too long, he'll look up and get my attention and I'll ask you to kind of cut it short.

THE WITNESS: Thank you.

COMMISSIONER GRAHAM: But other than that, we'll let you go.

THE WITNESS: Thank you.

BY MR. MOYLE:

Q This document that OPC asked you some questions about --

A Yes.

Q -- do you have an understanding as we sit here today of the term scope creep?

A Very much so. The term was used years ago in mostly purchase orders where the vendor would try to give you extras, and we call that scope creep. Here what's happened is a very different situation. It wasn't the vendors trying to say we want to sell you more, it was the complexity of the project led to additional scope. It's that simple. I would not have used the term scope creep for the activities we saw in 2011.

Q And this document, this Roadmap for Power Uprate, it was published in July of 2009, correct?

A Correct.

Q Is it -- is it -- do you believe that there hasn't been any scope creep as it relates to Bechtel and Shaw and the other engineering companies that have been doing work on this project?

A Not from the definition that I'm accustomed to. I believe there have been scope increases as a result of a complexity. When you see the sites, the number of people involved, the management of the people, the feeding, the caring, the transportation logistics, the equipment -- the just in time equipment that has to be brought in, then you realize the complexity.

Q Sir, isn't it the plan as to how to do this -- have you done any work on any other uprates? Have you been hired to evaluate or to give an opinion as to any other uprate projects?

A We do not -- we have not done an EPU, but we did do a -- what did you call it -- not extended uprate, but a smaller uprate at Indian Point Number 3.

Q And isn't the idea in engineering to go in and define as clearly as you can the scope of the work at the beginning as to ward against what they call scope creep?

A But there is a difference between --

Q Yes/no?

A Yes and no again. Sorry. Yes from the point of view that you do the best you can. No in the point of view that you don't have the detailed design; you still have to make judgments. And that's what we were looking at in 2011, the judgments and the actions and decisions made by the FP&L management staff.

Q You're aware that FPL has cited as progress the fact that they were able to achieve a target price relationship with Bechtel, are you not?

A I'm aware of that, yes.

Q Okay. And isn't it true that a target price relationship helps narrow down, pin down, the scope of the work? Yes/no?

A I think that -- no, no, it's not a question of defining the scope. The target price is set up -- and I think Terry did a good job this morning defining how that works, but the bottom line is you set it up to provide incentives.

COMMISSIONER GRAHAM: Sir, I think you answered his question.

BY MR. MOYLE:

Q All right, the final point, let me ask you, on page six, line four, did you independently uncover any of the challenges you say that BREI also found that the EPU project team was well aware of challenges and was actively implementing the strategies that had been developed to mitigate identified challenges? Did you independently identify any challenges?

A Yes.

Q Okay, what were they?

A Logistics. Just the fact that you have open deck

turbine buildings because of the hurricane design that you have here.

Q Okay, what else?

A And you have a large number of people. The transportation -- in a power station that's accustomed to feed and maintain 300, 400 workers, now you have 1700 people, absolutely. The safety --

Q And --

A Sorry.

Q I'm sorry.

A The safety challenges, and there is a tremendous safety conscience all throughout the FP&L organization that we met as we walked through the various areas of the plant. Welding, the constant use of scaffolding with yellow ribbon, where you cannot proceed unless you ask the question of the supervisor, can I proceed. And we saw it.

Q Okay. So my question -- I asked you if you had independently identified these things, but you have to assume that FPL also had identified safety and transporting of people, correct?

A Yes, of course.

Q All right. As we sit here today, did you reach a conclusion about the biggest obstacle or challenge facing FPL in the timely completion of this project?

A The answer is no. There are many big challenges.

There wasn't one single one.

MR. MOYLE: Okay. Thank you, that's all I have.

COMMISSIONER GRAHAM: FEA?

LT. COL. FIKE: Thank you, Commissioner Graham.

CROSS EXAMINATION

BY LT. COL. FIKE:

Q Just a couple questions, kind of in response to what we just talked about. So am I clear, was it your understanding that if your study concluded that FP&L was not prudent, that you would not need to testify today?

A I would not have testified, that's correct.

Q And you mentioned your study was an independent study?

A It was an independent review. I wouldn't call it a study. It was a due diligence.

Q How much did the study and your review cost?

A Lord, I did not keep track of it. I would say about $300,000.

Q And then who paid for that study?

A FP&L.

Q And how were you paid for that study? Was it in progress payments or a lump sum up front?

A We submitted invoices and we had questions right down to our secretarial staff who was charging on it, which showed a tremendous amount of cost consciousness by the

people that I was working with.

Q Were you -- so you submitted invoices throughout the study, then?

A Throughout the review, yes.

Q And were you made -- were you given any payments after you had already submitted your completed report?

A No, I mean, once we -- we issue an oral report and as a result of that we were asked whether we were willing to testify, and I said yes, I would testify for my staff. And then we started preparing testimony, which we were paid to do.

Q The testimony came separate, the payment --

A Yes. Well, after.

Q Right, right. But I guess --

A The same contract.

Q Let me rephrase the question. I wasn't really clear what I asked, I guess. Did you receive any payments for the initial review after you had submitted your final report?

A Yes, we did.

LT. COL. FIKE: Okay, no further questions.

COMMISSIONER GRAHAM: SACE?

MR. WHITLOCK: No questions, Commissioner. Thank you.

COMMISSIONER GRAHAM: Retail?

MR. LaVIA: Just a few questions, Commissioner. Thank you.

CROSS EXAMINATION

BY MR. LaVIA:

Q Good afternoon.

A Good afternoon, sir.

Q Now, you testified in response to Mr. Moyle, and I think at page four, lines one through two of your testimony, that the purpose of your review was to determine whether FPL's project activities executed in 2011 were reasonable and prudent, is that correct?

A Correct. Yes.

Q Is it fair to say that it's a snapshot, the 2011?

A It was purely one shot of 2011, nothing else.

Q Did you review any information from 2010 or 2012, for example?

A We reviewed certain documents that we thought might be of interest to me to be aware of. For example, the Bechtel contract, which was done earlier, we wanted to see whether it was being implemented properly in 2011, which we determined it was.

We were given a copy of the High Bridge report, just for general information, and that was it. Those are the only things, I believe, that we saw prior to 2010.

Q Did you ask for any other documents or any other

information?

A No, because our review was on decisions and processes executed in 2011. Nothing else.

Q Thank you. In your experience, could project activities in a prior year or subsequent year be relevant to assessing project activities executed during your test year of your review?

A I did not see --

Q The general question, in your experience, could it be relevant.

A It could be, theoretically.

MR. LaVIA: No further questions.

COMMISSIONER GRAHAM: Thank you. Staff?

MS. BENNETT: No questions.

COMMISSIONER GRAHAM: Commissioners? Commissioner Balbis?

COMMISSIONER BALBIS: No.

COMMISSIONER GRAHAM: Okay. I actually have a question for you. Give us, in your opinion -- in your own words, the difference between scope creep and you said scope increase?

THE WITNESS: Increase, right. As used in the industry for some years, scope creep was related to issues such as a vendor -- you buy a valve from the vendor and then all of the sudden they have a new model

with a motor-operated version of it, and they want to sell you the next, so the scope keeps increasing on that purchase order. Sometimes the value of that may not be as good as just buying the valve the way it was.

Again, I'm going back to my youth. Scope increase is a little bit different. The scope increase is a justified scope development that was not foreseen before that particular point in time.

Now, if you have a valve that somebody ordered, a manual valve, for whatever function, and later you determine that you needed a motor-operated valve for safety reasons, that would be a scope increase, not necessarily a scope creep.

COMMISSIONER GRAHAM: So scope increase, if that same valve, you realize that the line leading up to the valve is plugged, and you want to change the line.

THE WITNESS: Correct. Correct.

COMMISSIONER GRAHAM: Got you. Commissioner Balbis?

COMMISSIONER BALBIS: Thank you, Commissioner. And your line of questioning brought up another question I wanted to ask. I'm struggling with exactly what the purpose of your testimony is. And I believe you stated that a snapshot of 2011, and that your conclusion is that all of the costs incurred by FP&L in 2011 were

reasonably and prudently incurred?

THE WITNESS: No, what I said was that our -- the decisions and management -- analysis and decisions that were made, actions taken in 2011, were prudent. We did not look at cost. Cost was not an issue for us to look at.

COMMISSIONER BALBIS: So all of the decisions in 2011 were prudent?

THE WITNESS: The ones that we reviewed, that we discussed with the FP&L personnel, yes, based on our definition of reasonable and prudent.

COMMISSIONER BALBIS: Okay. And that was based on your one-week review?

THE WITNESS: Visit to the sites and then about a couple months of thorough review. We had 42 different RFIs, requests for information, that we made. We reviewed thousands of pages of documents. We reviewed some key procedures, like scheduling development, integration of resources with schedule, material control procedures, project execution plan was very important to us to review, and we saw that they were utilizing prudent approaches to managing the project, during 2011.

COMMISSIONER BALBIS: So did you review all of the decisions that were made, or just the controls that were in place?

THE WITNESS: We interviewed key personnel and we requested, tell us the major decisions that were involved. Major decisions. We didn't look at every single, you know, buy a pencil, buy a line, rent a car. That's not what we did. We're looking at the major project decisions as we portrayed in their schedule for 2011, and the basis of those decisions, and their thinking and the reasoning.

We looked for, frankly, opportunities to see whether safety was maintained, in what kind of culture. And what we saw is very much a cost improvement, a conscious approach to improvement all the time. And I think you got a little bit of that with Terry Jones and his comments.

COMMISSIONER BALBIS: Okay, thank you. That's all I have.

COMMISSIONER GRAHAM: Redirect?

REDIRECT EXAMINATION

BY MR. ROSS:

Q Mr. Ferrer, you were asked whether cost increases could affect a business case for a project like this. Would a megawatt increase or an output increase affect the business case?

A Absolutely. The cost benefit has to be looked at. It's not just a cost.

Q As part of your review of the project you said that you asked for information from FPL, you issued requests for information. Did the company refuse to provide you any information that you asked for?

A Never, no.

Q Mr. McGlothlin asked you about a statement in the NEI document, so I'd ask you to turn back to that, please.

A Sure.

Q And Mr. McGlothlin was referring to page 12, the sentence that begins on the sixth line under Section 2.4.

A Right.

Q Do you wish to explain your understanding of what the NEI document was getting at and what your perception is?

A I believe this is part of the conceptual approach to a feasibility study. It really doesn't have to do with a feasibility study that is being done every year here. Because, see, most projects, you do one feasibility study, the decision is made, and you proceed.

So I think this particular sentence does not necessarily apply to the situation that we saw in 2011.

MR. ROSS: No further questions.

COMMISSIONER GRAHAM: Okay, exhibits.

MR. ROSS: No exhibits for this witness, and we request that he be excused.

COMMISSIONER GRAHAM: Hold on a second, now. OPC?

MR. McGLOTHLIN: OPC moves -- I believe it was identified as 132.

COMMISSIONER GRAHAM: Okay. We'll put 132 in to the record. And that's all the exhibits I have. Now would you like to let him go?

MR. ROSS: Yes, sir.

(Exhibit 132 admitted in evidence.)

THE WITNESS: Thank you for your patience, Commissioners. Thank you.

COMMISSIONER GRAHAM: Thank you. You did a good job for your first time.

THE WITNESS: Thank you.

COMMISSIONER GRAHAM: All right, it seems like a perfect time to take our two-hour break. Sorry. So we can take our seven-minute break at the two hour mark, so we'll come back at 3:15. Thank you.

(Brief recess)

COMMISSIONER GRAHAM: Okay, Florida Power and Light, your next witness, please.

MS. CANO: Yes, FPL calls Dr. Steven Sim.

Thereupon,

STEVEN SIM

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

DIRECT EXAMINATION

BY MS. CANO:

Q Dr. Sim, were you called earlier today?

A Yes, I was.

Q Would you please provide your name and business address for the record.

A My name is Steve Sim, business address is 9250 West Flagler Street, Miami, Florida.

Q By whom are you employed and in what capacity?

A By Florida Power & Light Company as Senior Manager in the Integrated Resource Planning Group.

Q Did you prepare and cause to be filed 45 pages of prefiled direct testimony in this case on April 27th, 2012?

A Yes.

Q And you also caused to be filed an errata on September 7th, 2012?

A Yes.

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

A I have no changes or revisions, but I do have a clarification or reminder that I think might be helpful to all parties. And it has to do with the supplemental testimony that Mr. Jones filed late in the process.

The feasibility analysis I'll be discussing or was discussing in my testimony and which will be the subject of the discussion this afternoon does not include the additional

megawatts from the EPU project that was part of the subject of Mr. Jones' supplemental testimony.

Q Thank you. With that clarification, if I were to ask you the same questions contained in your prefiled direct testimony, would your answers be the same?

A Yes.

Q Mr. Chairman, I would ask that the prefiled direct testimony, including the errata dated September 7th, be inserted into the record as though read.

COMMISSIONER GRAHAM: We will insert Mr. Sim's prefiled direct testimony and errata into the record as though read.

(Whereupon, the prefiled testimony and errata were inserted.)

BEFORE THE
FLORIDA PUBLIC SERVICE COMMISSION

In re: Nuclear Power Plant)	DOCKET NO. 120009-EI
Cost Recovery Clause)	FILED: September 7, 2012

ERRATA SHEET

DIRECT TESTIMONY OF STEVEN R. SIM, APRIL 27, 2012

PAGE #	LINE #	CHANGE
6	16	Change "2011 Feasibility Analyses..." to "2012 Feasibility Analyses..."
24	23	Change "399 MW" to "414 MW"
25	1	Change "51 MW" to "36 MW" and change "13%" to "9%"

DIRECT TESTIMONY EXHIBITS OF STEVEN R. SIM, APRIL 27, 2012

EXHIBIT	CHANGE
SRS – 7	Insert the words "The Two Resource Plans" before "Utilized in the 2012 Feasibility Analyses of the EPU Project"
SRS – 9	Change heading in upper right-hand corner of the page from "Projection of FPL's Resource Needs through 2025" to "2012 Feasibility Analyses for the EPU Project: Percentage of FPL's Fuel Mix from Nuclear, 2011 – 2020"
SRS – 10	Insert the words "The Two Resource Plans" before "Utilized in the 2012 Feasibility Analyses of Turkey Point 6 & 7"

REBUTTAL TESTIMONY OF STEVEN R. SIM, JULY 9, 2012

EXHIBIT	CHANGE
SRS – 13	In the last line in the title and upper right-hand corner, insert the word "EPU" between the words "Higher" and "Cost Estimate".

BEFORE THE
FLORIDA PUBLIC SERVICE COMMISSION

In re: Nuclear Power Plant)	DOCKET NO. 120009-EI
Cost Recovery Clause)	FILED: September 7, 2012

ERRATA SHEET

DIRECT TESTIMONY OF TERRY O. JONES, APRIL 27, 2012

PAGE	LINE	CHANGE
8	2	Change "$1.68" to "$1.65"

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

FLORIDA POWER & LIGHT COMPANY

DIRECT TESTIMONY OF STEVEN R. SIM

DOCKET NO. 120009- EI

April 27, 2012

Q. Please state your name and business address.

A. My name is Steven R. Sim, and my business address is 9250 West Flagler Street, Miami, Florida 33174.

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

A. I am employed by Florida Power & Light Company (FPL) as Senior Manager of Integrated Resource Planning in the Resource Assessment & Planning department.

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

A. I supervise and coordinate analyses that are designed to determine the magnitude and timing of FPL's resource needs and then develop the integrated resource plan with which FPL will meet those resource needs.

Q. Please describe your education and professional experience.

A. I graduated from the University of Miami (Florida) with a Bachelor's degree in Mathematics in 1973. I subsequently earned a Master's degree in Mathematics from the University of Miami (Florida) in 1975 and a Doctorate in Environmental Science and Engineering from the University of California at Los Angeles (UCLA) in 1979.

While completing my degree program at UCLA, I was also employed full-time as a Research Associate at the Florida Solar Energy Center during 1977 - 1979. My responsibilities at the Florida Solar Energy Center included an evaluation of Florida consumers' experiences with solar water heaters and an analysis of potential renewable energy resources including photovoltaics, biomass, wind power, etc., applicable in the Southeastern United States.

In 1979 I joined FPL. From 1979 until 1991 I worked in various departments including Marketing, Energy Management Research, and Load Management, where my responsibilities concerned the development, monitoring, and cost-effectiveness of demand side management (DSM) programs. In 1991 I joined my current department, then named the System Planning Department, where I held different supervisory positions dealing with integrated resource planning. In late 2007 I assumed my present position.

Q. What is the purpose of your testimony?

A. My testimony provides the results of the 2012 economic analyses for the extended power uprates (EPU) project for FPL's existing nuclear units, and for the new FPL nuclear units, Turkey Point 6 & 7, using current assumptions. In my testimony I will refer to these analyses as the 2012 feasibility analyses for both projects. In addition, I discuss the assumptions used in the 2012 feasibility analyses, which include lower than previously projected forecasts of costs for natural gas and environmental compliance. (Nonetheless, as

discussed below, both projects continue to be projected as solidly cost-effective for FPL's customers.) I also present the results of additional analyses that futher quantify the projected benefits of the two nuclear projects.

The 2012 feasibility analyses are presented to satisfy the requirement of Subsection 5(c)5 of the Florida Administrative Code Rule 25-6.0423, Nuclear Power Plant Cost Recovery which states "By May 1 of each year, along with the filings required by this paragraph, a utility shall submit for Commission review and approval a detailed analysis of the long-term feasibility of completing the power plant." Other feasibility-related topics for the EPU project are discussed by FPL Witness Jones. Additionally, other feasibility-related topics for the Turkey Point 6 & 7 project are discussed by FPL Witness Scroggs.

Q. Please summarize your testimony.

A. Completion of each of FPL's nuclear projects continues to be projected as the economic choice for FPL's customers. The results of FPL's 2012 feasibility analyses indicate that completing the two projects, even using lower than previously projected forecasts of costs for natural gas and environmental compliance, is projected to be economic for FPL's customers.

As with all economic analyses, FPL's 2012 economic analyses of these two nuclear projects provides a "snapshot" of the projected customer benefits associated with the EPU project and Turkey Point 6 & 7 based on current

project assumptions, forecasts of numerous costs, and resource planning assumptions. The 2012 feasibility analyses, as with prior feasibility analyses, examine potential future scenarios that result from combining various fossil fuel price forecasts and environmental compliance cost forecasts. Of course, the actual economic performance of FPL's system, including the impacts of future fuel prices, etc., cannot be known until after the fact. But that is why FPL examines the projected impacts of these resource additions over a wide range of potential future scenarios.

The inability to be able to predict with confidence future fuel and environmental compliance costs is a key reason why FPL not only performs these analyses based on multiple forecasts and scenarios, but also why FPL strives for diversity in regard to system resources and fuels. Because the price of nuclear fuel is unrelated to fossil fuel prices, and because nuclear power plants produce no emissions such as sulfur dioxide (SO_2), nitrogen oxides (NO_x), or carbon dioxide (CO_2) in the process of generating electricity, additional nuclear capacity is a superb hedge against fossil fuel price volatility and increases in environmental compliance costs. Diversification also improves system reliability. The two nuclear projects will help reduce FPL's reliance on natural gas that is currently delivered into the state of Florida by only two natural gas pipelines. In addition, the two nuclear projects will also help further reduce the usage of oil, including foreign oil, by FPL's system. Through diversification generally, and the addition of the EPU and Turkey

Point 6 & 7 specifically, FPL is working to keep its electric rates, and thus the resulting bills for its customers, low over the long term and keep providing highly reliable electric service.

Finally, the two nuclear projects provide substantial customer benefits, including billions of dollars of fuel cost savings. Over the life of the uprated nuclear power plants, customers are projected to save $3.8 billion (nominal) in fuel costs, and over the life of Turkey Point 6 & 7, customers are projected to save $58 billion (nominal) in fuel costs, both based on a Medium Fuel Cost forecast. Additionally, each project will produce energy that otherwise would have required the consumption of substantial amounts of natural gas or millions of barrels of oil annually, and will reduce system CO_2 emissions by millions of tons. In short, completing the EPU project and Turkey Point 6 & 7 continue to be projected as solidly cost-effective and valuable generation additions for FPL's customers.

Q. Are you sponsoring any exhibits in this case?

A. Yes. I am sponsoring the following 11 exhibits:

- Exhibit SRS – 1: Summary of Results from FPL's 2012 Feasibility Analyses of the EPU and Turkey Point 6 & 7 Projects (Plus Results from Additional Analyses);
- Exhibit SRS – 2: Comparison of Key Assumptions Utilized in the 2011 and 2012 Feasibility Analyses of FPL Nuclear Projects: Projected Fuel Costs (Medium Fuel Cost Forecast);

- Exhibit SRS – 3: Comparison of Key Assumptions Utilized in the 2011 and 2012 Feasibility Analyses of FPL Nuclear Projects: Projected Environmental Compliance Costs (Env II Forecast);
- Exhibit SRS – 4: Comparison of Key Assumptions Utilized in the 2011 and 2012 Feasibility Analyses of FPL Nuclear Projects: Summer Peak Demand Load Forecast;
- Exhibit SRS – 5: Projection of FPL's Resource Needs Through 2025;
- Exhibit SRS – 6: Comparison of Key Assumptions Utilized in the 2011 and 2012 Feasibility Analyses of FPL Nuclear Projects: Other Assumptions;
- Exhibit SRS – 7: The Two Resource Plans Utilized in the 2012 Feasibility Analyses of the EPU Project;
- Exhibit SRS – 8: 2012 Feasibility Analyses Results for the EPU Project: Total Costs and Total Cost Differentials for All Fuel and Environmental Compliance Cost Scenarios in 2012$;
- Exhibit SRS – 9: 2011 Feasibility Analyses Results for the EPU Project: Percentage of FPL's Fuel Mix from Nuclear, 2011 – 2020;
- Exhibit SRS – 10: The Two Resource Plans Utilized in the 2012 Feasibility Analyses of Turkey Point 6 & 7; and,
- Exhibit SRS - 11: 2012 Feasibility Analyses Results for Turkey Point 6 & 7: Total Costs, Total Cost Differentials, and Breakeven Costs for All Fuel and Environmental Compliance Cost Scenarios in 2012$.

Q. Please summarize the results of your analyses.

A. In its 2012 feasibility analyses, FPL utilized analytical approaches that it believes are currently the best approaches with which to evaluate the two nuclear projects. FPL also utilized an updated set of assumptions in its 2012 feasibility analyses, which, as previously stated, include forecasts of costs for natural gas and environmental compliance that are lower than the forecasted costs used in previous feasibility analyses.

The results of the 2012 feasibility analyses for both projects, plus the results of additional analyses, are summarized in Exhibit SRS – 1. This exhibit presents the following information:

1) Both nuclear projects overall are projected to be solidly cost-effective for FPL's customers. Completing the EPU project is projected to be cost-effective in 6 of 7 scenarios of fuel costs and environmental compliance costs. Turkey Point 6 & 7 is projected to be cost-effective in the majority (5 of 7) of the scenarios. In the remaining 2 scenarios, the projected breakeven costs for Turkey Point 6 & 7 are within FPL's non-binding cost estimate range for Turkey Point 6 & 7.

   It should be noted that in the 3 scenarios in which the nuclear projects are not projected to be the clear economic choice, one scenario for the EPU project and two scenarios for Turkey Point 6 & 7, each of these 3 scenarios assumes that either environmental compliance costs, or both

environmental compliance and natural gas costs, remain low each year for at least 30 years.

2) The projected nominal fuel savings for FPL's customers from the two nuclear projects are significant. For example, based on analysis results using a Medium Fuel Cost/Medium environmental compliance cost (Env II) scenario, the total EPU project (i.e., its total 490 MW of incremental capacity) is projected to save approximately $114 million (nominal) in system fuel costs in the first full year (2014) of operation of the uprated nuclear units. Turkey Point 6 & 7 is projected to save approximately $892 million (nominal) in system fuel costs in the first full year (2024) of operation for both units.

3) Based on analysis results using this same fuel cost/environmental compliance cost scenario, the total EPU project is projected to save approximately $3.8 billion (nominal) in system fuel costs over the life of the project, and Turkey Point 6 & 7 are projected to save approximately $58 billion (nominal) in system fuel costs over the life of the units.

4) The two nuclear projects will also significantly improve the fuel diversity of the FPL system. In their first full year of operation, the total EPU project is projected to reduce FPL's dependence upon natural gas by approximately 3%, and to allow FPL to increase nuclear energy's contribution to system fuel mix above the current (for the year 2011) 19% contribution to approximately 22%-to-23% for the

remainder of this decade. The Turkey Point 6 & 7 project is projected to reduce FPL's dependence upon natural gas by approximately another 13%. Nuclear energy from both of these projects will supply energy that would otherwise have been supplied primarily by natural gas. Reduction in natural gas usage is important because it will help mitigate the growing reliance on natural gas supplied by Florida's two natural gas pipelines.

5) The amounts of increased nuclear energy projected to be supplied in the first full year of operation (and in subsequent years) from the two nuclear projects is equivalent to the total annual energy usage of approximately 311,578 residential customers for the total EPU project, and of approximately 1,247,000 residential customers for Turkey Point 6 & 7.

6) Stated another way, these amounts of increased nuclear energy projected to be supplied respectively by the two projects will save enormous amounts of fossil fuel. For illustrative purposes, if the same amounts of energy projected to be provided by the increased nuclear capacity from the two projects were to be supplied by conventional steam generating units, then the amount of annual energy projected for the total EPU project would require the consumption of approximately 41 million mmBTU of natural gas, or 6 million barrels of oil, annually. Likewise, the amount of annual energy projected for Turkey Point 6 &

7 would require the consumption of approximately 177 million mmBTU of natural gas, or 28 million barrels of oil, annually.

7) The projected reductions in CO_2 emissions are also very large. Over their lives, the total EPU project and Turkey Point 6 & 7 are projected to reduce CO_2 emissions by approximately 32 million tons and 255 million tons, respectively.

8) Stated another way, these projected amounts of total CO_2 reductions are equivalent to currently operating all of FPL's very large system of more than 22,000 MW of generation with zero CO_2 emissions for approximately 9 months in the case of the EPU, and for approximately 6 years in the case of Turkey Point 6 & 7.

Therefore, the results of FPL's 2012 feasibility analyses are that both the EPU and Turkey Point 6 & 7 are projected to be solidly cost-effective and to provide valuable firm capacity, energy, and fuel diversity for FPL's customers. These results fully support the feasibility of continuing both nuclear projects.

I. 2012 Feasibility Analyses – Analytical Approaches

Q. Please provide an overview of the basic analytical approach used for both projects.

A. The basic analytical approach in the feasibility analyses is to compare competing resource plans. FPL utilizes resource plans in its analyses in order to ensure that all relevant impacts to the FPL system are accounted for.

The analysis of each resource plan is a complex undertaking. For each resource plan, annual projections of system fuel costs and emission profiles are developed, for each scenario of fuel cost/environmental compliance cost, using a sophisticated production costing model. This model, the P-MArea model, simulates the FPL system and dispatches all of the generating units on an hour-by-hour basis for each year in the analysis. The resulting fuel cost and emission profile information is then combined with projected annual capital, operation and maintenance (O&M), etc., costs for each resource plan. In this way, a comprehensive set of projected annual costs, for each year of the analysis, is developed for each resource plan.

One resource plan contains the projected full output of the nuclear resource option that is being evaluated in a specific feasibility analysis; i.e., either the EPU or the Turkey Point 6 & 7 units. The other resource plan contains instead an alternate resource option that competes with the nuclear resource option. The competing alternate resource option is a new highly fuel-efficient combined cycle (CC) generating unit of the type that FPL assumed in its analyses of the Port Everglades Modernization project.

The competing resource plans are then analyzed over a multi-year period. This approach allows FPL's analyses to account for both short-term and long-term economic impacts of the resource options being evaluated. FPL's 2012 feasibility analyses address these economic impacts. In addition, my testimony provides a discussion of two non-economic impacts, increased system fuel diversity and system emission reductions, which will result from the two nuclear projects.

Q. Has the Florida Public Service Commission provided guidance regarding what is required in these feasibility analyses?

A. Yes. The Florida Public Service Commission (FPSC) first provided guidance in its affirmative determination of need order for Turkey Point 6 & 7 (Order No. PSC-08-0237-FOF-EI, page 29), when it stated:

> "FPL shall provide a long-term feasibility analysis as part of its annual cost recovery process which, in this case, shall also include updated fuel costs, environmental forecasts, break-even costs, and capital cost estimates. In addition, FPL should account for sunk costs. Providing this information on an annual basis will allow us to monitor the feasibility regarding the continued construction of Turkey Point 6 and 7."

In the FPSC's 2009 NCRC order (Order No. PSC-09-0783-FOF-EI, page 14), the FPSC quoted its need determination order and reiterated that these elements are "necessary to satisfy Rule 25-6.0423(5)(c)5, F.A.C."

This guidance from the FPSC clearly distinguishes "sunk costs" from "updated capital cost estimates" in regard to feasibility analyses. Consequently, FPL has effectively separated sunk costs from its updated capital cost estimate to derive a "going forward" capital cost estimate for use in its feasibility analysis. FPL's approach to sunk costs complies with the above mentioned Rule, which directs FPL to evaluate "completing" the project. FPL's approach to sunk costs also follows the guidance provided by the FPSC, and was expressly approved for both the Turkey Point 6 & 7 and EPU analyses by the FPSC in its 2011 NCRC order (Order No. PSC-11-0547-FOF-EI, pages 17-18 and 38).

Q. Were the respective analytical approaches used in FPL's 2012 feasibility analyses of the EPU and Turkey Point 6 & 7 similar to the approaches used in the Determination of Need filings for these projects, and in the feasibility analyses of these projects that were presented in previous NCRC filings?

A. Yes. The respective analytical approaches that were used in the 2012 feasibility analyses for the EPU and Turkey Point 6 & 7 projects were very similar to the approaches used for each of the projects in the 2007 Determination of Need filings and in the feasibility analyses presented in the

2008 through 2011 NCRC filings. However, the 2012 analyses incorporated two refinements to FPL's basic analytical approach.

Q. Please describe the analytical approaches for both projects.

A. In regard to the EPU project, the basic analytical approach that has been used since the 2007 Determination of Need filing, and with the 2008 through 2011 NCRC filings, remains unchanged. This approach is the direct comparison of the cumulative present value of revenue requirements (CPVRR) for two resource plans.

In regard to the Turkey Point 6 & 7 project, the basic analytical approach also remains unchanged. This approach is the calculation of breakeven overnight capital costs (in terms of both CPVRR costs and overnight $/kW) for the new nuclear units. This same analytical approach was utilized in the 2007 Determination of Need filing, and in the 2008 through 2011 NCRC filings, for the Turkey Point 6 & 7 project. In later years, as more information becomes available regarding the cost and other aspects of the new nuclear units, another analytical approach may emerge as more appropriate.

Q. Please describe the two refinements incorporated into the feasibility analyses this year.

A. In all prior filings regarding the EPU project, one resource plan was assumed to have the projected full uprated capacity (MW) at FPL's four existing nuclear units, and the other resource plan was assumed to have no uprated capacity. In FPL's 2012 feasibility analyses of the EPU project, one of the

two refinements accounts for the fact that 31 MW of uprated capacity at St. Lucie Unit 2 have been accomplished and are already benefiting FPL's customers. Therefore, instead of comparing one resource plan with 0 MW of uprated capacity versus a second plan with the total MW of uprated capacity, as has been the case in previous years, the 2012 feasibility analyses of the EPU project compares one resource plan with 31 MW of uprated capacity versus a second resource plan with the total MW (490 MW) of uprated capacity.

It is worthwhile to note that this refinement has the effect of making the total EPU project appear less cost-effective than it would if FPL had continued to utilize a resource plan with 0 MW of EPU capacity. For example, in the Medium Fuel Cost, Env II scenario, with the refinement, the projected net benefits of completing the EPU project are $296 million CPVRR. Without this refinement, the projected net benefits value would have been approximately $392 million CPVRR, or roughly $100 million CPVRR higher. This demonstrates that this particular refinement resulted in the appearance of a significant reduction in the projected net benefits of completing the EPU project because some of the EPU project's benefits, those associated with the 31 MW already achieved, are also accounted for in the alternate resource plan. Nonetheless, FPL made this refinement to accurately reflect the current state of FPL's system that is already benefitting from these 31 MW of nuclear capacity from the EPU project and to be consistent with the 'going forward'

perspective of the feasibility analyses. The two resource plans being compared continue to be labeled as the Resource Plan with EPU (denoting the plan with 490 MW of uprated capacity) and the Resource Plan without EPU (denoting the plan with only 31 MW of uprated capacity). This second resource plan can also be considered as the Resource Plan without 'Further' EPU.

The second refinement incorporated in FPL's 2012 feasibility analyses for both the EPU and Turkey Point 6 & 7 projects concerns a quantification of transmission cost benefits that would be realized due to the projects resulting in additional generating capacity in Southeastern Florida. As referenced in numerous FPL filings with the FPSC, including recent Ten Year Site Plans and the recent Port Everglades Modernization Determination of Need filing, FPL faces a future imbalance between continued growing load in the Southeastern Florida region (specifically, Miami-Dade and Broward counties) and generation in that region. Unless additional generation is added in the region to keep pace with the growing load, FPL will have to build additional transmission facilities in the future to import power from outside the region.

In a previous NCRC filing, FPL has discussed that the addition of capacity at the Turkey Point site, both through the portion of the EPU project that will increase capacity at existing Turkey Point Units 3 and 4, and through the Turkey Point 6 & 7 project, will help address this imbalance. However, no

quantification of those benefits has been included in FPL's previous feasibility analyses. In FPL's 2012 feasibility analyses for both the EPU and Turkey Point 6 & 7 projects, using a similar approach to that used to quantify transmission-related benefits for the Port Everglades Modernization project, FPL is now accounting for the projected transmission-related benefits from the two nuclear projects.

II. 2012 Feasibility Analyses – Updated Assumptions

Q. Do FPL's 2012 feasibility analyses utilize updated assumptions for the specific information referred to in the previously mentioned FPSC Order?

A. Yes. FPL typically seeks to utilize a set of updated assumptions in its resource planning work. By early 2012, FPL updated these assumptions and is using them in its 2012 resource planning work including the analyses presented in this docket.

Five informational items were listed in Order No. PSC-08-0237 that should be updated and included in FPL's annual long-term feasibility analyses of Turkey Point 6 & 7. These five items are:

(1) fuel forecasts;

(2) environmental forecasts;

(3) breakeven costs;

(4) capital cost estimates; and,

(5) sunk costs.

FPL's 2012 feasibility analyses for both the EPU and Turkey Point 6 & 7 projects utilized FPL's current assumptions for four of these five items and calculated the current projected value for the fifth item. FPL's 2012 feasibility analyses for both projects included current assumptions for the following four items: items (1), (2), (4), and (5). The remaining item, item (3) breakeven costs, is a result of the analyses (as opposed to an assumption). The results of FPL's 2012 feasibility analyses present breakeven costs for both projects in terms of CPVRR costs. (For the Turkey Point 6 & 7 projects, breakeven costs are also provided in terms of overnight $/kW construction costs to provide another perspective that is frequently used when discussing long-term construction projects such as Turkey Point 6 & 7.)

Q. Do FPL's feasibility analyses include FPL's updated assumptions for information other than these 5 items?

A. Yes. FPL also updated a number of other assumptions by early 2012 in preparation for all of its 2012 resource planning work. Consequently, these other updated assumptions are also included in FPL's 2012 feasibility analyses of the two nuclear projects. A partial listing of these other assumptions include: FPL's load forecast, projected incremental capacity by year from the EPU project, and cost and performance assumptions for new combined cycle capacity.

Q. Please discuss the changes in the forecasted values for fuel costs, environmental compliance costs, and peak load between the forecasts utilized in the 2012 feasibility analyses and those that were used in the 2011 feasibility analyses.

A. Exhibits SRS – 2 through SRS - 4 provide these comparisons. Exhibit SRS - 2 provides 2011 and 2012 forecasted Medium Fuel Cost values for selected years for natural gas, oil, and nuclear fuel costs. As shown in this exhibit, the 2012 Medium Fuel Cost forecast for natural gas is lower compared to the 2011 forecast. A comparison of the forecasted prices for 1% sulfur oil shows that the 2012 forecasted values are higher than in the 2011 forecast. In regard to forecasted nuclear fuel costs, the 2012 forecasted prices are essentially unchanged from the 2011 forecasted prices.

Exhibit SRS – 3 presents similar 2011 and 2012 comparative information for forecasted Env II (i.e., mid-level) environmental compliance costs for three types of air emissions: SO_2, NO_x, and CO_2. As shown in the exhibit, the current forecasted compliance costs for SO_2 are higher in 2015, then slightly lower for all other years, compared to the 2011 forecast. The current forecasted compliance costs for NO_x are slightly lower for all years compared to the 2011 forecast. In regard to forecasted CO2 compliance costs, the 2012 forecasted annual cost values are lower than in the 2011 forecast and are assumed to have a later "start" date (i.e., 2023 for the Env II scenario versus 2018 assumed in the 2011 forecast).

Exhibit SRS – 4 presents the 2011 and 2012 Summer peak load forecasts. As shown in Column (3) of this exhibit, the 2012 forecast of Summer peak load is lower than the 2011 forecast.

In addition, Exhibit SRS – 4 also provides a projection of the annual and cumulative growth in Summer peak loads associated with the 2012 peak load forecast. As shown in column (5) of this exhibit, FPL projects a cumulative growth in Summer peak load of approximately 4,869 MW by 2022, and 5,502 MW by 2023 i.e., the year in which the two new nuclear units, Turkey Point 6 & 7, are projected to go in-service.

Q. Based on this projected growth in Summer peak load, what is FPL's projected need for new resources?

A. FPL's projected need for new resources, assuming that the resource need is met by new generating capacity, is presented in Exhibit SRS – 5. This projection assumes that FPL is implementing DSM through the year 2019 at a level consistent with the FPSC's 2011 DSM Plan order (Order No. PSC-11-0346-PAA-EG) and also assumes an additional 100 MW per year of DSM are implemented in 2020 through 2025. This exhibit shows that, without the incremental capacity from EPU and Turkey Point 6 & 7, and with no new generating resources added after the modernization of Port Everglades in 2016, FPL has a need for new resources starting in 2020 and this need

increases every year thereafter. The need in 2020 is for 267 MW of new generating capacity and this need increases to 3,240 MW by 2025.

Q. What other assumptions changed from the 2011 analyses to the 2012 analyses?

A. Exhibit SRS – 6 presents the 2011 and 2012 projections for 14 other assumptions that were utilized in the feasibility analyses. These other assumptions are grouped into three categories of either four or five assumptions each: (i) assumptions used in the feasibility analyses of both projects; (ii) assumptions primarily used only in the feasibility analyses of completing the EPU project; and (iii) assumptions primarily used only in the feasibility analyses of the Turkey Point 6 & 7 project. (Note that some of the assumptions included in the second and third groupings do have an impact in the feasibility analyses of both projects. One example of such an assumption is the incremental capacity of the EPU project. The grouping of assumptions such as these into either the second or third groupings is done solely to facilitate discussion in this testimony of changes in assumptions.)

Q. Please discuss the first grouping of these other assumptions; i.e., those assumptions that are applicable in the feasibility analyses for both projects.

A. The five assumptions included in this grouping are:

1) the number of environmental compliance cost scenarios;
2) financial/economic assumptions;
3) the capital cost of competing CC capacity;

4) the heat rate of competing CC capacity; and,

5) the projected cost of firm gas transportation.

In regard to the number of environmental compliance cost scenarios utilized in FPL's 2012 feasibility analyses, FPL is again using three scenarios in its 2012 resource planning work: Env I (representing low CO_2 compliance costs), Env II (representing medium CO_2 compliance costs), and Env III (representing high CO_2 compliance costs).

FPL's financial/economic assumptions used in the 2012 feasibility analyses have not changed from those used in the 2011 feasibility analyses: return on equity (ROE) of 10.0%; the allowed cost of debt of 5.50%; the debt-to-equity ratio of 40.88%/59.12%.; and the associated discount rate of 7.29%.

The remaining three assumptions that are included in this first grouping of assumptions involve the costs of the competing new CC capacity used in the feasibility analyses. FPL's current projected (generator only) capital cost of CC capacity is $913/kw in 2018$. The current projected heat rate of this CC capacity is 6,369 BTU/kwh, and the projected firm gas transportation cost is $1.98/mmBTU in 2018. The projected capital cost of the CC unit is higher than projected in 2011, and the projected heat rate value is lower than projected in 2011. These are due to a change in the assumed type of new CC unit from an H machine in 2011 to a J machine in 2012. (FPL utilized a J

machine in its analyses of the Port Everglades modernization project.) There is no change in the projected firm gas transportation cost.

Q. Please discuss the second grouping of other assumptions that primarily address the analysis of completing the EPU project.

A. The five assumptions included in this second grouping are:

6) total incremental capacity from the EPU project;

7) already achieved incremental capacity from the EPU project;

8) non-binding capital cost estimate of the EPU project;

9) previously spent capital costs for the EPU project that are excluded from the 2012 feasibility analyses; and,

10) the resulting "going forward" capital costs utilized in the 2012 feasibility analyses.

The assumptions for incremental MW and costs are for FPL's share of the EPU project.

In regard to the first of these five assumptions, the projected total incremental capacity that FPL's customers will receive from the EPU project, this value has changed from the 450 MW used in the 2011 feasibility analyses to 490 MW as discussed in FPL witness Jones' testimony. In regard to the second assumption, FPL has achieved a 31 MW increase at St. Lucie Unit 2 which is already benefitting FPL's customers.

The combination of the next three assumptions provides the projected incremental capital cost to FPL's customers of completing the EPU project. The projected non-binding capital cost range for the EPU project is discussed in FPL Witness Jones' testimony. In the 2011 feasibility analysis, FPL used a non-binding cost estimate of $2.48 billion. For the 2012 feasibility analyses, FPL is using a non-binding cost estimate of $3.05 billion.

FPL Witness Powers provides the sunk cost value for the EPU project in her testimony. In the 2011 feasibility analysis, FPL excluded approximately $0.70 billion of costs that were spent through December 31, 2010, resulting in a "going forward" capital cost projection for completing the EPU project of approximately $1.78 billion (= $2.48 billion - $0.70 billion). In the 2012 feasibility analyses, FPL is excluding approximately $1.46 billion of sunk costs that have been spent through December 31, 2011, resulting in a "going forward" capital cost projection for completing the EPU project of approximately $1.59 billion (= $3.05 billion - $1.46 billion). This does not account for sunk costs incurred during 2012.

Q. Does the increase of 40 MW in incremental capacity from the EPU project represent the second time the projected capacity from the EPU project has increased?

A. Yes. In FPL's 2007 need filing for the EPU project, the total amount of capacity that the EPU project would deliver to FPL's customers was projected to be 399 MW. Several years later in a subsequent NCRC filing, this

projection increased by 51 MW (or 13%) to 450 MW. In 2012, the 450 MW capacity projection has again increased, this time by 40 MW (or by another 9%) to a current projection of 490 MW. These increases demonstrate that FPL began its analyses of the EPU project with a conservative assumption regarding the EPU project's incremental capacity and associated benefits.

Q. Please discuss the third grouping of other assumptions that primarily address the Turkey Point 6 & 7 project.

A. The four assumptions included in this third grouping are:

11) assumed in-service dates for Turkey Point 6 & 7;

12) non-binding capital cost estimate for the new nuclear units;

13) previously spent capital costs that are excluded from the 2012 feasibility analyses; and,

14) the cumulative annual capital expenditure percentages for Turkey Point 6 & 7.

The first of these four assumptions, the projected in-service dates, for planning purposes, of Turkey Point 6 & 7 are unchanged from the 2022 and 2023 in-service dates used in the 2011 feasibility analyses. FPL Witness Scroggs' testimony addresses these dates which represent the earliest practical deployment dates for these new units.

The second of these assumptions is the non-binding cost estimate for constructing Turkey Point 6 & 7. The updated range of costs used in the 2012

feasibility analyses is $3,570/kw to $5,190/kw in 2012$. FPL Witness Scroggs' testimony discusses the updating of this assumption.

The third of the assumptions included in this grouping is the previously spent capital costs that are excluded in the 2012 feasibility analysis. In order to account for "sunk" capital costs for the Turkey Point 6 & 7 project, FPL is excluding approximately $157 million of sunk costs that have already been spent through December 31, 2011. This represents an increase of approximately $28 million compared to the approximately $129 million sunk cost value utilized in FPL's 2011 feasibility analyses. FPL Witness Powers provides the sunk cost value of the Turkey Point 6 & 7 project in her testimony.

The fourth assumption in this grouping is the cumulative annual capital expenditure percentages for the construction of Turkey Point 6 & 7. The annual expenditure percentage values used in the 2012 feasibility analyses are largely unchanged from the values used in the 2011 feasibility analyses.

Q. It is clear that a number of changes in assumptions were made between those used in the 2011 feasibility analyses and those used in the 2012 feasibility analyses. Were all of these assumption changes favorable to the economics of the EPU and Turkey Point 6 & 7 projects?

A. No. Assumption changes are made on a regular basis by FPL in order to utilize the best and most current information available in its resource planning

analyses. Typically, updates to some assumptions are favorable, and changes to other assumptions are unfavorable, for any specific resource option or project.

This was indeed the case for the two nuclear projects in regard to the changes in assumptions from those used in the 2011 feasibility analyses to those used in the 2012 feasibility analyses. Using the EPU project as an example, some updated assumptions (such as the lower fuel cost projections) are unfavorable for the project (although favorable overall for FPL's customers) while other updated assumptions (such as the 40 MW increase in projected total incremental capacity) are favorable for the project (and for FPL's customers).

All of FPL's updated assumptions, whether favorable or unfavorable for the two nuclear projects, were included in FPL's 2012 feasibility analyses.

III. 2012 Feasibility Analyses Results for the EPU Project

Q. What resource plans were used to perform the 2012 feasibility analyses of the nuclear uprates project?

A. The two resource plans that were utilized in the 2012 feasibility analyses for the EPU project are presented in Exhibit SRS – 7. As shown in this exhibit, the new generating unit additions in the two resource plans are identical through 2019 except for the addition of the incremental MW from the EPU

project in the years 2012 - 2013. The two resource plans begin to differ starting in 2020. In the Resource Plan without EPU, a new CC unit is added in 2020. Due to the 490 MW of additional capacity projected to be supplied by the EPU project, the Resource Plan with EPU needs no additional generation in 2020. A new 250 MW Purchase Power Agreement (PPA) is added for 2021, and a CC unit is added in 2025. Finally, the same amount of "filler unit" capacity is added from 2026 – on in both resource plans although there are differences between the two resource plans in regard to the timing of when those filler units are added.

Q. What were the results of the 2012 feasibility analyses for the EPU project?

A. The results of the 2012 feasibility analyses are presented in Exhibit SRS – 8. As shown in Column (5) of this exhibit, the Resource Plan with the EPU Project is projected to have a lower CPVRR cost in 2012$, compared to the Resource Plan without the EPU Project, in 6 of 7 scenarios of fuel cost and environmental compliance cost forecasts utilized in the analyses.

In the remaining scenario, which assumes continued low costs for both natural gas and environmental compliance every year for the next 30 years, the Resource Plan with EPU is projected to have a slightly higher CPVRR cost. However, as evidenced by the CPVRR values for this scenario, compared to the CPVRR values for all other scenarios, FPL's customers would still benefit greatly if the assumed low costs for natural gas and environmental compliance

were to materialize. For example, when examining just projected fuel cost forecasts in column (3) of Exhibit SRS-8, the projected CPVRR value for the Medium Fuel Cost, Env I scenario is $109,733 million or $109.733 billion. The projected CPVRR value for the Low Fuel Cost, Env I scenario is $95.917 billion. Therefore, the projected total cost savings for FPL's customers if the actual fuel costs follow the Low Fuel Cost forecast instead of the Medium Fuel Cost forecast are approximately $14 billion CPVRR.

Q. In addition to the results of these CPVRR-based analyses, did FPL's 2012 feasibility analyses identify any additional advantages for FPL's customers that are projected to be derived from the EPU project?

A. Yes. I will discuss three other advantages to FPL's customers that are projected to result from completing the EPU project:

1) system fuel savings;
2) system fuel diversity; and,
3) system CO_2 emission reductions.

These advantages will be discussed using the results from the 2012 feasibility analyses for the Medium Fuel Cost, Env II scenario and accounting for the full 490 MW of incremental capacity from the EPU project.

In regard to system fuel savings, the CPVRR values for the system fuel savings for each scenario of fuel cost and environmental compliance cost is accounted for in the respective total CPVRR savings number for that scenario.

However, it is informative to also look at the annual nominal fuel savings projections.

In 2014, the first year in which the uprated capacity at all four existing nuclear units will be in operation for an entire year, the nuclear uprates are projected to save FPL's customers approximately $114 million (nominal) in fuel costs. Over the life of the current operating license terms of the four uprated nuclear units, the total nominal fuel savings for FPL's customers is projected to be approximately $3.8 billion.

Regarding system fuel diversity, in 2014 the relative percentages of the total energy supplied by FPL that is generated by natural gas and nuclear, without the EPU project, are projected to be approximately 69% and 20%, respectively. With the EPU project, these projected percentages change to approximately 66% for natural gas and 24% for nuclear. Thus FPL is projected to be less reliant on natural gas, and more reliant upon nuclear energy, by approximately 3-to-4% due to the EPU project.

These percentage changes in system fuel use for a system the size of FPL are significant. This can be demonstrated by looking at the projected amount of increased nuclear energy that will be supplied by the nuclear uprates in 2014. That value is approximately 4.1 million MWh. The current forecasted average annual energy use per residential customer in 2014 is 13,146 kwh. Therefore,

the projected output from the nuclear uprates in 2014 will serve the equivalent of the total annual electrical usage of approximately 311,578 residential customers that year.

The improvement in system fuel diversity from the EPU project can also be demonstrated, for illustrative purposes, by looking at the amount of natural gas or oil that would have been needed to produce this same number of approximately 4.1 million MWh in 2014 if that energy had been produced by a conventional steam generating unit with a heat rate of 10,000 BTU/kwh. In such a case, the EPU can be thought of as saving approximately 41,000,000 mmBTU of natural gas (if all of this energy had been produced by natural gas), or 6,400,000 barrels of oil (if all of this energy had been produced by oil), in 2014. Similar fossil fuel savings would also occur in each succeeding year.

Finally, in regard to the reduction of system CO_2 emissions, the EPU is projected to result in a cumulative reduction over the current license terms of the nuclear units of approximately 32 million tons of CO_2. This will be a significant reduction in CO_2 emissions, representing approximately 78% of the total CO_2 emissions from all FPL-owned generating units in 2011. Stated another way, this projected cumulative CO_2 emission reduction from the EPU project is the equivalent of operating FPL's very large system of more than

22,000 MW of generation for approximately 9.4 months with zero CO_2 emissions.

Q. Why is diversity in generating resources and system fuels important?

A. It is important to keep in mind that FPL uses a portfolio of resources, including generation and fuels, to provide reliable, low-cost service to its customers. Maintaining or improving diversity within FPL's generation and fuel portfolios has the same purpose and effect as maintaining or improving diversification in a financial investment portfolio – over the long term, one expects to do better, with lower volatility and less risk, because the various assets, if diversified, help mitigate each others' upward and downward swings.

One of the reasons FPL strives for a diversified portfolio of system resources and fuels is because no one can predict with certainty what future fuel prices and/or environmental compliance costs will be. Currently, natural gas prices are quite low by recent historical standards and the fuel cost forecasts utilized in FPL's 2012 feasibility analyses of the two nuclear projects reflect this fact. But it would be unwise to assume natural gas prices will remain low in perpetuity.

In regard to forecasted environmental compliance costs, the forecasted compliance costs utilized in FPL's 2012 feasibility analyses are also lower than the forecasts used in previous feasibility analyses. It would also be

unwise to assume that environmental compliance costs will remain low in perpetuity.

To the extent future natural gas prices are higher than forecasted, or environmental regulations (particularly in regard to CO2) are enacted earlier or in a more costly fashion than forecasted, nuclear energy will provide an important hedge against these higher costs. Because the price of nuclear fuel is unrelated to fossil fuel prices, and because nuclear plant generation produces no SO_2, NO_x, CO_2, etc., emissions, additional nuclear capacity is a superb hedge against these types of costs. By achieving diversification of system resources and fuels through additional nuclear capacity, FPL is preparing for all potential future scenarios, and working to keep its customers' electric rates, and thus their corresponding bills, low over the long term.

It is also important to keep in mind that when fossil fuel costs are low, customers will continue to benefit from those low fuel prices in the form of lower electric rates and bills regardless of the addition of the EPU project. As previously mentioned, this can be seen by the simple example of comparing the projected system CPVRR costs between two scenarios examined in Exhibit SRS-8.

For example, looking at Column (3) of that exhibit shows that for the High Fuel Cost, Env. II scenario, the projected CPVRR cost for the Plan with the

EPU Project, is $127.390 billion. The corresponding cost for the same plan with the Medium Fuel Cost, Env. II scenario is $113.225 billion CPVRR. Therefore, a change from the High Fuel Cost forecast to the Medium Fuel Cost forecast results in a projected lower CPVRR cost for FPL's customers of more than $14 billion. In this comparison, the $14 billion CPVRR value not only demonstrates how much FPL's customers might benefit with lower natural gas costs, but also demonstrates, by considering the "reverse direction" where actual future gas costs are higher than forecasted, the rationale for seeking out valuable hedges against possible higher future fuel costs, such as the EPU and Turkey Point 6 & 7 projects.

Q. You previously mentioned that the EPU project would result in nuclear energy's contribution to FPL's system fuel mix being approximately 24% in 2014. What is nuclear energy's current contribution to FPL's system fuel mix and what is the projected effect of the EPU for the rest of this decade?

A. This information is presented in Exhibit SRS – 9. As shown on the exhibit, nuclear energy's actual contribution to FPL's system fuel mix in 2011 was approximately 19%. Once the EPU project is completed, following increased scheduled outages prior to 2014 in order to perform the work necessary for the capacity uprates, nuclear energy's contribution to FPL's system fuel mix is projected to remain above 22% through the rest of the decade.

Q. Earlier you mentioned that the projected fuel savings over the life of the EPU project was approximately $3.8 billion (nominal). Please compare that projection with FPL's current annual system fuel cost.

A. FPL's current annual system fuel cost is approximately $4.2 billion. Therefore, the projected fuel savings over the life of the EPU project is equivalent to serving FPL's more than 4.5 million customer accounts (representing approximately 8.8 million people) for almost a full year with zero fuel costs calculated at today's fuel costs.

Q. You stated earlier that FPL's 2012 feasibility analyses incorporated a refinement that accounted for future transmission capital costs that, absent additional generation being added in Southeastern Florida, would need to be added in the future in order to import additional power into the Southeastern Florida region. What is the projected magnitude of the transmission capital cost savings that are accounted for in the 2012 feasibility analyses of the EPU project?

A. The 246 MW of incremental capacity that will be added at Turkey Point Units 3 and 4 as part of the EPU project will definitely help address the Southeastern Florida regional imbalance issue by adding this significant amount of generation in the region. However, due to the timing of when new transmission facilities would be needed (or avoided) absent additional generation in the region, FPL is not assigning a projected transmission cost savings amount to the EPU project at this time. This is because, after the Port Everglades modernization is completed in 2016, and assuming that if neither

the EPU nor Turkey Point 6 & 7 projects' capacity (nor any other generating capacity after 2016) is added in Southeastern Florida, the earliest projected date at which new transmission facilities would be needed to import more power into the region is 2024.

However, the 2,200 MW of Turkey Point 6 & 7 capacity are projected to be added by mid-2023 (1,100 MW from Turkey Point 6 by mid-2022 and 1,100 MW from Turkey Point 7 by mid-2023). Thus the additional capacity from Turkey Point 6 & 7 will fully address the need to add new transmission facilities in 2024. Furthermore, after the addition of the 2,200 MW of generating capacity from Turkey Point 6 & 7, the next projected date by which additional transmission facilities to import power into the region would be needed is 2032. Yet in 2032, the current operating license for Turkey Point Unit 3 is set to expire and the current operating license for Turkey Point Unit 4 set to expire in 2033.

Therefore, for purposes of the 2012 feasibility analyses based on current assumptions, FPL assigns no value to the transmission-related benefits of the EPU project at this time. This decision is, perhaps, a conservative one. A number of factors, including an increase in FPL's load forecast, environmental regulations/operating considerations requiring a derating or retirement of other existing generators in Southeastern Florida, extension of operating licenses for Turkey Point Units 3 & 4, etc., could contribute to the EPU's increased MW

at the Turkey Point site deferring or avoiding such transmission expenditures. Such factors, should they materialize, would result in an increase in the net benefits of the EPU project from what is shown in FPL's 2012 feasibility analyses based on current assumptions.

Q. What conclusions do you draw from the results of the 2012 feasibility analyses of the EPU project?

A. In regard to these economic feasibility analyses, completing the EPU project is projected to be the economic choice in 6 of the 7 scenarios examined – even utilizing lower than previously projected forecasts of costs for natural gas and environmental compliance. In addition, the results of FPL's 2012 analyses show that FPL's customers are projected to significantly benefit from the EPU in regard to system fuel savings, system fuel diversity, and system CO_2 emission reductions once the EPU project is completed in early 2013. And, as previously discussed, there may be transmission-related cost benefits, not accounted for in the 2012 feasibility analyses, that occur from the EPU project in the future from the additional 246 MW of increased capacity at the Turkey Point site, if current assumptions change.

Furthermore, the EPU project is truly a unique opportunity to offer additional nuclear capacity and energy to FPL's customers. No new sites were required for this additional nuclear capacity, and the construction and permitting times are much shorter than for a new nuclear unit. Therefore, additional nuclear energy contributions that benefit FPL's customers will be accomplished years

earlier through the EPU project than would have been possible with new nuclear generating units. In fact, FPL's customers are already benefitting from the 31 MW of additional capacity from the uprate at St. Lucie Unit 2. FPL's customers are projected to receive the full fuel and environmental compliance cost savings, plus the emission reduction and fuel diversity benefits, in less than one year from the filing date of this testimony with the completion of the EPU work at the last of the four nuclear units (Turkey Point Unit 4) in March 2013.

Therefore, completing the EPU project continues to be projected as a solidly cost-effective and valuable choice for FPL's customers. The results of the 2012 feasibility analyses fully support the continuation of the soon-to-be-completed EPU project.

IV. 2012 Feasibility Analyses Results for Turkey Point 6 & 7

Q. What resource plans were used to perform the 2012 feasibility analyses of Turkey Point 6 & 7?

A. The two resource plans that were utilized in the 2012 feasibility analyses of Turkey Point 6 & 7 are presented in Exhibit SRS – 10. As shown in this exhibit, the two resource plans are identical through 2021. The resource plans differ starting in 2022 and 2023 with the Resource Plan with Turkey Point 6 & 7 adding the two 1,100 MW nuclear units, one in 2022 and one in 2023. The

Resource Plan without Turkey Point 6 & 7 adds two 1,262 MW CC units, one in 2022 and one in 2023. Both resource plans then add the same amount of CC filler unit capacity through 2063 although the timing of the filler unit additions will vary between the two resource plans.

Q. What were the results of the 2012 feasibility analyses for Turkey Point 6 & 7?

A. The results of the 2012 feasibility analyses for Turkey Point 6 & 7 are presented in Exhibit SRS – 11. The breakeven nuclear capital costs in $/kW in 2012$ are presented in Column (6) of this exhibit. The results in Column (6), when compared to FPL's non-binding estimated range of capital costs in 2012$ of $3,570/kW to $5,190/kW, show that the projected breakeven capital costs for Turkey Point 6 & 7 are above this range in 5 of 7 scenarios of fuel cost and environmental compliance cost. In the remaining 2 scenarios, the projected breakeven capital cost is within the non-binding estimated capital cost range. Thus Turkey Point 6 & 7 is projected to be the economic choice in the majority (5 of 7) of the cases.

It is informative to note that both of the remaining 2 scenarios in which the projected breakeven costs for Turkey Point 6 & 7 are projected to be within the non-binding cost estimate range are based on an assumption of low environmental compliance costs continuing every year for the next 50 years. In addition, one of these 2 remaining scenarios also assumes low natural gas costs continuing every year for the next 50 years.

Also, as evidenced by the CPVRR values for these 2 remaining scenarios, compared to the CPVRR values for all other scenarios, FPL's customers would still benefit greatly if the assumed low costs for natural gas and/or environmental compliance were to materialize.

Q. In addition to the results of these economic analyses, did FPL's 2012 feasibility analyses identify any additional advantages for FPL's customers that are projected to be derived from the Turkey Point 6 & 7 project?

A. Yes. Just as was done in discussing the EPU project, I will discuss three other advantages to FPL's customers that are projected to result from the Turkey Point 6 & 7 project:

1) system fuel savings;
2) system fuel diversity; and,
3) system CO_2 emission reductions.

Similar to the EPU project discussion, these advantages for the Turkey Point 6 & 7 project will be discussed by using the results from the 2012 feasibility analyses for the Medium Fuel Cost, Env II scenario.

In regard to system fuel savings, the CPVRR values for the system fuel savings for each scenario of fuel cost and environmental compliance cost is accounted for in the respective total CPVRR savings number for that scenario.

As shown in the Exhibit SRS – 11, these CPVRR savings values are then translated into breakeven costs. Consequently, the system fuel savings have already been accounted for in the breakeven cost values. However, as was the case with the EPU project, it is informative to also look at the annual nominal fuel savings projections for Turkey Point 6 & 7.

In 2024, the first year in which both of the new nuclear units are in service for a full year, Turkey Point 6 & 7 are projected to save FPL's customers approximately $892 million (nominal) in fuel costs. Over the 40-year life of the two new nuclear units assumed (conservatively) for these analyses, the total nominal fuel savings for FPL's customers is projected to be approximately $58 billion (nominal).

Regarding system fuel diversity, in 2024 the relative percentages of the total energy supplied by FPL that is generated by natural gas and nuclear, without Turkey Point 6 & 7, are approximately 71% and 20%, respectively. With Turkey Point 6 & 7, these percentages change to approximately 58% for natural gas and 33% for nuclear. Thus FPL is projected to be far less reliant on natural gas, and more reliant upon nuclear energy, by approximately 13% each.

These percentage changes in system fuel use for a system the size of FPL are significant. This can be demonstrated by looking at the projected amount of

energy that will be supplied by the two new nuclear units in 2024. That value is approximately 17.7 million MWh. The forecasted average annual energy use per residential customer in 2024 is 14,185 kWh. Therefore, the projected output from Turkey Point 6 & 7 in 2024 will serve the equivalent of the total annual electrical usage of approximately 1,247,000 residential customers in that year.

The improvement in system fuel diversity from Turkey Point 6 & 7 can also be demonstrated, for illustrative purposes, by looking at the amount of natural gas or oil that would have been needed to produce this same number of approximately 17.7 million MWh in 2024 if that energy had been produced by a conventional steam generating unit with a heat rate of 10,000 BTU/kwh. In such a case, Turkey Point 6 & 7 can be thought of as saving approximately 177,000,000 mmBTU of natural gas (if all of this energy had been produced by natural gas), or approximately 27,600,000 barrels of oil (if all of this energy had been produced by oil), in 2024.

Finally, in regard to the reduction of system CO_2 emissions, the Turkey Point 6 & 7 project is projected to result in a cumulative reduction over the expected life of the two units of approximately 255 million tons of CO_2. This will be a significant reduction in CO_2 emissions, representing approximately 628% of the total CO_2 emissions from all FPL-owned generating units in 2011. Stated another way, this projected cumulative CO_2 emission reduction from Turkey

Point 6 & 7 is the equivalent of operating FPL's very large system of more than 22,000 MW of generation for approximately 6.3 years with zero CO_2 emissions.

Q. Are the fuel diversity benefits discussed above in regard to the EPU project also important in regard to Turkey Point 6 & 7?

A. Yes. As discussed in the EPU section, nuclear power provides an important hedge for customers against the potential for future natural gas prices to be higher than forecasted and costly environmental (especially CO_2) regulations. Because the price of nuclear fuel is unrelated to fossil fuel prices, and because it produces no SO_2, NO_x, CO_2, etc., emissions to generate electricity, it is a superb hedge against higher fossil fuel and environmental compliance costs.

Q. Earlier you mentioned that the projected fuel savings over the life of the Turkey Point 6 & 7 project was approximately $58 billion (nominal). Please compare that projection with FPL's current annual system fuel costs.

A. FPL's current annual system fuel cost is approximately $4.2 billion. Therefore, the projected fuel savings over the life of the Turkey Point 6 & 7 project is equivalent to serving FPL's more than 4.5 million customer accounts (representing approximately 8.8 million people) for more than 14 years at zero fuel costs for FPL's customers calculated at today's fuel costs.

Q. What was the result of the refinement in the 2012 analyses in regard to transmission-related benefits of Turkey Point 6 & 7 deferring/avoiding

the cost of transmission facilities that would otherwise be needed to import power into the Southeastern Florida region?

A. The addition of 2,200 MW of capacity from Turkey Point 6 & 7 in Miami-Dade County is projected to achieve significant transmission cost savings by avoiding the construction of transmission facilities that would otherwise need to be built to import power from outside the Southeastern Florida region into that region. These savings are currently projected to be approximately $870 million CPVRR. That savings value is accounted for in FPL's 2012 feasibility analyses of the Turkey Point 6 & 7 project.

Q. What conclusions do you draw from the results of the 2012 feasibility analyses of Turkey Point 6 & 7?

A. In regard to these economic feasibility analyses, the Turkey Point 6 & 7 project is clearly projected to be the economic choice in the majority (5 of 7) of scenarios examined. In the 2 remaining scenarios (which are based on assumptions of either low environmental compliance costs, or low environmental compliance and natural gas costs, each year for the next 50 years), the projected breakeven capital costs are within the non-binding estimated capital cost range for the new nuclear units. Therefore, Turkey Point 6 & 7 is projected to be the economic choice in the majority of cases; i.e., in 5 of 7 scenarios, and will nonetheless be beneficial in terms of increased fuel diversity and reduced emissions in all scenarios.

Thus, the results of the 2012 feasibility analyses show that Turkey Point 6 & 7 continues to be projected as a solidly cost-effective capacity and energy choice for FPL and its customers. In addition, the results of FPL's 2012 feasibility analyses show that FPL's customers are projected to significantly benefit from Turkey Point 6 & 7 in regard to system fuel savings, system fuel diversity, and system CO_2 emission reductions once the Turkey Point 6 & 7 units go in-service. These conclusions fully support the feasibility of continuing the Turkey Point 6 & 7 project.

Q. Does this conclude your testimony?

A. Yes.

BY MS. CANO:

Q Thank you. Did you also sponsor exhibits to your testimony?

A Yes.

Q And those consist of Exhibits SRS-1 through SRS-11, as corrected by your September 7th errata?

A Yes.

MS. CANO: I would note that these have been premarked for identification as Exhibits 81 through 91 on the composite exhibit list.

COMMISSIONER GRAHAM: Thank you.

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 Certainly. Good afternoon, Commissioners. I present the results of FPL's economic feasibility analyses for the EPU and Turkey Point 6 and 7 projects. FPL's 2012 feasibility analysis of both nuclear projects use a multiple forecast multiple scenario approach that addresses a wide range of potential future fuel and environmental cost.

All major assumptions, including fuel cost, environmental compliance cost, and load forecast have been updated. The updated fuel cost and environmental cost

forecasts this year are significantly lower than forecasts utilized in all previous feasibility analyses.

In our feasibility analysis, FPL compares the cost to its customers of a resource plan that includes the nuclear project being evaluated versus a resource plan that excludes the nuclear projects and adds instead additional natural gas fired capacity.

In regard to both nuclear projects, the resource plan with the nuclear project is projected to be the clear economic winner for FPL's customers. In addition, both nuclear projects are projected to provide significant benefits to our customers in regard to increased system fuel diversity, reduced system fossil fuel use, firm capacity, and reduced system emissions. Benefits in total unique to nuclear generation.

In regard to the EPU project, the results of our 2012 feasibility analysis can be summarized as follows. Completing the EPU project is projected to be cost effective in six of seven fuel and environmental cost scenarios. FPL's customers are projected to save approximately $3.8 billion nominal and fuel costs over the life of the project.

Other projections include that FPL's reliance on natural gas will be reduced by approximately three percent in the first full year of the project and approximately 32 million tons of CO2 emissions will be eliminated over the

life of the project.

In regard to the Turkey Point 6 and 7 project, the results of our 2012 feasibility analysis can be summarized as follows: The project is projected to be cost effective in five of seven fuel and environmental cost scenarios. In the remaining two scenarios, which assume low environmental costs or low environmental costs and low fuel costs for the next 50 years, the projected break-even capital cost for Turkey Point 6 and 7 are within the non-binding estimated capital cost range. FPL's customers are projected to save approximately 58 billion nominal in fuel costs over the life of the project.

Other projections include that FPL's reliance on natural gas will be reduced by approximately 13 percent in the first full year of the project, and approximately 255 million tons of CO2 emissions will be eliminated.

In conclusion, both the EPU and Turkey Point 6 and 7 projects are projected to be solidly cost effective additions for our customers. Therefore, the results of the 2012 feasibility analysis strongly support completing the EPU project and continuing the Turkey Point 6 and 7 project. Thank you.

MS. CANO: Dr. Sim is available for cross examination.

COMMISSIONER GRAHAM: Dr. Sim, welcome.

THE WITNESS: Thank you.

COMMISSIONER GRAHAM: OPC.

CROSS EXAMINATION

BY MR. McGLOTHLIN:

Q Hello, Dr. Sim.

A Good afternoon.

Q In the context of your testimony, when you refer to a feasibility study or feasibility analysis you're referring to economic feasibility as opposed to technical feasibility, is that correct?

A My testimony, yes, is primarily economic feasibility.

Q And part of the regulatory paradigm that governs these hearing cycles is that the company is required to prepare a feasibility analysis of its proposed project on an annual basis, correct?

A Yes, sir.

Q And that's for the purpose of determining whether continuation of the project is justified based upon updated information, both with respect to capacity and costs and other variables?

A Yes, I'd agree with that.

Q And to that end, you prepare, among other things, forecasts of the cost factors that could bear on the outcome of the feasibility analysis?

A No, sir, I do not prepare forecasts of various assumptions. I think it's more accurate to say that I utilize a number of forecasts and assumptions that are prepared by others.

Q All right. I accept that clarification. When I say you I sometimes think of FPL as opposed to Dr. Sim, individually. But you receive and utilize forecasts of the cost factors that could bear on the outcome of the feasibility study?

A Yes, both from within, inside FPL, and outside of FPL.

Q And of course one possible conclusion at the end of the day, after a feasibility study is considered, is that the utility or possibly the Commission could determine that a project is no longer justified and should not continue, right?

A Yes, both or either FPL or the Commission could certainly reach that determination.

Q And therefore the parameters of the feasibility study, itself, should be adequate to enable the utility or the Commission or both to make that judgment on an informed basis, correct?

A I would agree with that and I believe FPL strives to use assumptions and forecasts that are applicable for analyzing the nuclear projects, which is the topic here

today, as well as all other resource options: DSM, renewables, combined cycles, et cetera. We tend to use the same set of assumptions at a given point in time.

Q If you'll turn to your exhibit SRS-8, page one of one.

A Yes, sir.

Q I count one, two, three, four, five, six, seven different scenarios under the graph there. Did you use seven scenarios in preparing your feasibility analysis?

A Yes.

Q And did you use the same scenarios for both the proposed new projects, as well as the uprate?

A I would say yes, with the following qualification. We simply carried out for Turkey Point 6 and 7 the analysis over more years, so the forecasts were simply extended from where they ended for the EPU project, which extended through 2043, because that was the last year of the license for the four existing nuclear units. We extended it out 20 more years for the Turkey 6 and 7 project.

Q And you chose these particular seven scenarios because you believe they are adequate for the purpose, correct?

A Yes.

MR. McGLOTHLIN: No further questions.

COMMISSIONER GRAHAM: Okay. FIPUG?

MS. KAUFMAN: Good afternoon, Commissioners.

CROSS EXAMINATION

BY MS. KAUFMAN:

Q Dr. Sim, good afternoon.

A Good afternoon.

Q Good to see you again. I just have a couple of questions for you. Can you tell me -- I'm going to talk to you about the uprate projects. And can you tell me how many megawatts the Turkey Point uprate is expected to generate when the project is completed?

A Again, we're talking about the EPU project?

Q Yes.

A Our analysis was done on 246 megawatts. In Mr. Jones' testimony he specifies that there will be an additional five to 15 megawatts from the Turkey Point site. So we're looking -- again, the analysis we did was on 246. The eventual one is now projected to be 251 to 261.

Q I understand. And when are those megawatts supposed to be on line?

A I believe one of the Turkey Point projects just completed and the other one is due to be completed March of 2013.

Q And are the megawatts that are to be generated from the Turkey Point uprate, are they included in FPL's Ten Year Site Plan?

A The 246 megawatts are included in the site plan. Because the additional five to 15 megawatts in Mr. Jones' testimony has just been released, it comes after our site plan had been put together.

Q And I wanted to ask you the same questions for the St. Lucie EPU. How many megawatts is that going to generate?

A It has -- in our analysis we assumed 31 megawatts had already been provided and were benefiting our customers. There was another 213 megawatts in our analyses that were included and in Mr. Jones' supplemental testimony I believe the number was, subject to check, 27 additional megawatts out of St. Lucie.

Q So are the 31 megawatts already in service included in your Ten Year Site Plan?

A Yes.

Q And the 213 plus the 27 additional, when are those to come on line?

A One of the St. Lucie projects has already been completed. The second St. Lucie project is due to be completed approximately November of this year, November of this year.

Q Of the one that's already been completed, how many megawatts out of the 213, I think you said, is already on line?

A I believe, subject to check, it's approximately

140-odd. I don't recall the exact number off the top of my head.

Q Okay. And is that 140, give or take, included in the Ten Year Site Plan?

A Yes. The only thing not included in this year's Ten Year Site Plan are the additional megawatts in Mr. Jones' supplemental testimony, the 27 megawatts at St. Lucie and five or 15. And when the dust settles on that and the projects are completed and we have a more accurate reading, those will all be accounted for in next year's site plan.

Q I wanted to ask you a question about your testimony on line four. And you've mentioned in your summary, as well, the idea of diversification. And on page four, beginning at line 19, you say that the two nuclear projects will help reduce FPL's reliance on natural gas. Do you see that?

A Yes.

Q Okay. What percentage of FPL's current megawatts comes from natural gas?

A Megawatts or megawatt hours?

Q Megawatt hours.

A As our Ten Year Site Plan shows, it will be for the remainder of this decade holding at about two-thirds of our total energy output comes from natural gas, roughly 66 percent. It varies a bit year to year.

Q Do you have an opinion in regard to your discussion of diversity about how much natural gas on FPL's system would be too much?

A I don't have an exact number. I would say we're already at a point that is causing us some concern in regard to both price volatility of natural gas and certainly delivery. We are fed natural gas, essentially, through two long pipelines into the state. The bulk of our load is at essentially the tip of this long peninsula, and we have concerns already regarding the dependence we have on natural gas, particularly from just two pipelines.

Q So if I understand your answer -- I do understand that you might not be comfortable giving us an exact percentage or number, but at any rate, you would agree that FPL is at or close to approaching perhaps having too much natural gas on its system?

A I would disagree only in the point of having too much natural gas. It's more of a question of how dependent we are on natural gas. And I think, at least from my point of view, we're already at that point where we are definitely seeking fuel diversity, and that's one of the reasons we brought forward to this Commission both the EPU project and the Turkey Point 6 and 7 project, because we were concerned with the reliance not only of FPL, but the state as a whole upon natural gas.

MS. KAUFMAN: That's all I have. Thank you.
COMMISSIONER GRAHAM: Thank you. FEA?
LT. COL. FIKE: No questions, Commissioner.
COMMISSIONER GRAHAM: SACE?
MR. WHITLOCK: Thank you, Commissioner Graham.

CROSS EXAMINATION

BY MR. WHITLOCK:

Q Good afternoon, Dr. Sim.

A Good afternoon.

Q I want to shift your -- shift the -- shift the testimony to Turkey Point 6 and 7 for a few minutes, if we could. I believe you stated in the summary of your testimony and also page two, line 22 of your direct testimony, that the assumptions used in the 2012 feasibility analysis include lower than previously projected forecasts of costs for natural gas and environmental compliance, correct?

A That's correct.

Q Okay. Now, as it pertains to natural gas -- well, first of all, gas prices are extremely low right now, correct?

A From an historical perspective, yes.

Q Okay. Are they at or -- you'd agree they're at or near historical lows?

A Yes, that's a fair statement.

Q Okay. And based on the comparison of your 2011

feasibility analysis and your 2012 feasibility analysis, it's not -- this low price of gas is not just a short-term trend, is that accurate?

A Can you repeat the question, please, sir?

Q Sure. Sure. When you compare the results of your 2012 feasibility analysis or the assumptions, compared to the 2011 feasibility analysis, it shows that the lower -- the trend of lower gas prices is a long-term trend, not a short term trend, is that accurate?

A Let me try to answer your question this way.

Q I still didn't ask it very well. I apologize.

A If we look at our -- let's compare like with like. Let's look at our medium fuel cost forecast in 2011 versus our medium fuel forecast in 2012. Both curves, if they were plotted, would trend gradually upwards over time, but the 2012 forecast would be under or lower than the 2011 forecast throughout the time period.

Q And if I could, I think you've already done this in Exhibit SRS-2, correct?

A Yes. Not a graph, but a table.

Q A table. Correct. And if you look at the top table there, forecasted natural gas, in 2012 it's showing a decrease of $1.43 as compared to 2011, correct?

A Yes, it shows $1.43 less, and for all of the years shown, it is less.

Q Out to 2040, where it's $1.12, correct?
A That's correct.
Q And that's what my question, as far as it being a long-term trend and not just a short-term trend, was based upon.
A Yes, the 2012 medium gas forecast, which is shown here, is lower for each year than in 2011, and both nuclear projects are projected to be cost effective with either fuel cost forecast.
Q Now, I believe you testified that -- for how many years did you project out on the Turkey Point 6 and 7 feasibility analysis?
A 2063.
Q 2063? But this graph stops at 2040. Why is that?
A Editor's choice.
Q Are you the editor?
A Yes. We did provide, in response to discovery, the forecast, I believe, for all years, in response to an interrogatory.
Q For example, do you know the difference in 2011 and 2012 the forecasted natural gas cost in 2016?
A Do I know off the top of my head? No, I do not.
Q Okay. Now, the same question for environmental compliance, which I think you've shown, and I want to focus on the cost to carbon in Exhibit SRS-3. The fact that the

cost is lower is -- it's a long-term trend, not a short-term trend, correct?

A Yes, I think there are two trends for CO2 that were certainly much different this year than what we saw in 2011. Number one, the CO2 costs are assumed to start significantly later than what we have seen before, and that the costs, on a year-by-year basis, are lower than what they were in 2011.

Q In fact, in 2040, they're $77 lower, correct?

A That's correct.

Q Per ton. I think you and I agreed last year -- I don't think we agreed on much, but we agreed that natural gas and cost of carbon are the two key drivers in the feasibility analysis, correct?

A They're certainly among the primary drivers, yes.

Q Okay. And so I guess my question is, despite these forecasts showing long-term trends in terms of reduced gas prices and lower carbon costs, your feasibility analysis still shows Turkey Point 6 and 7 as being more cost effective, according to your testimony, in five of seven scenarios, is that correct?

A That is correct. And in the other two, where we have either the lowest environmental cost forecast or the lowest environmental plus the lowest natural gas cost forecast, the results show that we are within the break-even

cost of the non-binding cost estimate for the units.

Q I heard you say that before, but thank you for saying it again. On page five of your testimony -- and were you here when I asked Mr. Scroggs some questions earlier?

A I wasn't in the room, sir.

Q Okay. He couldn't definitively answer this question. I figured it might be a better question for you. But you state that Turkey Point 6 and 7, over the life of the project, is going to save customers a projected 58 billion in fuel costs, correct?

A That's our current projection for the medium cost fuel, yes.

Q And in 2010 that number was 90 billion, correct?

A I believe it was approximately 90 billion, and last year I believe it was approximately 75 billion. And Commissioners, let me point out that despite that drop in the projected fuel benefits of the project --

COMMISSIONER GRAHAM: Dr. Sim, I think you answered his question.

THE WITNESS: All right.

BY MR. WHITLOCK:

Q So as it pertains to projected fuel savings, the economic feasibility of Turkey Point 6 and 7 is declining, is it not, Dr. Sim?

A Yes and no. I would say --

Q I haven't heard that answer all day. Go ahead, explain.

A Yes, it's declined since, or compared to the 2011 feasibility analysis results. No, it has not declined from the feasibility analysis that was presented to the Commission and upon which the Commission approved this project back in 2007.

Q Now, in the 2012 Turkey Point 6 and 7 feasibility analysis, one of the scenarios where Turkey Point was not the most economic resource plan was the low fuel, low environmental cost scenario, correct?

A You're looking at Exhibit SRS-11?

Q I'm not looking at it, but you can certainly look at it, if you'd like.

A And would you repeat the question, please?

Q One scenario where Turkey Point was not the most economic resource plan was the low fuel, low environmental compliance scenario, correct?

A I would not -- I can't accept the premise of the question. You were saying where it was not cost effective, I believe.

Q I said where it was not the most cost effective as compared to the gas plan.

A And again, I can't accept the premise of the question. What we show here is that the projected break-even

cost is within the non-binding cost estimate range. So I would not call it as not cost effective versus the no Turkey 6 and 7 plan.

Q In our testimony, on page seven, at line 15, you say Turkey Point 6 and 7 is projected to be cost effective in the majority five of seven of the scenarios, correct? So it's not cost effective in the other two?

A I'm sorry, which page? Page --

Q Seven, lines 15 and 16.

A Yes, and elsewhere in my testimony we say that in the other two scenarios it falls within the break-even cost range for the non-binding estimate.

Q Okay, so -- so one of the scenarios where it's not cost effective is the low fuel cost environmental one, correct?

A No, I don't accept the premise of the question.

COMMISSIONER GRAHAM: I think you've asked and answered that already. Just because you don't get the answer you're looking for --

BY MR. WHITLOCK:

Q Dr. Sim, the various fuel forecasts that you use are high fuel, medium fuel, and low fuel, correct?

A That's correct.

Q Okay. As we sit here today, the fuel scenario that would most accurately reflect current fuel conditions

would be low fuel; is that accurate?

A I don't know.

Q How so?

A Because I don't normally check what the current weekly or daily fuel cost is.

Q Fuel prices are low right now, correct?

A Fuel prices are low, but they have been fluctuating. They dropped earlier this year; they went up a bit in the summer.

Q Okay. Would today be a low environmental compliance or environmental one, as you call it; no cost to carbon? Did you check on that --

A Repeat your question, please.

Q Did you check on that today?

A Repeat your question.

Q Is there a cost to carbon today, Dr. Sim?

A No, there is not, and --

Q Okay. And would that be characterized as environmental one?

A And if I may finish the answer, none of the environmental compliance cost forecast have a cost of carbon in 2012.

Q That wasn't my question. I asked you today, would today, current conditions be most accurately reflected as the environmental one scenario.

MS. CANO: And he answered that there is no carbon cost today. Asked and answered.

THE WITNESS: All three environmental compliance cost forecasts have zero carbon in 2012. So today's carbon cost is not indicative of which will be most accurate going forward.

BY MR. WHITLOCK:

Q Does your economic feasibility analysis assess the relatively -- the relative likelihood of the various gas and fuel scenarios?

A No.

Q You just throw seven scenarios out there and say, five out of seven, it looks good, but you don't tell the Commission which ones are more likely than not to occur?

A I certainly wouldn't characterize it so cavalierly. I would say that FPL produces forecasts that try to address a wide range of forecasts both for fossil fuel as well as for environmental compliance. We cannot predict nor can anyone with certainty which forecast is going to be more likely over the next 50 years.

Q So you don't assess the relative likelihood, correct?

A No, we don't attempt to.

MR. WHITLOCK: Okay. Those are all my questions. Thank you.

COMMISSIONER GRAHAM: Thank you. Retail?

MR. LaVIA: No questions, Mr. Chairman.

COMMISSIONER GRAHAM: Staff?

MR. LAWSON: Staff has no questions.

COMMISSIONER GRAHAM: Commissioners? Commissioner Balbis?

COMMISSIONER BALBIS: I have two very quick questions for Dr. Sim. First of all, I appreciate your testimony. I think that the quantitative analysis of the feasibility of the projects is something that I find that is very useful in our determination, so I appreciate your work.

My questions focus on SRS -- let's go to SRS-11. I just want to make sure I understand column five, which that indicates the difference between the two plans, one with Turkey Point 6 and 7, one without. And in each of those cases, since it's in parentheses, that means the plan with Turkey Point 6 and 7 is less costly, correct?

THE WITNESS: Yes, sir. And let me make sure that there's no confusion here. In column three, the plan with Turkey 6 and 7, we are assuming the units are built but we're assuming zero capital cost.

What we're trying to find out in column five is, as we would expect, there are savings from a plan with the two nuclear units but with zero capital costs versus a

plan with combined cycles with full combined cycle cost. We're trying to figure out how much we could spend for a given fuel and environmental cost scenario for capital expenditures for Turkey 6 and 7 to break even.

COMMISSIONER BALBIS: Which is why you have column six, the break-even numbers, correct?

THE WITNESS: Yes, sir.

COMMISSIONER BALBIS: Okay. And then I just have a quick question on -- there's been a lot of discussion on cost of carbon. In either scenario, either with Turkey Point 6 and 7 or without, or with the EPU or without, adding a cost of carbon will increase the total cost in every scenario, is that correct?

THE WITNESS: Yes, it will. I would say there are probably two impacts that it's safe to say would occur. As the cost of carbon goes up, these projects become more cost effective. As we've seen, even with some low carbon scenarios, these projects can be cost effective. However, the cost to customers, the CPVRR cost of the whole plan over the entire analysis period gets more costly with higher CO2 costs. So it is a problem for our customers in that respect.

COMMISSIONER BALBIS: Okay, thank you. That's all I had.

COMMISSIONER GRAHAM: Redirect.

MS. CANO: If we could just have one second.
COMMISSIONER GRAHAM: Sure.
MS. CANO: Thank you.
COMMISSIONER GRAHAM: Okay, redirect. I'm kidding. She said one second.
MS. CANO: Okay, thank you.

REDIRECT EXAMINATION

BY MS. CANO:

Q Dr. Sim, Mr. Whitlock took you to -- asked you some questions about the fuel cost forecasts and how they compared to today's scenarios. Do you recall that line of questioning?

A In general, yes.

Q Okay. And what do the scenarios that you used imply with regard to costs of carbon or natural gas over the term of your analysis?

A I'm sorry, can you repeat the question, please?

Q Sure. What do your fuel cost forecasts and carbon cost forecasts provide over the term of your analysis?

A What they're intended to provide is a wide range of future potential costs over which we are evaluating the project, because, again, there is great uncertainty in regard to both fuel costs and environmental compliance regulations and costs.

Q And how much emphasis in your long-term analysis

should be placed on the costs being experienced by utilities today?

A I think the only importance on what the costs are today is that it forms a starting point for a forecast of either environmental costs and most importantly fuel costs. So if the costs were to change dramatically tomorrow and we were to redo the forecast, I think you would see the values for the forecast change. But it's the future values that are most important, not today's cost.

Q Mr. Whitlock pointed you to page five of your direct testimony, line nine.

A Yes.

Q And he pointed out that customers are expected to save $58 billion nominally from the Turkey Point 6 and 7 project. Do you recall that question?

A Yes, I do.

Q Okay. In your opinion what is the significance of that magnitude of savings?

A I think there are a couple of points. Number one, taken at face value, $58 billion nominal compared against today's total annual fuel cost for FPL of under $4 billion means that this project is projected even with the low current fuel costs to be the equivalent of more than 14 years of zero fuel costs for our customers over the life of the project.

And number two, the -- I'll leave it just at two. The second point is, this is a reduction from last year in what the projected nominal fuel savings are. I believe the number was $75 billion nominal last year. What this means is that our customers, if looking at the entire picture, would say that the project, while still cost effective, is going to save me a bit less.

Convert this to CPVRR numbers, as one of the Staff's discovery requests asked us to do, it comes to about $7.7 billion the project is less cost effective in regard to fuel, only, than last year.

But if you look at the total CPVRR cost to our customers from this lower fuel, you would calculate that our customers would be $30 billion better off in terms of total costs. So from last year our customers would say, okay, you have a project that's a bit less cost effective than it was last year, it remains cost effective, but I'm going to be spending 30 billion less CPVRR over the life of the analysis, I think I could live with that. That's probably a pretty good deal, I think our customers would say.

MS. CANO: Nothing further. Thank you.

COMMISSIONER GRAHAM: Okay, exhibits.

MS. CANO: FPL moves Exhibits 81 through 91.

COMMISSIONER GRAHAM: We will enter Exhibits 81 through 91 for Dr. Sim. And is that all the exhibits?

I don't think we had any handouts with this one. Okay.

(Exhibits 81 through 91 admitted in evidence.)

MS. CANO: That concludes FPL's direct witnesses.

CHAIRMAN BRISE: Thank you, Commissioner Graham. I think OPC.

MR. McGLOTHLIN: OPC calls Brian Smith. Mr. Smith was sworn.

Thereupon,

BRIAN D. SMITH

was called as a witness on behalf of Office of Public Counsel, having been previously duly sworn, testified as follows:

DIRECT EXAMINATION

BY MR. McGLOTHLIN:

Q Please state your name and your business address.

A My name is Brian Smith. My address 1850 Parkway Place, Marietta, Georgia.

Q By whom are you employed, Mr. Smith, and in what capacity?

A GDS Associates as a Project Manager.

Q At OPC's request did you prepare for submittal in this docket prefiled testimony?

A Yes, I did.

Q Do you have that document with you?

A I do.

Q Do you have any corrections or additions to make to the prefiled testimony?

A I do not.

Q Do you adopt the questions and answers contained in the prefiled testimony as your testimony today?

A Yes.

MR. McGLOTHLIN: I request that Mr. Smith's prefiled testimony be inserted in the record at this point.

CHAIRMAN BRISE: Okay, we will insert Mr. Smith's prefiled testimony into the record as though read.

(Whereupon, the prefiled testimony was inserted.)

DIRECT TESTIMONY

Of

BRIAN D. SMITH

On Behalf of the Office of Public Counsel

Before the

Florida Public Service Commission

Docket No. 120009-EI

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME, TITLE AND BUSINESS ADDRESS.

A. My name is Brian D. Smith. I am a Senior Project Manager at GDS Associates, Inc. My business address is 1850 Parkway Place, Suite 800, Marietta, Georgia 30067.

Q. PLEASE SUMMARIZE YOUR EDUCATION AND EXPERIENCE.

A. I received a Bachelor of Industrial Engineering in 1981 from the Georgia Institute of Technology. I am a registered professional engineer in the state of Florida, and I have thirty years of experience in electric utility planning activities. This includes time spent working for municipal utility planning departments as well as my association with GDS where I have worked as a power supply and utility system simulation consultant. I have been responsible for the development and analysis of integrated resource plans and for computer simulation of utility production operations and financial operations. Particular emphasis has been on economic feasibility studies of alternative power supply resources. My resume is included as Exhibit No. __(BDS(FPL)-1).

I. SUMMARY OF TESTIMONY

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. My testimony collaborates with that of Dr. William Jacobs. In his testimony, Dr. Jacobs points out that the majority of the increase from last year in the cost at completion of its nuclear uprate projects is related to the Turkey Point uprate activities. He also observes that FPL's projected cost, measured in $/kW, of its Turkey Point uprate project now is considerably higher than FPL's own estimate of the corresponding cost of a new nuclear unit. At Dr. Jacobs' request, and using the composite feasibility analysis of FPL's Extended Power Uprate projects that FPL is sponsoring in this docket as a starting point, I have performed an analysis to determine whether each of the Turkey Point and St. Lucie EPU activities shows net benefits to customers when their respective costs and benefits are gauged separately.

Q. PLEASE SUMMARIZE YOUR TESTIMONY.

A. To assess the impact on customers of the soaring Turkey Point uprate costs that Dr. Jacobs describes in his testimony, I analyzed the respective cost-effectiveness of the Turkey Point and St. Lucie uprate projects using FPL's own values for plant-related costs and total (fuel and other) savings. As a simplifying assumption that I believe to be conservative (that is, favorable to FPL's Turkey Point uprate project), I allocated the "savings" component equally between the two plants. I then related the savings for each plant to the estimated "to go" costs for each plant that FPL provided. I calculated the results for each of the seven scenarios of future fuel and environmental compliance costs that FPL examined in its composite exercise. The results of my study are that in six of

the seven scenarios, including the medium fuel price scenario that FPL regards as its base case, the Turkey Point uprate shows a substantial net *cost* to customers. In the base case scenario, the costs exceed savings by approximately $200 million (net present value). The results of my analysis are displayed on Exhibit No. ___BDS(FPL)-2.

Q. WHY DO YOU BELIEVE YOUR 50/50 ALLOCATION OF SAVINGS TO THE ST. LUCIE AND TURKEY POINT PLANTS IS CONSERVATIVE AND FAVORABLE TO THE TURKEY POINT UPRATE ACTIVITY?

A. Both plants generate electricity with nuclear fuel. The incremental EPU capacity at each plant does not vary significantly. A review of excerpts from FPL's publicly available unit and fuel data discloses some slight differences in heat rates and fuel costs; however, those differences are immaterial, and in any event pale in relation to another factor that would tilt the share of savings away from Turkey Point were I to take it into account.

Q. WHAT IS THAT FACTOR?

A. The savings that each plant's uprate capacity can produce, which take the form principally of fuel savings, are a function of the quantity of megawatt hours of inexpensive energy it generates over time. Turkey Point is older than St. Lucie. Turkey Point will operate 14 fewer unit years than will St. Lucie, based on the duration of operating licenses. To assume the plants will generate equal savings in light of this important differential is extremely conservative in terms of the quantity of savings that I allocated to Turkey Point.

Q. PLEASE DESCRIBE YOUR ANALYSIS MORE FULLY.

A. In the testimony that I filed in Docket No. 110009-EI, I explained that the cumulative present value of revenue requirements (CPVRR) associated with a recent or current expenditure can conservatively be estimated to equal the expenditure itself. Based on that principle, I have produced an analysis which breaks down the total EPU savings that are presented in FPL's Exhibit SRS-8 into savings associated with the separate Turkey Point and St. Lucie components. FPL's analysis, the results of which are summarized on Exhibit SRS-8, estimates the CPVRR of net savings associated with both Turkey Point and St. Lucie over a range of scenarios. Exhibit SRS-8 shows the CPVRR for cases that (1) include the EPU projects, and (2) do not include the EPU project. The differences in CPVRR between the cases are the savings, or costs, associated with each scenario. The savings shown for each scenario can be expressed as the CPVRR of incremental EPU Project costs minus the CPVRR of EPU Project benefits associated with each scenario. In Exhibit SRS-8, a negative value indicates savings, or that the CPVRR for the case with the EPU project is less than the CPVRR for the case without the EPU project. The values shown in Exhibit SRS-8 could be derived using the following equation:

(Equation 1) Total CPVRR of EPU Incremental Costs – Total CPVRR of EPU Benefits
= Total EPU Project Savings

Q. HOW DID YOU USE FPL'S EXHBIT SRS-8?

A. In order to allocate the Project Savings between Turkey Point and St. Lucie, I developed the following two equations:

(Equation 2) Turkey Point CPVRR of EPU Incremental Costs – Turkey Point CPVRR of EPU Benefits = Turkey Point EPU Project Savings

(Equation 3) St. Lucie CPVRR of EPU Incremental Costs – St. Lucie CPVRR of EPU Benefits = St. Lucie EPU Project Savings

Q. HOW DID YOU TREAT THE SUBJECT OF PAST EXPENDITURES IN YOUR ANALYSIS?

A. In its exhibit, FPL excluded past expenditures from the comparison of costs and benefits. I did not modify FPL's methodology in this regard for purposes of my analysis.

Q. PLEASE CONTINUE.

A. For the Medium Fuel/Env II scenario ("base case"), assuming that the CPVRR of EPU Incremental costs can be conservatively represented by the to-go costs, and using the Total Cost Difference values from Exhibit SRS-8 as well as to-go costs for St. Lucie and Turkey Point that were provided in response to Interrogatory No. 19 in OPC's Fifth Set of Interrogatories, equations (2) and (3) can be represented as shown below:

(Equation 4) $ 1,141.97 Million –Turkey Point CPVRR of EPU Benefits = Turkey Point EPU Project Savings = x

(Equation 5) $446.75 Million – St. Lucie CPVRR of EPU Benefits = St. Lucie EPU Project Savings = y

From Exhibit SRS-8, we know that FPL has estimated the sum of x and y, for the base case, to equal -$296 million (representing $296 million of overall net savings). That relationship can be expressed as equation (6) shown below:

(6) $x + y = -\$296$ million

For my calculations, I have assumed that the Turkey Point CPVRR of EPU Benefits is equal to the St. Lucie CPVRR of EPU Benefits. Under that assumption, and using the relationship shown in equation (6), it is possible to subtract equation (5) from equation (4) and solve for x and y. (I have shown the algebraic solution in my Exhibit No. ___(BDS-3).) Doing so results in an x (Turkey Point) value of $199.61 million (where a positive value indicates net costs) and a y (St. Lucie) value of -$495.61 million (where a negative value indicates net savings). Under the assumptions described above, the Turkey Point EPU Project shows a net cost to ratepayers of $199.61 million, and the St. Lucie EPU Project shows a net benefit of $495.61 million. On Exhibit No._ BDS(FPL)-2 I have produced net results for each scenario that was shown on Exhibit SRS-8.

Q. DOES THAT CONCLUDE YOUR TESTIMONY?

A. Yes, it does.

BY MR. McGLOTHLIN:

Q And Mr. Smith, did you also prepare in conjunction with your testimony three exhibits which have since been identified for hearing purposes as 92, 93 and 94?

A Yes, I did.

Q Have you prepared a summary of your testimony?

A I have.

Q Please summarize your testimony for the Commissioners.

A Good afternoon, Mr. Chairman and Commissioners. The purpose of my testimony is to provide a means to estimate net savings or net cost for each of the Turkey Point and St. Lucie EPU projects based on FPL's most recent estimates of total construction costs.

I employed FPL's feasibility methodology, which excludes sump costs and includes only to-go costs in the comparison of the EPU projects to FPL's alternative. Using quantitative information provided in FPL's direct testimony, exhibits, and discovery responses, and using a deliberately conservative assumption regarding the level of fuel savings attributable to the Turkey Point EPU project, I developed equations that, when solved, provide estimates of net savings or net costs separately for the Turkey Point and St. Lucie EPU projects.

In my testimony I have presented the net savings

or net costs for each of the seven scenarios presented in FPL's testimony. The conservative assumption that I mentioned regarding Turkey Point EPU savings is the allocation at FPL's estimated total EPU fuel savings between the Turkey Point and St. Lucie projects.

I assigned equal fuel savings to each of the plants, despite the fact that the current operating licenses for the plants allow St. Lucie to operate 14 unit years longer than Turkey Point.

Considering the terms of the current operating licenses, assuming the Turkey Point will achieve the same level of fuel savings as St. Lucie conservatively favors Turkey Point in the analyses included in my testimony. Using the information included in FPL's testimony and the conservative assumption that I just described, the analyses in my testimony show that in six of the seven scenarios which are defined by FPL the Turkey Point EPU project shows a net cost to customers ranging from approximately $12 million to approximately $389 million. That concludes my summary. Thank you.

MR. McGLOTHLIN: Mr. Smith is available for cross examination.

CHAIRMAN BRISE: Okay. FIPUG?

MS. KAUFMAN: We have no questions of this witness. Thank you.

CHAIRMAN BRISE: Okay, FEA?

LT. COL. FIKE: No questions.

CHAIRMAN BRISE: SACE?

MR. WHITLOCK: No questions. Thank you.

CHAIRMAN BRISE: FRF?

MR. LaVIA: No questions.

CHAIRMAN BRISE: No questions.

MS. CANO: No questions.

CHAIRMAN BRISE: Staff?

MS. BENNETT: No questions.

CHAIRMAN BRISE: Commissioners? All right, exhibits?

MR. McGLOTHLIN: Aren't you going to ask me about redirect?

CHAIRMAN BRISE: Oh, I'm sorry. I'm sorry. I know you have a ton of questions on redirect. Redirect?

MR. McGLOTHLIN: No redirect, and we move Exhibits 92, 93 and 94.

CHAIRMAN BRISE: All right, we will move Exhibits 92, 93 and 94 into the record.

(Exhibits 92, 93 and 94 were admitted in evidence.)

MR. McGLOTHLIN: And would you please excuse Mr. Smith from further participation?

CHAIRMAN BRISE: Sure. Mr. Smith, you are excused.

THE WITNESS: Thank you.

MR. McGLOTHLIN: OPC calls Dr. William Jacobs. And Dr. Jacobs has been sworn.

Thereupon,

WILLIAM R. JACOBS, JR., Ph.D.

was called as a witness on behalf of Office of Public Counsel, having been previously duly sworn, testified as follows:

DIRECT EXAMINATION

BY MR. McGLOTHLIN:

Q When you're ready, Dr. Jacobs, please state your full name and business address.

A My name is William R. Jacobs. My address is 1850 Parkway Place, Marietta, Georgia.

Q By whom are you employed and in what capacity?

A I'm an Executive Consultant for GDS Associates.

Q On OPC's behalf did you prepare and submit in this proceeding prefiled testimony?

A Yes, I did.

Q Do you have any corrections or changes to make to your prefiled documents?

A I do have two minor corrections. On page 12, line 14, there's a reference exhibit, and the correct reference is Exhibit TOR-2, page one of one. And then on page 14, line four, the number $608 million should be $626 million. That's all.

Q As corrected, do you adopt the questions and answers contained in the prefiled document as your testimony here today?

A Yes, I do.

MR. McGLOTHLIN: I ask that Dr. Jacobs' prefiled testimony be inserted in the record at this point.

CHAIRMAN BRISE: All right, we will enter Dr. Jacobs' prefiled testimony into the record as though read at the time.

(Whereupon, the prefiled testimony was inserted.)

DIRECT TESTIMONY

Of

WILLIAM R. JACOBS JR., Ph.D.

On Behalf of the Office of Public Counsel

Before the

Florida Public Service Commission

Docket No. 110009-EI

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME, TITLE AND BUSINESS ADDRESS.

A. My name is William R. Jacobs, Jr., Ph.D. I am an Executive Consultant with GDS Associates, Inc. My business address is 1850 Parkway Place, Suite 800, Marietta, Georgia, 30067.

Q. DR. JACOBS, PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND AND EXPERIENCE.

A. I received a Bachelor of Mechanical Engineering in 1968, a Master of Science in Nuclear Engineering in 1969 and a Ph.D. in Nuclear Engineering in 1971, all from the Georgia Institute of Technology. I am a registered professional engineer and a member of the American Nuclear Society. I have more than thirty years of experience in the electric power industry including more than twelve years of power plant construction and start-up experience. I have participated in the construction and start-up of seven power plants in this country and overseas in management positions including start-up manager and site manager. As a loaned employee at the Institute of Nuclear Power Operations ("INPO"), I participated in the Construction Project Evaluation Program, performed operating plant evaluations and assisted in the

development of the Outage Management Evaluation Program. Since joining GDS Associates, Inc. in 1986, I have participated in rate case and litigation support activities related to power plant construction, operation and decommissioning. I have evaluated nuclear power plant outages at numerous nuclear plants throughout the United States. I served on the management committee of Plum Point Unit 1, a 650 MWe coal fired power plant in operation near Osceola, Arkansas. As a member of the management committee, I assisted in providing oversight of the EPC contractor for this project. I am currently the Georgia Public Service Commission's (GPSC) Independent Construction Monitor for Georgia Power Vogtle 3 and 4 nuclear project. As the Independent Construction Monitor I assist the GPSC Commissioners and Staff in providing regulatory oversight of the project. My monitoring activities include regular meetings with project management personnel and regular visits to the Vogtle plant site to monitor construction activities and assess the project schedule and budget. My resume is included as Exhibit WRJ(FPL)-1.

Q. WERE YOU ASSISTED BY OTHER GDS PERSONNEL IN THIS EFFORT?

A. Yes, I was. In addition to myself, the GDS team involved in the review and evaluation of the requests for authorization to recover costs consisted of Mr. James P. McGaughy, Jr., a former nuclear utility executive with over 37 years of experience, and Mr. Brian Smith, an expert in production cost modeling and feasibility analyses. Mr. Smith is sponsoring testimony on an aspect of our review. His qualifications are contained in his prefiled testimony. The resume of Mr. McGaughy is attached to this testimony as Exhibit WRJ(FPL)-2. I have reviewed the work of Mr. McGaughy, and have incorporated and adopted it as my own in this testimony.

Q. WHAT IS THE NATURE OF YOUR BUSINESS?

A. GDS Associates, Inc. ("GDS") is an engineering and consulting firm with offices in Marietta, Georgia; Austin, Texas; Manchester, New Hampshire; Madison, Wisconsin; and Auburn, Alabama. GDS provides a variety of services to the electric utility industry including power supply planning, generation support services, rates and regulatory consulting, financial analysis, load forecasting and statistical services. Generation support services provided by GDS include fossil and nuclear plant monitoring, plant ownership feasibility studies, plant management audits, production cost modeling and expert testimony on matters relating to plant management, construction, licensing and performance issues in technical litigation and regulatory proceedings.

Q. WHOM ARE YOU REPRESENTING IN THIS PROCEEDING?

A. I am appearing on behalf of the Florida Office of Public Counsel (OPC), who represents the ratepayers of Florida Power & Light Company.

Q. WHAT WAS YOUR ASSIGNMENT IN THIS PROCEEDING?

A. I was asked to assist the OPC to conduct a review and evaluation of requests by Florida Power and Light Company (FPL) for authority to collect historical and projected costs associated with extended power uprate ("EPU") projects being pursued at the Turkey Point 3 and 4 and St. Lucie 1 and 2 nuclear plants, and historical and projected costs associated with FPL's Turkey Point 6 and 7 new nuclear project through the capacity cost recovery clause. I was asked to present my findings to assist the Florida Public Service Commission in making its determination

regarding FPL's requests in light of progress on the projects to date and new information that has been received.

Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THIS COMMISSION?

A. Yes. I testified on behalf of the OPC in the previous NCRC proceedings in Docket Nos. 080009-EI, 090009-EI, 100009-EI and 110009-EI.

Q. PLEASE PROVIDE A BRIEF OVERVIEW OF THE NATURE AND STATUS OF FPL'S NUCLEAR PROJECTS.

A. FPL currently has two categories of major nuclear projects—"uprates" and proposed new nuclear units-- underway. The most active projects at this time are the projects to increase the existing generating capacities of Turkey Point 3 and 4 and St. Lucie 1 and 2 by a total of 490 megawatts. (The total output of the EPU projects has increased from the 414 megawatts estimated in December 2010.) FPL refers to the activities at existing Turkey Point and St. Lucie nuclear units as the extended power uprate or EPU project. The uprate activities are currently scheduled to be completed in 2013. As of December 2011, FPL had spent approximately $1.46 billion of an estimated total cost of $3.05 billion on the uprate activities at the Turkey Point and St. Lucie plants. Of the $1.59 billion "to go" costs, $0.45 billion is for the St. Lucie EPU and $1.14 billion is for the Turkey Point EPU. The other project is the development of Turkey Point 6 and 7, a new nuclear plant consisting of two Westinghouse AP1000 reactors. This project is in the development stage. FPL projects it will provide 2,200 megawatts of capacity with on line dates of 2022 and 2023.

Q. PLEASE SUMMARIZE OPC'S PAST PARTICIPATION IN THE PROCEEDINGS ON FPL'S NUCLEAR PROJECTS.

A. I will begin with the proposed new Turkey Point 6 and 7 units. I am informed that OPC's earliest involvement was when OPC objected to FPL's request for a declaratory statement concerning the classification of expenses that FPL was to incur prior to the date that site selection expenses were completed. FPL asked the Commission to confirm that such items would be treated as preconstruction expenses, and thus would qualify for recovery through the nuclear cost recovery clause. Because FPL's examples included expensive, "long lead" equipment, OPC asked for a hearing on FPL's petition to develop its impact on customers' bills. The Commission denied OPC's request for a hearing and granted FPL's petition.

In Docket No. 080009-EI, I criticized FPL's initial policy of contracting for the development of Turkey Point 6&7 on the basis of separate contracts rather than an overall EPC contract. More recently, because I generally approve of the minimalist approach that FPL is taking with respect to the development of its proposed new nuclear units in light of the downward trend in gas prices and uncertainty regarding future load growth, OPC has not taken exception to FPL's pursuit of licensing or the costs related to that effort.

Q. WHAT ABOUT FPL'S EPU ACTIVITIES AT TURKEY POINT AND ST. LUCIE?

A. OPC has opposed aspects of FPL's uprate activities frequently. In Docket No. 080009-EI, I testified that FPL's support for entering numerous "sole source contracts" and "single source contracts" rather than seeking competitive bids was inadequate. I recommended that the Commission disallow the return on equity

portion of the largest such unjustified contract, or, at a minimum, direct FPL to improve its procedures for determining when a departure from competitive bidding was acceptable. The Commission declined to adopt my recommendations. In Docket No. 090009-EI, I criticized the absence of a rigorous methodology for ensuring that only costs that are incremental in nature and attributable only to FPL's EPU activities are collected through the clause. I proposed a discrete "separate and apart" analytical methodology, which FPL opposed on the grounds the review it had in place was sufficient for the purpose. Ultimately the Commission rejected the methodology that I recommended for that purpose, and accepted FPL's presentation.

In Docket No. 100009-EI, during which FPL reported that its estimate of total EPU costs had increased by $576 million over the prior year, I challenged FPL's methodology for gauging the economic feasibility of its uprates, which involved excluding past expenditures from the study at the same time projected costs at completion increased significantly. I also recommended that the Commission direct FPL to develop a risk-sharing mechanism so that it would have "skin in the game." The Commission ruled it had no authority to impose a risk-sharing mechanism.

In Docket No. 110009-EI (which included issues from the prior year that, by stipulation, had been carried over), I testified that FPL failed to present the Commission with the most current estimate of the construction costs that it projected for its uprate project during the September 2009 hearing. Based on my testimony, in its brief OPC recommended that the Commission conclude that FPL had violated the rule governing the nuclear cost recovery proceedings and impose a fine on FPL at or near the maximum amount of $1,180,000. The Commission voted to deny OPC's recommendation.

In Docket No. 110009-EI, I also testified that it was imprudent for FPL to "fast track" the construction of the uprates when it had not begun detailed design work, and thus had no adequate grasp of either the scope or the cost of the project. As a decision on the matter had been "carried over," I also reiterated my criticism of the application of FPL's methodology for measuring economic feasibility of the uprate project, and recommended that the Commission require FPL to perform a breakeven analysis for the uprates similar to the breakeven analysis that FPL proposed, and the Commission endorsed, for FPL's proposed new nuclear units. I recommended that the Commission require FPL to prepare separate breakeven analyses for the St. Lucie and Turkey Point plants, to ensure that one less-than-cost-effective project was not being subsidized by the other project. The Commission rejected OPC's recommendation and ruled in favor of FPL.

Q. PLEASE SUMMARIZE FPL's REQUEST FOR COST RECOVERY IN THIS DOCKET UNDER THE NUCLEAR COST RECOVERY CLAUSE.

A. FPL is requesting authority to include $196,004,292 of nuclear cost items in the 2012 Capacity Cost Recovery factor.

II. METHODOLOGY

Q. PLEASE DESCRIBE THE METHODOLOGY THAT YOU USED TO REVIEW AND EVALUATE THE REQUESTS FOR AUTHORIZATION TO COLLECT COSTS SUBMITTED BY FPL UNDER THE NUCLEAR COST RECOVERY CLAUSE.

A. I first reviewed the Company's filings in this docket and assisted in the issuance of numerous interrogatories and requests for production of documents. To evaluate the

issues related to project schedule, cost and risk management, I reviewed many internal documents, status reports and correspondence with regulatory authorities. I reviewed responses to discovery requests and issued additional discovery requests as needed.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to bring to the Commission's attention the continuing dramatic increases in the estimated cost of the EPU projects, and to apprise the Commission of the extent to which the soaring, runaway costs of the Turkey Point EPU activities are the source of the overall increase. I will also identify significant changes in circumstances which should lead the Commission to revisit its decision to assess the Turkey Point and St. Lucie EPU activities on a consolidated, combined basis. Based on these significant and compelling changes of circumstances, the Commission should evaluate the Turkey Point uprate separately. With the assistance of my GDS colleague, Brian Smith, who is also sponsoring testimony, I will demonstrate that when that is done, and when FPL's own most recent estimate of "to go" costs is used, it is apparent that the Turkey Point uprate project already is sure to result in net costs, not benefits, to customers. I will urge the Commission to take measures necessary to protect customers from additional, future increases in the cost of the Turkey Point EPU project.

III. SUMMARY OF TESTIMONY

Q. PLEASE SUMMARIZE YOUR TESTIMONY.

A. The following changes in circumstances since the last annual hearing cycle impact the Commission's treatment of FPL's EPU activities:

(1) FPL has again increased its estimate of the total costs of its EPU projects dramatically, this time by $682 million in 14 months. (2) Of the more than $682 million increase, the portion attributable to the Turkey Point EPU activities amounts to $555 million. (3) Information from Bechtel's report to FPL in 2011 demonstrates that the Commission should set aside its past acceptance of FPL's assertion that Turkey Point and St. Lucie should be aggregated and evaluated for economic feasibility on a composite basis. (4) Lastly, the consultant that FPL engaged specifically to advise it on projections of ultimate costs informed FPL in 2010 that the Turkey Point project costs would reach the order of magnitude that FPL is now, belatedly acknowledging. In his testimony, OPC witness Brian Smith demonstrates that, even if one includes only FPL's estimate of "to go" costs in the analysis and makes assumptions regarding savings that are conservative and generous to the Turkey Point project, at the level of FPL's current estimate the costs of the Turkey Point uprate project will exceed the savings associated with the project in FPL's "base case" scenario by approximately $200 million (net present value). In light of these significant changes in circumstances, and the strong indication that the Turkey Point EPU project is now "under water," the Commission should take action to protect customers in the event FPL fails to manage the balance of the Turkey Point uprate activities within its current estimate. Specifically, the Commission should place FPL on notice that it will disallow from recovery through the nuclear cost recovery mechanism any amounts associated with the Turkey Point EPU project that exceed FPL's recent $1.6 billion construction cost estimate for the Turkey Point uprate.

IV. DEVELOPMENTS THAT OCCURRED IN THE LAST YEAR

Q. PLEASE DESCRIBE THE PROGRESS OF FPL'S EXTENDED UPRATE ACTIVITIES SINCE THE LAST HEARING CYCLE.

A. In Docket No. 110009-EI, at the time that I reviewed the status of the engineering, design, and implementation of FPL's extended uprate activities, I predicted that FPL would continue to experience significant cost increases. Unfortunately for customers, after only a year from the time that I submitted my testimony, the costs and estimates of future costs that FPL is reporting now prove that I was correct in my assessment of the projects' likely future. The estimated costs for the EPU activities at St. Lucie and Turkey Point continue their dramatic ascent to levels that bring the economics of the projects further into question. Compared to the estimates of total cost that FPL presented a year ago, FPL has increased its estimate of total costs by $682 million. Incredibly, $555 million of that $682 million increase relate to the revised estimate for the Turkey Point uprate. FPL's revised estimate for Turkey Point uprate capacity translates to a total cost of $7,520 per kW, even when the increment of generating capacity above the original estimate of increased output is taken into account. One way to appreciate the magnitude of FPL's current Turkey Point estimate is to relate it to the cost of new nuclear capacity. Given that FPL's own estimate of the cost of *new* nuclear generating capacity is only a maximum of $5,190 per kW, FPL can no longer claim that EPU capacity costs less than the capacity of a new nuclear unit, at least insofar as its claim relates to the Turkey Point uprate. Finally, evidence shows that the enormous increase in Turkey Point costs was foreseen and quantified by a consultant whom FPL engaged specifically to advise it on the likely final cost of the Turkey Point uprate, but FPL chose to ignore or reject that analysis for some 18 months. The $555 million increase over last year's Turkey Point estimate constitutes

a significant change in circumstances that calls on the Commission to revisit its decision of a year ago to evaluate the extended uprate activities at St. Lucie and Turkey Point on a combined, composite basis. Further, FPL's decision to pursue the Turkey Point uprate activities without first fully confronting the extremely high estimate of final costs which it engaged its consultant to prepare was a poor management decision, and the impact of that action should be absorbed by FPL, not its customers. In the next sections of my testimony, I will develop the reasons why, in my opinion, the Commission should disallow from recovery the costs of extended uprate activities at Turkey Point that exceed FPL's recent construction cost estimate of $1.6 billion.

Q. PLEASE CONTINUE.

A. Each year, in his testimony FPL witness Jones explains the reasons for dramatic increases in estimated EPU costs by stating that the EPU project poses extraordinary managerial and technical challenges and that FPL's EPU project represents one of the largest and most complex nuclear design, engineering, and construction projects undertaken in the nuclear industry since the construction of the previous generation of U.S. nuclear plants. (See Jones, Page 5, lines 12 – 16) The net result of the enormous increases over time is that the current estimated cost of the EPU projects, measured in dollars per installed additional kilowatt of capacity, has soared beyond the corresponding cost of a new nuclear power plant. In addition, the EPU projects have significantly less time (remaining operating life) within which to overcome the hurdle of initially high capital costs through lower fuel costs. These facts simply cannot be ignored. This is particularly true in the instance of the Turkey Point EPU.

Q. AT ITS OUTSET, WHAT DID FPL ESTIMATE THE COST OF THE EPU PROJECTS TO BE?

A. The initial construction cost estimate for the EPU projects from 2007 was $1,401,000,000. This was made up of $651,000,000 for St. Lucie 1 and 2 and $750,000,000 for Turkey Point 3 and 4. (Figures from FPL000473, NCR-11).

Q. WHAT IS FPL'S CURRENT "NON-BINDING ESTIMATE" OF THE TOTAL EPU COST?

A. The current total construction cost estimate is $2,656,800,000. This includes $1,007,000,000 for St. Lucie and $1,649,800,000 for Turkey Point. Adding AFUDC and Transmission costs increases the total to $2,961,800,000. (Figures from FPL027442, 43, and 44, NCR-12). The estimate used by FPL Witness Dr. Sim in his 2012 feasibility analysis is $3,050,000,000. The cost estimate used in the need determination analysis was $1,798,000,000. (Exhibit TOJ-14, page 219) Thus, the estimated cost to complete the total EPU projects has increased 70% from the cost used in the need determination analysis. For construction costs, this represents an increase of 90%. When St. Lucie and Turkey Point are viewed separately, this amounts to a 120% increase for Turkey Point and a 55% increase for St. Lucie. In a little over a year, the Turkey Point EPU has gone up $555,000,000, while the St. Lucie project has gone up 'only' $128,000,000.

On a $/kW basis including AFUDC and transmission, this results in $7,520/kW for Turkey Point and $4,557 /kW for St. Lucie. For both plants taken together, this is $6,044/kW. These numbers are based on a total of 490 MWe as now claimed vs. 414 Mwe as put forward in December 2010. (FPL027444, NCR-12).

Q. IN YOUR OPINION, WHAT CAUSED THE TURKEY POINT ESTIMATES TO INCREASE BY 120% ABOVE THE ORIGINAL ESTIMATE?

A. As I discussed at some length in my testimony last year, FPL has performed this project on a fast track basis, which means FPL did not complete design work before commencing procurement of equipment and construction. As witness Mr. Jones admits in his April 27, 2012 testimony, only 36% of the engineering was complete when he filed testimony one year ago, but engineering now is at 90%. The total cost cannot be accurately estimated until FPL fully understands the full scope of the EPU project. The full scope cannot be known until the engineering is complete. FPL has mostly included in its estimates the scope of the project known at the time of the estimate and did not provide sufficient contingency for the unknown scope.

As I pointed out in my 2011 testimony, in a fast track project, this unknown risk can be accounted for by adding a large contingency to the cost estimates. FPL stated last year that it had included only 0 to 7% contingency, which I pointed out last year was inadequate. As we see now, the cost of the overall project has gone up about 30% in the past year alone

Q. WHAT WAS FPL'S ESTIMATE OF THE TOTAL COST OF THE EPU A YEAR AGO?

A. Mr. Jones put forward a range of estimates in his May 2, 2011 testimony of $2,324,000,000 to $2,479,000,000. Dr. Sim used $2.48 billion in his feasibility analysis. At the time, and in response to my assertion that the estimate was an "uneducated guess," Mr. Jones referred to this estimate as "highly informed."

Q. BY HOW MUCH HAS FPL'S ESTIMATE OF THE TOTAL COST OF THE COMBINED EPU ACTIVITIES INCREASED WITHIN THE PAST YEAR?

A. In his April 27, 2012 testimony, Mr. Jones stated a range of $2,950,000,000 to $3,150,000,000. This represents an increase of about $608,000,000 on the low end of the spread and about $671,000,000 on the high end—*in a single year*. It is interesting to note that the high/low range spread increased from $155,000,000 last year to $200,000,000 in this year's filing. This indicates to me an increase in his level of uncertainty regarding the total cost of the EPU activities.

Q. BASED ON YOUR FAMILIARITY WITH THE TIMING OF THE ENGINEERING AND THE PROGRESS OF THE PROJECT TO DATE, WHAT CONFIDENCE DO YOU HOLD THAT THE $682 MILLION INCREASE OVER LAST YEAR'S ESTIMATE IS THE LAST SUBSTANTIAL INCREASE THAT FPL WILL REPORT?

A. Unfortunately, neither FPL's track record nor the status of the project provides cause for optimism. To date, the rate of annual increases has been increasing every year, not decreasing. Mr. Jones points out that engineering is now 90% complete, which means that 10% still needs to be accomplished. Significantly, the increases arise—not only as design work is completed—but also as the resulting design is implemented. According to Dr. Sim's analysis, less than half of the revised estimate of costs has actually been spent, which means there is an enormous amount of work remaining to perform within the next 18 month period (and corresponding opportunity for costs to increase further). To date, none of FPL's EPU projects have been completed. Mr. Jones has increased his uncertainty spread as pointed out above, indicating more uncertainty. There will be an average of 3,400 workers doing FPL

EPU work in 2012 and about 2,000 in 2013. As far as I know, FPL still has not included a significant contingency in their estimates. Based on these facts, I expect significant additional cost increases before the EPU projects are complete.

Q. GIVEN THE INCREASE OF $682 MILLION IN THE SPACE OF ONE YEAR, WHAT DOES FPL SAY ABOUT THE CURRENT COST-EFFECTIVENESS OF THE EPU PROJECT?

A. FPL maintains that the project continues to be cost-effective when it applies its preferred (for its EPU) economic feasibility methodology.

Q. HOW DO THE CHANGES IN CIRCUMSTANCES THAT YOU HAVE IDENTIFIED BEAR ON YOUR RECOMMENDATION THAT THE COMMISSION REVIEW THE FEASIBILITY OF TURKEY POINT AND ST. LUCIE UPRATES SEPARATELY DURING THIS PROCEEDING?

A. First, I am aware that the Commission has indicated its ability to select the feasibility methodology that is most appropriate for the circumstances, and consider whether that methodology remains the most appropriate as circumstances change. Order No. PSC-09-0783-FOF-EI, at page 15. Last year, the Commission disagreed that the increases that had occurred as of that time constituted sufficient reason to cease applying FPL's consolidated methodology. I will point out that, at that time, FPL witness Terry Jones described the total estimate of $2.4 billion as "highly informed." Since the "highly informed" estimate was accepted for purposes of assessing economic feasibility, the estimate has increased by $682 million, of which $555 million relates to Turkey Point. It is now clear that the Turkey Point EPU project is

on a runaway course of its own, the extent of which is being buried in FPL's composite approach.

Q. CAN YOU ELABORATE ON WHY YOU ASSERT THE TURKEY POINT PROJECT IS "ON A COURSE OF ITS OWN" THAT WARRANTS INDIVIDUAL ANALYSIS?

A. Yes. I have prepared a graph to illustrate this point. It is attached to my testimony as Exhibit WRJ(FPL)-5.

Q. PLEASE EXPLAIN WHAT EXHIBIT NO. __WRJ(FPL)-5 DEPICTS.

A. The exhibit is a line graph that portrays the pattern of Turkey Point EPU-related expenditures over time. The extreme slope of the red line shows how the estimate of the total Turkey Point uprate costs began to increase radically as soon as FPL began work on the project, and the manner in which estimates of total cost soared "in step" with the rate of experienced costs (shown in blue). The exhibit also shows that, after several years of rapidly increasing expenditures, FPL's current estimate of *remaining* ("to go") Turkey Point uprate costs is actually greater than FPL's original estimate of *total* costs!

Absent the willingness of the Commission to take into account the new information that I have identified and impose a separate and independent "sanity check," there will be nothing to prevent the Turkey Point EPU from reaching cost levels that are devastating to customers, even as FPL reports its Turkey Point project is cost-effective as part of its consolidated methodology.

Q. BASED ON INFORMATION THAT FPL HAS PROVIDED TO OPC DURING THIS HEARING CYCLE, DO YOU SEE ANY EVIDENCE THAT IS HAPPENING?

A. Yes, I do. Specifically, the $555 million increase in the estimated total cost of the Turkey Point uprate project, the disparity between the cost of Turkey Point uprate capacity and FPL's own estimate of the cost to construct a new nuclear unit, and evidence that FPL was apprised in 2010 of the magnitude of the increases it should expect but proceeded to incur them anyway, provide reasons for departing from a rigid adherence to a composite feasibility test to protect customers from clearly egregious cost levels.

Q. PLEASE ELABORATE.

A. One claim that FPL has made for the EPU project is that it is a means of increasing nuclear generating capacity at a cost lower than the corresponding cost of a new nuclear unit. On page 1 of Mr. Jones April 27, 2012 testimony, he states :

> "The project provides the equivalent of half a new nuclear plant in about half the time and at significantly less than the estimated cost per kW installed of a new nuclear plant-a strong value proposition."

Q. WHY DO YOU QUOTE THIS PASSAGE FROM MR. JONES' TESTIMONY?

A. Because with respect to the Turkey Point EPU project Mr. Jones' statement, which underlies the basic rationale for the EPU project, is clearly incorrect. In his April 27, 2012 testimony at Exhibit SRS-6, Dr. Sim states that overnight costs for new nuclear units are $3,507 to $5,190/kw in 2012 dollars. "Overnight cost" measured in 2012 dollars is approximately the same measurement as the construction cost for the EPU projects. As I showed above, the construction cost for the Turkey Point EPU project

is $7,520/kW. Even if you eliminate AFUDC and transmission, it is $6,700/kW, considerably higher than what FPL says new nuclear units cost. (For the St. Lucie project the corresponding costs are $4,560/kW and $4,127/kW.)

Q. DIDN'T THE COMMISSION APPROVE FPL'S APPROACH OF COMBINING THE ST. LUCIE AND TURKEY POINT EPU PROJECTS FOR PURPOSES OF ITS FEASIBILITY ASSESSMENT?

A. Yes. However, information that came to light during the discovery phase of this year's hearing cycle that, in combination with the sheer magnitude of the increase to the Turkey Point estimate, should lead the Commission to revisit that decision for purposes of this proceeding.

Q. WHAT WAS THE RATIONALE THAT FPL ADVANCED AND THAT THE COMMISSION ACCEPTED WHEN IT REJECTED OPC'S POSITION THAT FPL SHOULD ANALYZE THE ECONOMIC FEASIBILITY OF THE ST. LUCIE AND TURKEY POINT EPU PROJECTS SEPARATELY?

A. In his rebuttal testimony of a year ago, FPL's Witness Jones identified three reasons for maintaining FPL's composite approach:

- Performing an EPU on all units simultaneously allows the project team to share resources and lessons learned from performing the numerous outages with similar work scopes, thereby increasing efficiency and reducing costs.
- Engineering and construction strategy for one unit can be used to support engineering and construction strategy for the other units.
- FPL can realize cost savings and leverage purchasing power by purchasing multiple pieces of the same equipment.

Q. PLEASE DESCRIBE THE INFORMATION GAINED FROM DISCOVERY THAT, IN YOUR OPINION, SHOULD LEAD THE COMMISSION TO MODIFY ITS DECISION REGARDING FPL'S COMPOSITE APPROACH.

A. Bechtel, FPL's EPU construction contractor, pointed out in its cost estimate for Turkey Point of November 15, 2011 that the craft labor for Turkey Point would be 3.1 times that required for St. Lucie. Also, Turkey Point requires 7.6 times the large pipe, 2.9 times the small pipe, 2.4 times the cable, and 25.4 times the large valves than the corresponding amounts required for St. Lucie. A comparison of the Turkey Point EPU scope of work to the St. Lucie scope of work is shown in Exhibit WRJ(FPL)-3. The fundamentally different nature of the projects demonstrated by Bechtel's document and Exhibit WRJ(FPL)-3 overwhelm FPL's assertions of "shared strategies" and "similar scopes" upon which the Commission relied, when it accepted FPL's composite feasibility analysis last year. (Of course, the differences are most vividly driven home by the disparity in the increases of "to go" costs over a year ago--$128 million for St. Lucie, and *more than four times that amount* for Turkey Point.)

Q. WAS THIS 2011 BECHTEL ESTIMATE THE FIRST TIME FPL WAS INFORMED ABOUT HOW HIGH THE ESTIMATED TURKEY POINT EPU PROJECT COSTS WOULD BE?

A. No. In 2010, FPL hired High Bridge Associates to independently review the Turkey Point EPU project costs. High Bridge issued a report on Turkey Point 3&4 EPU cost that estimated the final cost to be $1,428,541,326. Significantly, this estimate did not encompass all of the modifications involved in the full Turkey Point EPU activity. In other words, because High Bridge did not "price out" all necessary modifications associated with the Turkey Point uprate project, the High Bridge estimate necessarily

was lower than the indicated cost of the full project. The High Bridge estimate is shown in Exhibit WRJ(FPL)-4.

Q. DID FPL ADOPT THESE COST PROJECTIONS?

A. Even though its purpose in engaging High Bridge Associates was to provide an independent check on the information that FPL was receiving from Bechtel, FPL did not accept High Bridge's estimate until much later. In December, 2010, FPL was stating $1,148,900,000 as their expected cost and in December, 2011, FPL was estimating $1,252,500,000. It was not until February, 2012, that FPL acknowledged that the Turkey Point project cost would be as much as the amount that High Bridge reported to them one and a half years earlier. Had FPL incorporated an estimate for Turkey Point that was consistent with High Bridge's 2010 estimate during the 2011 proceeding, the magnitude of the increase necessarily would have led to a materially different feasibility calculation.

Q. IS THERE OTHER EVIDENCE THAT THE COSTS OF THE TURKEY POINT EPU PROJECT ARE INCREASING FAR BEYOND THE POINT AT WHICH THE PROJECT IS ECONOMIC?

A. Yes. Dr. Sim projects that "Breakeven Nuclear Capital Costs" are from $4,202 to $6,326/kW, while Turkey Point uprate costs at $7520/kW are considerably higher. Not only is the Turkey Point EPU much more expensive than the breakeven costs of a new nuclear unit, but its useful life would only be about 20 years (licenses expire in 2032 and 2033), while a new unit would last up to 60 years. Even more significant, however, is the analysis by Brian Smith of GDS that demonstrates the Turkey Point EPU project will result in net costs, not net benefits, to FPL's customers, even if

FPL's current estimate of to-go costs remains unchanged until the project has been completed.

Q. PLEASE DESCRIBE THE ANALYSIS TO WHICH YOU REFER.

A. The detailed explanation of the calculations is contained in Mr. Smith's testimony. I will summarize it here. Because the incremental capacities of the Turkey Point and St. Lucie uprates are approximately equal, and there are no material differences in heat rate or fuel costs of the units, one can assume the Turkey Point and St. Lucie plants contribute approximately equally to the "savings" (primarily fuel savings) side of the cost/benefit calculation that FPL sponsors. Once the total savings are apportioned to the two plants, it is possible to relate the savings attributable to each plant to the costs of that plant, and calculate whether the comparison of savings and costs for each plant yields net costs or net benefits. Mr. Smith performs such an analysis. His conclusion is that, using only FPL's recent estimate of "to go" costs as the cost that should be compared to savings, the Turkey Point EPU project will result in net costs to customers of $199.6 million, while the St. Lucie EPU project, measured on the same basis, will yield $495.6 million of net savings. I will add that, while the equal allocation of savings to the two plants is a simplifying assumption, there are conservative aspects to Mr. Smith's analysis that lead me to believe the degree to which he says the Turkey Point EPU is "under water" is understated.

Q. WHY DO YOU SAY MR. SMITH'S CALCULATION UNDERSTATES THE NET COSTS OF THE TURKEY POINT EPU?

A. First, it considers only the remaining or "to go" costs, in the same manner that FPL quantifies them. Next, Mr. Smith makes no adjustment to take into account the fact

that the St. Lucie EPU capacity will operate 14 unit-years longer than the Turkey Point unit. I believe these aspects—and particularly the differential in operating time frames between Turkey Point and St. Lucie that the comparison ignores—ensure the results for Turkey Point are conservative.

Q. WHY IS THE SHORT OPERATING LIFE (RELATIVE TO THAT OF A NEW NUCLEAR UNIT) SIGNIFICANT??

A. With any nuclear capacity, the fundamental question is whether fuel savings over the life of the unit will more than offset the very high initial capital costs of nuclear technology. As I mentioned, the St. Lucie plant will operate 14 unit-years longer than Turkey Point after the uprates have been completed. If this differential in operating lives were to be taken into account, I believe it is clear that substantially less than half the total (fuel and other) savings would be attributed to Turkey Point for the comparison with "to go" costs.

Q. WHAT USE SHOULD THE COMMISSION MAKE OF THIS INFORMATION?

A. To protect customers' interests, the Commission must reserve to itself the tools with which to gauge the reasonableness of costs that the utility wishes to pass through the cost recovery clause. It should not ignore either the $555 million increase in Turkey Point EPU costs, or the fact that the consultant that FPL hired to educate it on total project costs alerted FPL to the extreme cost of the project in 2010, only to have its work product effectively ignored by the client who had paid for the estimate, or the clear indication that the project is fast becoming uneconomic. The Commission should revisit the decision to permit FPL to continue to treat the economics of the

EPU projects on a consolidated basis and recognize, based on Mr. Smith's testimony and exhibit, that the Turkey Point EPU project is projected to result in net costs even at the level of FPL's projected "to go" costs.

Q. WHAT ARE YOU ASKING THE COMMISSION TO DO?

A. FPL proceeded with the Turkey Point uprate despite having received an analysis that predicted the extreme high costs of the project. As a result, the Commission should hold FPL to the "estimate at completion" that it is sponsoring in this docket. Through the end of 2011, FPL has spent $650,078,024 in construction costs on the Turkey Point EPU project. In this hearing cycle, FPL projects the Turkey Point EPU project will be completed in March of 2013 at a total construction cost of $1.6 billion. To protect customers, the Commission should place FPL on notice that, if it exceeds FPL's recent $1.6 billion construction cost estimate at completion for Turkey Point, the Commission will disallow the increment above that level from recovery through the nuclear cost recovery docket.

V. TURKEY POINT UNITS 6 AND 7

Q. HAVE YOU REVIEWED THE STATUS OF TURKEY POINT 6 AND 7 AND THE FPL'S MANAGEMENT OF THIS PROJECT?

A. Yes, I have. I am not taking issue with FPL's approach to the Turkey Point 6 and 7 project at this time.

Q. DOES THAT CONCLUDE YOUR TESTIMONY?

A. Yes, it does.

BY MR. McGLOTHLIN:

Q And did you also prepare exhibits to your testimony, Dr. Jacobs?

A Yes.

Q Have you prepared a summary of your testimony?

A Yes, I have.

Q Please summarize your testimony for the Commission.

A I'll be glad to. Good afternoon, Mr. Chairman, Commissioners. In response to my assertion that FPL's estimate in 2011 was an uneducated guess, FPL witness Jones, the Project Manager for the EPU project, assured this Commission that FPL's 2011 estimate was highly informed. One year later FPL's estimate to complete the EPU project has increased by an astonishing $682 million.

This startling increase is being driven by soaring costs at the Turkey Point plant site, which is on a runaway course of its own. Of the $682 million increase, $515 million relates to the Turkey Point EPU project.

The current estimate for the Turkey Point EPU project of $1.6 billion represents a 120 percent increase above the original estimate. Costs of the Turkey Point EPU on a dollar per kilowatt basis is significantly more than the cost of a new nuclear unit as projected by FPL.

FPL engaged a consultant, High Bridge Associates,

specifically to provide an independent check on construction cost estimates. In 2010, High Bridge alerted FPL that the cost of Turkey Point EPU project could approach the currently forecast level. In fact, because High Bridge did not price all of the components of the project in its 2000 (sic) estimate, this estimate was necessarily lower than the indicated full cost of the project.

Had FPL incorporated an estimate for Turkey Point that was consistent with the High Bridge's 2010 estimate during the 2011 proceeding, the magnitude of the increase would have led to a materially different feasibility calculation. Instead FPL proceeded with the Turkey Point uprate despite having received an analysis that predicted the extreme high cost of the project, relying instead on the consolidated presentation with St. Lucie that hides the high cost and resulting uneconomics of Turkey Point from view.

Unfortunately, FPL continued to ignore this warning until February, 2012, when it finally acknowledged that the cost of Turkey Point uprate will reach the levels of the High Bridge estimate. FPL's failure to acknowledge and act on the predictions of soaring costs of Turkey Point timely was a poor management decision. The impact should not be borne by customers.

The situation calls for a sanity check. The $550 million year-over-year increase in the estimated construction

cost of the Turkey Point EPU was a change in circumstances that compels a separate appraisal of the economics of the Turkey Point EPU project.

As demonstrated by my colleague, Mr. Brian Smith, at the level of the 2012 estimate the Turkey Point EPU project is uneconomic, meaning it will result in net costs, not benefits to customers. This is the case even if some costs are ignored and only the to-go costs are considered in the feasibility analysis. A conservative simplifying assumption that ensures the net cost quantified for the Turkey Point are understated.

Based on FPL's track record with the Turkey Point EPU and the amount of implementation work that remains, I anticipate significant cost increases before the EPU projects are complete. The Commission should take action to present -- to protect customers in the event FPL fails to manage the balance of the Turkey Point uprate activities within its current estimate, which is already well above cost effective levels.

I recommend that the Commission revisit its decision to allow FPL to treat the economics of the EPU projects on a consolidated basis and consider Mr. Smith's analysis and conclusions regarding the status of the Turkey Point EPU and place FPL on notice that it will disallow any costs above the current estimate of 1.6 billion from recovery

through the nuclear cost recovery docket. That concludes my summary.

MR. McGLOTHLIN: Dr. Jacobs is available.

CHAIRMAN BRISE: Thank you. FIPUG?

MS. KAUFMAN: We have no questions.

CHAIRMAN BRISE: FEA?

LT. COL. FIKE: No questions, Mr. Chairman.

CHAIRMAN BRISE: SACE?

MR. WHITLOCK: No questions.

CHAIRMAN BRISE: FRF?

MR. LaVIA: No questions, Mr. Chairman.

CHAIRMAN BRISE: FPL?

MR. ROSS: We have no questions.

CHAIRMAN BRISE: Staff?

MS. BENNETT: No questions.

CHAIRMAN BRISE: Commissioners? Okay. Mr. McGlothlin, redirect?

MR. McGLOTHLIN: No redirect, of course, and I move 95 through 99, which are associated with Dr. Jacobs' exhibits.

CHAIRMAN BRISE: All right, we will move 95 through 99 into the record at this time, seeing no objections.

(Exhibits 95 through 99 admitted in evidence.)

MR. McGLOTHLIN: And would you please excuse Dr. Jacobs from further participation?

CHAIRMAN BRISE: Sure. Dr. Jacobs, you are excused.

THE WITNESS: Thank you, sir.

CHAIRMAN BRISE: Thank you.

MS. BENNETT: At this time Staff would ask that the testimony of Fisher and Rich, the testimony and supplemental testimony of Bety Maitre and Yen Ngo be entered into the record, as well as Exhibits 100 through 103.

CHAIRMAN BRISE: Okay, at this time we will enter into the record the testimonies of David Rich, Lynn Fisher, Bety Maitre, Yen Ngo into the record as though read, as well as Exhibits 100 through 103, seeing no objections.

MS. BENNETT: Thank you.

(Exhibits 100 through 103 admitted in evidence.)

(Whereupon, the prefiled testimonies were inserted.)

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

COMMISSION STAFF

DIRECT JOINT TESTIMONY OF

LYNN FISHER AND DAVID RICH

DOCKET NO. 120009-EI

JUNE 19, 2012

Q. Mr. Fisher, please state your name and business address.

A. My name is Lynn Fisher. My business address is 2540 Shumard Oak Boulevard, Tallahassee, Florida 32399-0850.

Q. By whom are you employed?

A. I am employed as a Government Analyst II by the Florida Public Service Commission in the Office of Auditing and Performance Analysis.

Q. What are your current duties and responsibilities?

A. I perform audits and investigations of Commission-regulated utilities, focusing on the effectiveness of management and company practices, adherence to company procedures, and the adequacy of internal controls. Mr. Rich and I jointly conducted the 2012 audit of Florida Power & Light Company's (FPL) project management internal controls for the nuclear plant uprates and new construction projects underway at the St. Lucie and Turkey Point sites.

Q. Please describe your educational and relevant experience.

A. In 1972, I graduated from Florida State University with a Bachelor of Science degree in Marketing. My relevant background includes over twenty years with the Florida Public Service Commission in management auditing, performance analysis, process audits, and complaint investigation. Since joining the Commission, I have participated in numerous reviews of utility operations, systems, and controls, culminated in a written audit report

similar to the one attached as an exhibit to this testimony. I also participated in the 2008 through 2011 reviews of FPL's project management controls for FPL's nuclear plant uprate and new construction projects and filed those audit reports in the respective dockets.

Q. Have you filed testimony in any other dockets before the Commission?

A. Yes. I filed similar testimony in Docket No. 080009-EI, 090009-EI, 100009-EI, and 110009-EI. In addition to these, I previously filed testimony during 2005 in Docket No. 050045-EI. This testimony addressed an audit of distribution electric service quality for Florida Power & Light Company's Vegetation Management, Lightning Protection, and Pole Inspection processes.

Q. Mr. Rich, please state your name and business address.

A. My name is David Rich. My business address is 2540 Shumard Oak Boulevard, Tallahassee, Florida 32399-0850.

Q. By whom are you employed?

A. I am employed as an Operations Review Specialist by the Florida Public Service Commission in the Office of Auditing and Performance Analysis.

Q. What are your current duties and responsibilities?

A. I perform audits and investigations of Commission-regulated utilities, focusing on the effectiveness of management and company practices, adherence to company procedures and the adequacy of internal controls. Mr. Fisher and I jointly conducted the 2012 audit of Florida Power & Light Company's project management internal controls for uprate and new construction projects currently underway at the St. Lucie and Turkey Point sites. I also participated in similar audits of FPL's project management controls for FPL's uprate and new construction projects during 2009 through 2011 and filed those reports as testimony in the appropriate dockets.

Q. Please describe your educational and relevant experience.

A. In 1978, I graduated from the United States Military Academy at West Point with a Bachelor of Science degree with a concentration in Engineering. A Masters of Arts degree in National Security Affairs from the Naval Postgraduate School followed in 1987. I am a graduate of both the US and Republic of Korea Command and General Staff Colleges. My relevant work experience includes nine years with the Florida Public Service Commission in management auditing, utility performance analysis, process reviews, and trend analysis. Since joining the Commission, I have participated in numerous audits of utility operations, processes, systems, and controls which culminated in a written audit report similar to the one attached as an exhibit to this testimony.

Q. Have you filed testimony in any other dockets before the Commission?

A. Yes. I have previously filed testimony in Docket No. 090009-EI, 100009-EI, and 110009-EI.

Q. Please describe the purpose of your testimony in this docket.

A. Our testimony presents the attached audit report entitled ***Review of Florida Power & Light Company's – Project Management Internal Controls for Nuclear Plant Uprate and Construction Projects*** (Exhibit FR-1). This audit was requested by the Commission's Division of Economic Regulation to assist with the evaluations of nuclear cost recovery filings. The report describes key project events and contract activities completed from January 2011 through May 2012 for the uprate projects at St. Lucie Units 1 & 2 and Turkey Point Units 3 & 4, and the new construction project for Turkey Point Units 6 & 7.

Q. Please summarize the areas examined by your review of controls.

A. The Office of Auditing and Performance Analysis conducted an audit of the internal controls and management oversight of the nuclear projects underway at FPL. We examined the organizations, processes, and controls being used by the company to execute the Extended Power Uprate of St. Lucie Units 1 & 2 and Turkey Point Units 3 & 4 and the construction of

the new Units 6 & 7 at Turkey Point. This is the fifth annual audit of the company's controls for its nuclear uprate and construction projects. The 2008 through 2011 reports, entitled *Florida Power & Light Company's Project Management Internal Controls for Nuclear Plant Uprate and Construction Projects*, were published and filed in Dockets No. 080009-EI through 110009-EI. The primary objective of each annual audit is to document project key developments, along with the organization, management, internal controls, and oversight that FPL has in place or plans to employ for these projects. The internal controls examined annually are related to the following areas of project activity: planning, management and organization, cost and schedule controls, contractor selection and management, auditing, and quality assurance.

Q. Are you sponsoring any exhibits?

A. Yes, our completed audit report is attached as Exhibit Number FR-1. The audit report's conclusions and recommendations are summarized in the Executive Summary chapter for both the Extended Power Uprate projects and the Turkey Point 6&7 construction project.

Q. Does this conclude your testimony?

A. Yes.

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

COMMISSION STAFF

DIRECT TESTIMONY OF BETY MAITRE

DOCKET NO. 120009-EI

JUNE 19, 2012

Q. Please state your name and business address.

A. My name is Bety Maitre and my business address is 3625 N.W. 82nd Ave., Suite 400, Miami, Florida, 33166.

Q. By whom are you presently employed and in what capacity?

A. I am employed by the Florida Public Service Commission as a Regulatory Analyst II in the Office of Auditing and Performance Analysis.

Q. How long have you been employed by the Commission?

A. I have been employed by the Florida Public Service Commission since August 2008.

Q. Briefly review your educational and professional background.

A. I have a Bachelor of Science degree with a major in Accounting from Florida Agricultural and Mechanical University and a Master of Accounting with a major in Accounting Information Systems from Florida State University. I was hired as a Regulatory Analyst II by the Florida Public Service Commission in August 2008.

Q. Please describe your current responsibilities.

A. Currently, I am a Regulatory Analyst II. I conduct utility audits of manual and automated accounting systems for historical and forecasted data.

Q. Have you presented testimony before this Commission or any other regulatory agency?

A. No. I have not testified before this Commission or any other regulatory agency.

Q. What is the purpose of your testimony today?

A. The purpose of my testimony is to sponsor the staff audit report of Florida Power & Light Company (FPL or Utility) which addresses the Utility's filing in Docket No. 120009-EI, Nuclear Cost Recovery Clause (NCRC) for costs associated with its nuclear uprate projects. We issued an audit report in this docket for the nuclear uprate projects on June 1, 2012. This audit report is filed with my testimony and is identified as Exhibit BM-1.

Q. Was this audit prepared by you or under your direction?

A. Yes, it was prepared under my direction.

Q. Please describe the work you performed in these audits.

A. I have broken the audit work into the following categories.

Rate Base

We reconciled the amounts for Plant in Service from the orders to FPL's books and the Utility's filing, Appendix A. We recalculated the Accumulated Depreciation and Depreciation Expense estimates on a test basis using Commission approved rates from Docket No. 080677-EI. Plant in Service, Accumulated Depreciation, and Depreciation Expense were compared to Commission Order No. PSC-10-0207-PAA-EI, in Docket No. 090529-EI, issued April 5, 2010, Order No. PSC-11-0078-PAA-EI, in Docket No. 100419-EI, issued January 31, 2011 and Order No. PSC-11-0575-PAA-EI, in Docket No. 110270-EI, issued December 14, 2011.

Construction Work in Progress (CWIP)

We traced CWIP additions in Schedule T-6 to the general ledger and selected a sample for testing. We verified that additions had appropriate supporting documentation, were related to the Extended Power Uprate (EPU) project, and were charged to the correct accounts.

Operating Revenue

We verified the NCRC amount approved in Order PSC-11-0547-FOF-EI, in Docket No. 110009-EI, issued November 23, 2011, to the Capacity Cost Recovery Clause. In that audit, we reconciled revenues to the ledger and the Utility's "Revenue and Rate" reports. We also selected a random sample of bills for the month of April and September 2011 and recalculated each to verify use of the correct tariff rate.

Operation and Maintenance Expense

We traced expenses in the filing to the general ledger. We selected a sample of 2011 O&M Expenses for testing. The source documentation for selected items was reviewed to ensure the expense was related to the EPU project and that the expense was charged to the correct accounts.

Separate and Apart Process

We read FPL's testimony and procedures related to the separate and apart process. We reviewed the Recoverable Cost Justification Forms prepared by FPL and reconciled them to the sample items when applicable.

True-up

We traced the revenue requirements for Carrying Costs on Construction and Deferred Tax Adjustment, O&M, and Base Rate to supporting calculation schedules. We recalculated the True-Up amounts as of December 31, 2011 using the Commission approved beginning balance as of December 31, 2010, Debt and Equity Components, the Financial Commercial Paper rates, and the 2011 EPU costs. We traced all adjustments to source documents.

Analytical Review

We compared 2011 to 2010 costs and used the information to select a sample.

Q. Please review the audit findings in this audit report, Exhibit BM-1.

A. There were four findings is this audit.

Finding 1: Adjustments to Construction Additions

Schedule T-6 filing of the NCRC reported Jurisdictional Construction Costs Net of Adjustments for the 12 month period. In the December 2011 construction cost balance, the Utility included credit adjustments for out of period jurisdictional construction costs totaling $801,215. However, these credits were also included in the adjustments on lines 12 and 38 of Schedule T-6. The Utility acknowledged that the credit adjustments were included twice in the filing and plans to include a correction in its Errata filing. This adjustment will result in an increase of $3,511 in Construction Carrying Cost.

Finding 2: Miscalculation of Schedule T-3

In the July calculation of average Construction Work In Progress (CWIP) on line 6 of Schedule T-3, the Utility did not use the correct June CWIP balance to compute the average. The Utility acknowledged the miscalculation and plans to include a correction in the Errata to be filed. This adjustment will result in a decrease of $11,975 in Construction Carrying Cost.

Finding 3: Removal of Participation Credits

Appendix A, of the NCRC filing, shows jurisdictional CWIP that was transferred to Plant in Service, net of adjustments. St. Lucie Unit 2 is jointly owned and the clause is credited for participation credits. There were two participation credits that were not booked or billed but were recorded in the filing. Rule 25-6.0423 Florida Administrative Rule requires the filing to be based on actual costs. Therefore, these credits should be removed from the filing. The Utility plans to include this adjustment in its Errata filing. This adjustment will result in a decrease of $362 in Construction Carrying Cost.

Finding 4: Miscellaneous Adjustments

There were several small miscalculations found during the NCRC audit. Due to time

constraints, we were unable to obtain sufficient data to properly compute the effect of all of the miscalculations on the filing. However, the Utility plans to include corrections to the filing in its upcoming Errata filing. For the miscalculations with sufficient data, we determined that these adjustments will result in an increase in Construction Carrying Cost and Deferred Taxes of $331 and $11 respectively.

Q. Does that conclude your testimony?

A. Yes.

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

COMMISSION STAFF

SUPPLEMENTAL TESTIMONY OF BETY MAITRE

DOCKET NO. 120009-EI

JULY 18, 2012

Q. Please state your name and business address.

A. My name is Bety Maitre and my business address is 3625 N.W. 82nd Ave., Suite 400, Miami, Florida, 33166.

Q. Are you the same Bety Maitre who presented direct testimony on behalf of the Florida Public Service Commission in Docket No. 120009-EI, Nuclear Cost Recovery Clause (NCRC)?

A. Yes. I prefiled testimony and exhibit BM-1 on June 19, 2012, in this docket.

Q. What is the purpose of your testimony today?

A. The purpose of my testimony is to correct the staff audit report of Florida Power & Light Company (FPL or Utility).

Q. What is the correction?

A. I removed Audit Finding 1.

Q. What did Audit Finding 1 originally find?

A. Audit Finding 1 found that the Utility included a duplicate credit adjustment to its filing that resulted in an understatement of the construction carrying costs. In my audit finding, I recommended that the Utility increase its expenses by increasing Construction Carrying Costs by $3,511.

Q. What is the result of removing Audit Finding 1?

A. It decreases the expenses for Construction Carrying Costs by $3,511.

Q. Why did you determine that Audit Finding 1 needed to be removed?

A. Upon additional review of FPL's reconciliation between the filing and the general ledger, my supervisor and I discovered that FPL had made the proper adjustments and the filing costs were not understated.

Q. How did you determine there was an error in the audit?

A. FPL notified the audit supervisor that it believed there was an error in the audit, and Audit Finding 1 duplicated Audit Finding 4. Kathy Welch, my supervisor, and I did a thorough review of the audit and audit findings. While we did not find that Audit Finding 1 duplicated Audit Finding 4, we did find through a review of our workpapers that Audit Finding 1 was in error.

Q. Upon determining that the audit finding was incorrect, what did you do?

A. We issued a revised audit report in this docket for the nuclear uprate projects on July 13, 2012. This revised audit report is filed with my testimony and is identified as Exhibit BM-2.

Q. Does that conclude your testimony?

A. Yes.

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

COMMISSION STAFF

DIRECT TESTIMONY OF YEN N. NGO

DOCKET NO. 120009-EI

JUNE 19, 2012

Q. Please state your name and business address.

A. My name is Yen N. Ngo and my business address is 3625 N.W. 82nd Ave., Suite 400, Miami, Florida, 33166.

Q. By whom are you presently employed and in what capacity?

A. I am employed by the Florida Public Service Commission as a Regulatory Analyst IV in the Office of Auditing and Performance Analysis.

Q. Briefly review your educational and professional background.

A. I received a Bachelor of Business Administration degree with a major in accounting from Florida Atlantic University in August 1994. I have been employed by the Florida Public Service Commission since February, 1995.

Q. Please describe your current responsibilities.

A. Currently, I am a Regulatory Analyst IV with the responsibilities of planning, and conducting utility audits of manual and automated accounting systems for historical and forecasted data.

Q. Have you presented testimony before this Commission or any other regulatory agency?

A. No. I have not testified before this Commission or any other regulatory agency.

Q. What is the purpose of your testimony today?

A. The purpose of my testimony is to sponsor the staff audit report of Florida Power & Light Company (FPL or Utility) which addresses the Utility's filing in Docket No.

120009-EI Nuclear Cost Recovery Clause for costs associated with its proposed nuclear units Turkey Point 6 and 7. We issued an audit report in this docket for the proposed nuclear units on May 30, 2012. This audit report is filed with my testimony and is identified as Exhibit YNN-1.

Q. Was this audit prepared by you or under your direction?

A. Yes, it was prepared under my direction.

Q. Please describe the work you performed in these audits.

A. Our overall objective in this engagement was to verify that the Utility's 2011 NCRC filings for the proposed nuclear units Turkey Point 6 and 7 in Docket No. 120009-EI are consistent with and in compliance with Section 366.93, F.S., and Rule 25-6.0423, F.A.C. To satisfy the overall objective we performed various procedures.

Revenue

We verified the NCRC amount approved in Order PSC-11-0547-FOF-EI, in Docket 110009-EI, issued November 23, 2011, in Docket No. 110001, to the Capacity Cost Recovery Clause. We reconciled revenues to the ledger and the Utility's "Revenue and Rate" reports. We also selected a random sample of bills for the months of April and September 2011 and recalculated each to verify use of the correct tariff rate.

Specific

We reconciled the Utility's filing to its general ledger and verified that the costs incurred were posted to the proper accounts. We reconciled the monthly site selection, and pre-construction, cost balances displayed on Schedule T-2, respectively, to the supporting schedules in the Utility's 2011 NCRC filing. We recalculated the schedules and reconciled the Allowance for Funds Used During Construction (AFUDC) rate applied by the Utility to the rate approved in Order No. PSC-10-0470-PAA-EI, issued July 23, 2010, in Docket No. 100133-EI. We reconciled the monthly Site Selection and Pre-

Construction Deferred Tax Carrying Cost accruals displayed on Schedule T-3A to the supporting schedules in the Utility's 2011 NCRC filing. We recalculated a sample of the monthly carrying cost balances for deferred tax assets. We traced the construction of work in process additions in Schedule T-6 to the general ledger and traced a sample of entries to supporting documentation. We verified that additions related to the new nuclear project were charged to the correct accounts. We tested a sample of salary & overhead costs to the supporting documentation. We reviewed the contracts and the change orders to verify that the charges related to the description in the contracts.

True-up

We reconciled and recalculated a sample of the monthly revenue requirement accruals displayed on Schedule T-1 to the supporting schedules in the Utility's 2011 NCRC filing.

Q. Please review the audit findings in this audit report, Exhibit YNN-1.

A. There were no findings is this audit.

Q. Does that conclude your testimony?

A. Yes.

CHAIRMAN BRISE: I think now we're ready to proceed to rebuttal?

MR. ANDERSON: Yes, Chairman Brise, FPL calls Terry Jones as its first rebuttal witness.

CHAIRMAN BRISE: Okay.

Thereupon,

TERRY O. JONES

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

DIRECT EXAMINATION

BY MR. ANDERSON:

Q Mr. Jones, you were sworn earlier today?

A That's correct.

Q I just want to make sure you're settled with your papers. Are you good?

A I'm good.

Q Great. Thank you. Please reintroduce yourself to the Commission and explain your position and by whom you're employed.

A Good afternoon, Commissioners. My name is Terry Jones. I'm the Vice-President of Extended Power Uprate for Florida Power & Light.

Q Have you prepared and caused to be filed 26 pages of prefiled rebuttal testimony in this proceeding on July 9,

2012?

A Yes.

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

A No.

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

A Yes.

MR. ANDERSON: Chairman Brise, FPL asks that the prefiled rebuttal testimony of Mr. Jones be inserted into the record as though read.

CHAIRMAN BRISE: All right, at this time we will enter Mr. Jones' prefiled testimony into the record as though read.

(Whereupon, the prefiled testimony was inserted.)

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

FLORIDA POWER & LIGHT COMPANY

REBUTTAL TESTIMONY OF TERRY O. JONES

DOCKET NO. 120009-EI

JULY 9, 2012

Q. Please state your name and business address.

A. My name is Terry Jones and my business address is 700 Universe Blvd, Juno Beach, FL 33408. I am employed by Florida Power & Light Company (FPL) as Vice President, Nuclear Power Uprate.

Q. Have you previously provided testimony in this docket?

A. Yes.

Q. What is the purpose of your rebuttal testimony?

A. My rebuttal testimony addresses the direct testimony provided by Brian Smith and William Jacobs on behalf of the Office of Public Counsel (OPC). Additionally, I respond to the testimony of Staff witnesses Lynn Fisher and David Rich.

Q. Please summarize your rebuttal testimony with respect to OPC's positions.

A. FPL is working hard to complete the EPU project and remains on track to complete the project during early 2013. Five out of eight EPU outages are now complete, and the sixth – the final outage at Turkey Point Unit 3 – is transitioning to the start-up phase. The uprate equipment already installed at the plants is working well and providing additional nuclear generation to customers. The remaining two outages will be very similar to outages already performed. With respect to engineering, engineering designs are essentially complete, with 95% of design packages complete

and approved and 99% of design packages at 90% or greater completion, in support of detailed construction planning. Additionally, on June 15th, FPL received approval of its Turkey Point License Amendment Request (LAR) satisfying the key nuclear regulatory requirements needed to operate that plant in the uprated condition.

Against this backdrop of hard work, for the third consecutive proceeding OPC claims that an arbitrary cap should be set on cost recovery for FPL's EPU project. OPC's claim should be rejected yet again because it is illegal, as our company's counsel will explain, and bad regulatory policy as other FPL witnesses testify. OPC supports its claim through a series of inaccurate and poorly supported criticisms of the EPU project. My testimony rebuts these criticisms and provides the correct information.

Q. Please summarize your rebuttal testimony with respect to the positions stated by Messrs. Fisher and Rich.

A. FPL respects and appreciates the large amount of work that the Commission's staff auditors are spending year-in and year-out to understand and to report to the Commission with respect to the EPU project.

On this occasion I respectfully but firmly disagree with some of the arguments and conclusions stated in the Internal Controls Audit Report attached to the testimony of Mr. Fisher and Mr. Rich. I disagree with their recommendation to disallow $3.5 million in costs required to repair damage to the St. Lucie Unit 2 generator stator core.

I am the manager responsible for the EPU project, and have spent my entire career in the nuclear industry performing work in and related to nuclear power plants. I am certain that FPL took every reasonable management action, and then some, to prevent damage like that which occurred to FPL's plant due to a vendor employee's error. My testimony describes those actions in detail, and FPL's position is supported by several other witnesses as well.

Staff's recommendation should not be accepted because FPL acted prudently and satisfied the prudence standard as explained by FPL witnesses Reed and Ferrer. This is demonstrated by the facts that my testimony and other FPL witnesses provide. In this instance, Staff's recommendation is based entirely on impermissible hindsight, relies on an out-of-context quotation of a nuclear safety speech given years ago by FPL witness Diaz, and does not rely on applicable commercial nuclear industry standards, as described by FPL witnesses Ferrer and Diaz.

Q. Are you sponsoring any rebuttal exhibits in this case?

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

- TOJ-26, Developmental References for FPL's Foreign Material Exclusion Procedure
- TOJ-27, Excerpts of DOE Documents Referred to by Staff

RESPONSE TO OPC TESTIMONY

Q. What is your reaction to the GDS recommendation to cap cost recovery for the Turkey Point uprate work at $1.6 billion?

A. GDS's recommendation should be rejected for several reasons. First, GDS's recommendation is contrary to prior Commission decisions as well as Florida statutes and the Nuclear Cost Recovery Rule for the legal reasons discussed by FPL's counsel. Second, GDS's recommendation is contrary to sound regulatory practice and policy as explained by FPL witnesses Reed and Deason in their rebuttal testimony. Third, GDS's recommendation is incorrectly premised on separating the EPU work at Turkey Point from the EPU project, of which it is only a part. Fourth, as explained by FPL witness Dr. Sim, GDS's recommendation relies on an incorrect presumption that natural gas prices and environmental compliance costs will never be higher than those included in FPL's 2012 forecasts.

Q. Did FPL's 2012 non-binding cost estimate include $1.6 billion for the Turkey Point construction work as GDS implies?

A. No, and this highlights another problem with the GDS recommendation. OPC's witnesses used an early 2012 cost forecast as the source of its $1.6 billion cost cap proposal. In contrast, the fully vetted Turkey Point estimate included in the Company's non-binding cost estimate provided in my April 27, 2012 testimony is $1.673 billion. As a result, even if the project performs consistent with the current non-binding estimate, accepting OPC's proposal could ultimately result in the

disallowance of $73 million without any finding or consideration of the prudence of the costs that have been incurred.

Q. Would FPL have undertaken the EPU project subject to a cost recovery cap as recommended by GDS?

A. Absolutely not. As explained in prior years' testimony, including that of now retired FPL president and CEO Armando Olivera, FPL's decision to undertake the EPU project relied upon the availability of the Nuclear Cost Recovery framework established by statute and Commission rule. This framework provides for recovery of all prudently incurred costs and the reporting each year of a non-binding cost estimate, along with submission of an annual feasibility analysis. Once again, no intervenor has identified a single imprudently incurred cost or disagreed with the results of FPL's EPU project feasibility analysis. Accordingly, FPL requests that the Commission apply its established standards and policy direction to this year's EPU nuclear cost recovery request, just as it has in past years.

Q. Witness Jacobs claims there are four changes to circumstances that the Commission should consider, starting with the fact that the total project cost estimate has increased. Please respond.

A. FPL has always been upfront about the fact that additional cost certainty would be available as the project progressed. In my May 2011 testimony describing the need to present the nonbinding cost estimate as a range, I stated at page 32, "However, the project is still in the design engineering phase and there remains an expected level of uncertainty with respect to project scope. Accordingly, it is only appropriate to provide the total project cost in terms of a range." Again in my March 2012

testimony on project scope continuing to evolve, I stated at page 13, "Once the modification packages are final and the work order planning is complete, the implementation scope will be fully defined allowing the final refinement of the detailed implementation cost estimates and outage schedule durations. These activities lead to increased cost certainty with the achievement of each milestone." This is hardly a change in circumstances; rather it is an unsurprising development as we near the end of such a large, complex project. The drivers of the 2012 non-binding cost estimate increase are explained in detail in my April 2012 testimony.

Q. What is your reaction to his comparison of the cost of the EPU project to the cost of new nuclear?

A. Witness Jacobs's comparison is simply wrong. As I explained in my April 2012 testimony, the EPU project is providing the equivalent output of half a new nuclear plant in about half the time and at significantly less than the estimated cost per kW installed of a new nuclear plant – a strong value proposition. The EPU project will result in nuclear generation capacity installed at a significantly lower cost per kW now as compared to a new nuclear power plant ten years from now. Of course, this includes the entire uprate project, as that is the only evaluation that matters.

As explained by Dr. Sim, witness Jacobs is comparing the "all-in" cost of the EPU project including escalation and AFUDC to the overnight cost estimate of Turkey Point 6 & 7. This is an apples-to-oranges comparison. When one compares total estimated project costs to total estimated project costs, my statement is proven accurate. The Turkey Point 6 & 7 total nonbinding cost is estimated to be $18.7

billion with an electrical output of approximately 2,200 MWe or $8,500 per KWe to be completed in 2022 and 2023 respectively, compared to the EPU Project high end nonbinding cost estimate of $3.15 billion with an electrical output of approximately 490 MWe or $6,429 per KWe to be completed in 2013, ten years earlier. Witness Jacobs improperly focuses on the Turkey Point EPU cost per kilowatt which, even using his cost value, is still less expensive than new nuclear on a cost per kilowatt basis ($7,520/kW versus $8,500/kW).

Witness Jacobs also points out that the uprated plants will have a shorter operating life than new nuclear units and therefore will have less time to "overcome the hurdle of initially high capital costs through lower fuel costs" (page 11). However, the uprated plants *have* overcome this hurdle as demonstrated by the direct testimony of FPL witness Dr. Sim in this case, which shows that completing the EPU project is cost effective in 6 out of 7 scenarios this year. Witness Jacobs's observation is without consequence or merit.

Q. Witness Jacobs also criticizes FPL's use of contingency in its non-binding cost estimates for the EPU project. Does FPL include an appropriate amount of contingency in its estimate?

A. Yes. Witness Jacobs asserts that FPL included only 0-7% contingency in its 2011 non-binding cost estimate. This assertion is not correct. As noted in my rebuttal testimony last year, it is not a contingency value; rather it simply represents the spread between the low end and high end of the 2011 non-binding cost estimate range provided in May 2011. The contingency FPL used in its May 2011 non-binding cost

estimate range was systematically comprised of (i) 2 – 5% on a line-item basis of the well defined to-go engineering, materials, and FPL internal costs; and (ii) 18 - 30% on a line-item basis of the less defined to-go construction costs. This process is more robust than assigning an arbitrary percentage value to a total cost estimate. FPL used a similar approach in its April 2012 non-binding cost estimate range. The drivers of the 2012 non-binding cost estimate increase are explained in detail in my April 2012 testimony.

Q. Witness Jacobs also questions FPL's confidence in its non-binding cost estimate range by pointing to the fact that the "spread" between the high end and the low end is slightly higher this year. Please respond.

A. The spread between the high end and the low end of the 2011 and 2012 cost estimate ranges is 6.7% (2011) and 6.6% (2012), which is not significant and in any event says nothing about FPL's confidence in its non-binding cost estimate range.

Q. As his second "changed circumstance," witness Jacobs points out that a majority of the increase is attributable to the Turkey Point uprate activities. Is it surprising that most of the cost estimate increase relates to Turkey Point work?

A. No, it is not surprising that most of the 2012 cost estimate increase relates to the Turkey Point EPU work for two reasons: first, the Turkey Point EPU work is more complicated and extensive; and second, the St. Lucie work was substantially further developed and more complete at the time the previous cost estimate was prepared.

It has been clear from the beginning that the Turkey Point EPU work would be more complicated and extensive than the St. Lucie EPU work, and thus would be more

costly. The Turkey Point operating license is based on an earlier vintage of licensing bases and thus requires more work to meet current NRC license requirements. The Turkey Point nuclear units 3 & 4 were built with a small turbine deck that is common with the Turkey Point fossil units 1 & 2; thus, the space available for upgrade of turbine related equipment is significantly less than the St. Lucie plant and costs more to perform. Further, at the time of the 2011 non-binding cost estimate, the St. Lucie EPU was more complete than Turkey Point EPU, so naturally more of the discovery in 2011 and 2012 resulting in project cost estimate increases would come from Turkey Point.

FPL has never claimed that the cost of the uprate work at each site would reflect 50% of the total project cost. What's important to the Company – and its customers – is that completion of the EPU project as a whole is projected to be cost-effective and highly beneficial for customers.

Q. Are there benefits to performing the uprate work on the Turkey Point units that are not reflected in FPL's feasibility analysis?

A. Yes. Due to the increased capacity at the Turkey Point site, the EPU project will help maintain balance between generation and load in heavily populated Southeastern Florida. Moreover, it will provide ideally-located generation without relying on natural gas or existing pipeline infrastructure. Therefore, the Turkey Point EPU generation is of critical value in maintaining reliable service – especially in the event of fossil fuel curtailment due to any cause.

Q. Could FPL extend the operating licenses for Turkey Point Units 3 & 4 beyond 2032 and 2033?

A. Yes. The NRC and the nuclear industry are currently working on a process for licensees to extend the operating license of a nuclear plant beyond 60 years. The NRC included in its final report on long-term research for fiscal year 2009: "The staff expects the regulatory process for evaluating applications for license renewal beyond 60 years to be the same as the current license renewal process. However, research may be necessary to provide additional information to aid the staff's license renewal review of structures and components for plant life extension beyond 60 years and reasonable assurance of safe plant operation during the renewal period." When appropriate, FPL will evaluate the costs and benefits of further extending the Turkey Point operating licenses.

Q. Witness Jacobs's third changed circumstance is a claim that a 2011 Bechtel report undermines certain project benefits you testified to last year. Please respond.

A. The 2011 Bechtel report to which Witness Jacobs refers has nothing to do with the fact that the EPU project was proposed, approved, and is progressing as a single project to provide FPL's customers with the benefit of additional nuclear generation and the economies of scale afforded by the project. The report from Bechtel simply points out that the Turkey Point EPU scope will require substantially more pipe, cable, valves, etc. than the St. Lucie EPU scope. But I have stated many times that the two plants were significantly different and that they would require different amounts of work and materials. This has been readily apparent to anyone who has

visited the sites, as the FPSC internal controls auditors can confirm. Witness Jacobs has not been to the Turkey Point or St. Lucie EPU sites.

As summarized by Witness Jacobs, in 2011 I testified that performing the EPU work on all four units at the two plants would allow the project team to share resources and lessons learned thereby increasing efficiency, that engineering and construction strategy for one unit can be used to support engineering and construction for the other units, and that FPL could realize cost savings and leverage purchasing power by purchasing multiple pieces of the same equipment. Those statements – and those benefits of performing a singular EPU project – remain true regardless of how many feet of pipe Turkey Point requires.

Specific examples of the benefits of performing the St. Lucie and Turkey Point Extended Power Uprates simultaneously include achieving economies of scale and cost avoidance for personnel, rental and purchase of tools, materials and equipment, volume discounts on major equipment purchases and synergies through design engineering, work package planning, the sharing of lessons learned, best practices and key resources.

FPL proposed, obtained approval for, and is currently executing one EPU project. Witness Jacobs's observations regarding the cost per kilowatt of the Turkey Point work as compared to the St. Lucie work and the currently licensed operating life of

Turkey Point as compared to St. Lucie do not change the fact that completing the EPU project remains solidly cost-effective for customers.

Q. The fourth alleged "changed circumstance" relates to a draft report developed by High Bridge in 2010 to estimate a portion of the Turkey Point uprate costs. Does High Bridge's 2010 draft reflect any recent changes in the project?

A. No. This is not a changed circumstance at all. This report was provided in response to OPC discovery in 2010 (Docket 100009-EI, OPC POD-60). The fact that OPC's witness has decided to refer to it in 2012 does not indicate that anything has changed with respect to the project since the last Nuclear Cost Recovery case in 2011.

Q. Please respond to witness Jacobs's claim that FPL ignored or rejected the draft report created by High Bridge in 2010.

A. In 2009, FPL commissioned High Bridge Associates to develop a cost estimate specific to Turkey Point Unit 3 modifications for which some engineering progress had been made. FPL used the final High Bridge Unit 3 estimate for its intended purpose of challenging Bechtel's estimates for specific Unit 3 EPU scope, which High Bridge had estimated. This effort was successful in that use of the High Bridge estimate data caused Bechtel to re-evaluate and in many circumstances lower its modification estimates.

The High Bridge draft document and $1.4 billion figure referred to by Witness Jacobs included a highly conceptual assessment of the Unit 4 EPU work. This highly conceptual assessment of the Unit 4 EPU work did not have sufficient detail to be used for challenging Bechtel's modification estimates, which was the purpose of the

High Bridge engagement. Accordingly, the final report was revised by High Bridge to include only the Unit 3 EPU scope directly estimated by High Bridge. Witness Jacobs is misusing this draft document. FPL, on the other hand, used the final High Bridge report for its intended purpose of managing Bechtel costs.

Q. Witness Jacobs claims that FPL accepted High Bridge's draft estimate at a later date, pointing to February 2012 as the apparent acceptance date. Please respond.

A. Apparently Witness Jacobs has assumed that FPL somehow accepted the draft 2010 High Bridge estimate in February 2012 and applied it to FPL's April 2012 non-binding cost estimate. This simply is not the case. FPL's April 2012 revision to its non-binding cost estimate did not reflect the draft 2010 High Bridge report that included highly conceptual estimates for Turkey Point Unit 4. As explained in my testimony, FPL's April 2012 non-binding cost estimate is based on current information, actual project progress and detailed "to go" scope, and took into consideration actual expenditures to date, completed LAR analyses, essentially complete design engineering, substantially completed construction planning, partially completed outage construction implementation, performance data, discrete risks, appropriate contingency and estimated to-go costs (approximately 30% of total project remained as to-go) as of the time the estimate was developed. It is appropriate for FPL to rely on this type of to-go construction and cost project information – and not a highly conceptual draft estimate created two years ago – as support for revising its non-binding cost estimate range.

Q. Witness Jacobs cites numerous cost figures throughout his testimony that rely on an internal EPU cost analysis presented to management on March 2, 2012. Do these cost figures reflect the final, fully vetted, non-binding cost estimate range presented in your April 27, 2012 testimony?

A. No. The March 2, 2012 presentation that Witness Jacobs uses as a source for many of the cost figures cited in his testimony is a tool used by the project team to communicate with senior management regarding execution of the EPU project. It does not reflect the final, fully vetted non-binding cost estimate range presented in my April 27, 2012 testimony.

The figures in the presentation are based on estimates of scenarios still being vetted by FPL at the time of the presentation and do not include project management actions implemented by FPL subsequent to the data reflected in the presentation. Thus, the figures in the presentation do not represent FPL's view of the EPU project cost as ultimately presented in my April 27, 2012 testimony. For example, Witness Jacobs indicates the EPU cost has increased by $682 million. However, a simple comparison of the TOR-2 schedules in 2011 and 2012 – which reflect the Company's actual estimate at the time of each of those filings – reveals that the low end of the non-binding cost estimate range increased by $632 million and the high end of the range increased by $671 million.

Q. In Exhibit WRJ(FPL)-5, Witness Jacobs attempts to present cost information regarding EPU work at Turkey Point. Does WRJ(FPL)-5 accurately reflect the Turkey Point EPU costs and timing?

A. No, Exhibit WRJ(FPL)-5 does not accurately reflect the Turkey Point EPU costs and timing. For example, witness Jacobs indicates that $0 was spent on the Turkey Point EPU in 2008 and 2009; however, $42 million was actually spent in 2008 and $121 million was actually spent in 2009. Witness Jacobs also claims that "FPL's current estimate of remaining (to-go) Turkey Point costs is actually greater than FPL's original estimate of total costs" (page 16). However, as of April 30, 2012, the actual amount spent for the Turkey Point EPU was $1031 million and the to-go forecast (based on FPL's April 2012 non-binding cost estimate) was $642 million. Thus, the current estimate of remaining to-go costs does not exceed the Turkey Point original estimate of $750 million as claimed by witness Jacobs.

RESPONSE TO INTERNAL CONTROLS AUDIT TESTIMONY

Q. Are you also responding to Staff's testimony?

A. Yes. I am responding to two aspects of the Internal Controls Audit Report attached to the testimony of Mr. Fisher and Mr. Rich. I disagree with their recommendation to disallow $3.5 million in costs required to repair damage to the St. Lucie Unit 2 generator stator core and their concern surrounding Bechtel's performance.

Q. Please summarize your response to Staff's recommended disallowance.

A. Our company respectfully but firmly disagrees with their recommendation to disallow $3.5 million in costs required to repair damage to the St. Lucie Unit 2 generator stator core.

I am the manager responsible for the EPU project, and have spent my entire career in the nuclear industry performing work in and related to nuclear power plants. Based upon my 34 years of education, training, and experience focused on ensuring safe, reliable, efficient operation of U.S. military and commercial nuclear power plants, I am certain that FPL took every reasonable management action, and then some, to prevent damage like that which occurred to FPL's plant due to a vendor's employee's error. My testimony describes those actions in detail, and FPL's position is supported by several other witnesses as well.

Staff's recommended disallowance should not be accepted. Based on the facts that I and other FPL witnesses provide, FPL has satisfied the prudence standard as explained by FPL witnesses Reed and Ferrer. In this instance, Staff's recommendation is based entirely on impermissible hindsight, relies on an out-of-context quotation of a nuclear safety speech given years ago by FPL witness Diaz and an inapplicable DOE document, and does not refer to or rely upon applicable commercial nuclear generation industry standards. Regulatory policy considerations associated with Staff's recommended disallowance are addressed by Witness Deason.

Q. Please briefly summarize the personnel error that caused the $3.5 million in costs to repair the St. Lucie Unit 2 generator.

A. Siemens is the original equipment manufacturer for FPL's turbine generator equipment and the contractor FPL selected for performing the generator rewind scope of work at St. Lucie Unit 2. During the generator rewind, small tools called alignment pins are used to assist with the stacking of core iron. Inspections are

performed to ensure there is no foreign material in the generator prior to testing. Nonetheless, as described in my March 1, 2012 testimony, one of these small alignment pins was left inside the generator stator core by Siemens personnel. Required inspections failed to detect the tool. When the stator core was tested for performance, the alignment pin caused damage to the stator core iron. As a result, the replacement of some of the stator core iron was required.

Q. Was Siemens the right vendor to hire for this scope of work?

A. Yes. Siemens is highly specialized and has an excellent track record with similar work on other FPL projects. Moreover, Siemens has a robust system of practices and procedures that have resulted in successful projects over the years. FPL contracted with Siemens in 2008, which was subject to the Commission's prudence review of 2008 decisions and costs in 2009.

Q. Please describe generally the type of contract you had in place with Siemens to perform this work.

A. FPL utilized a "turnkey" contract for this scope of work, which means that FPL's role and oversight was limited once work began. This is appropriate when the vendor is highly specialized and ordinarily relied upon for its expertise. As the original equipment manufacturer of the St. Lucie Unit 2 generator, Siemens was uniquely qualified to perform the generator rewind at St. Lucie Unit 2. FPL conducted appropriate inspections and observations during the generator rewind work to verify that Siemens was working safely, following approved processes and procedures, and exhibiting good "housekeeping" practices.

Q. How did FPL assure itself that Siemens had the right processes, procedures, and controls in place before it began its work?

A. FPL took substantial steps to ensure that Siemens had robust policies and procedures in place to govern its work on the St. Lucie Unit 2 generator. For example, FPL reviewed and benchmarked Siemens's performance at other locations to validate those practices and procedures. The procedures that applied to the St. Lucie Unit 2 work were standard procedures that Siemens had used across its entire turbine generator maintenance and service business line for years without incident. No similar instances such as that which occurred at St. Lucie Unit 2 had occurred previously. To the contrary – application of Siemens' procedures had resulted in numerous successful projects without incident. This fact emphasizes that the occurrence that is the subject of Staff's recommended disallowance was absolutely unforeseeable by FPL.

Additionally, FPL reviewed and approved Siemens's procedures and work packages. FPL's review methodology is governed by FPL's Nuclear Fleet procedure NA-AA-201, which governs the review and acceptance of vendor work procedures such as those of Siemens. FPL performed the necessary reviews and approvals of dozens of Siemens's work procedures, including its foreign material exclusion (FME) procedure, all in compliance with NA-AA-201. FPL had reasonable assurance that Siemens's FME procedure was adequate based upon its similarity to FPL's station FME control procedure, which had been carefully developed by FPL, and which complies with Electric Power Research Institute (EPRI) and Institute of Nuclear

Power Operations (INPO) standards that are applicable to nuclear power plants. An excerpt from FPL's FME procedure, referencing the industry-accepted standards it relied upon, is attached as Exhibit TOJ-26. Further, the Siemens FME procedure had supported numerous other successful Siemens projects. And as explained by Witness Ferrer, both FPL's and Siemens's FME procedures also were consistent with DOE-STD-1069-94, a document cited by Staff in its report (even though these guidelines are inapplicable to nuclear power plants).

Q. Were the applicable procedures followed?

A. Yes. The key point is that the FME procedures themselves say when an operating room style of control is required and in contrast where standard craft practices are expected. The key factor in making this decision is whether equipment is open and inspectable. The St. Lucie Unit 2 generator stator was open and inspectable. And where, as here, operating room style controls are not required, procedures typically specify the need for inspections. That is the case here.

Q. Please describe the inspections that were required to be performed.

A. Numerous inspections were required by the Siemens process. First, Siemens procedure FIP-342, Electromagnetic Core Inspection states, "The first prerequisite [to electromagnetic core testing] should be a complete inspection of the stator core."

Q. Did this inspection occur?

A. Yes.

Q. What is the next procedure that required an inspection?

A. Siemens procedure FIP-340, Stator Core Loop Testing, requires a complete inspection of the stator core prior to loop testing.

Q. Did this inspection occur?

A. Yes.

Q. Did additional inspections occur?

A. Yes. Additionally, Siemens workers used compressed air to blow air through the ventilation holes to ensure they were clear.

Q. Did any of the above inspections reveal the alignment pin?

A. No. Unfortunately, despite these inspections and standard practice good housekeeping efforts, a Siemens worker failed to see the less-than three quarters inch diameter alignment pin that had been left behind in one of the more than four hundred 275 inch long ventilation holes.

Q. In your opinion, as a lifetime nuclear professional, were FPL's actions to select and supervise the actions of its contractor, Siemens, reasonable based upon the information available to FPL at the time FPL's decisions were made?

A. Yes. The management actions as I have described were reasonable. Unfortunately, despite all of these efforts, some degree of human error is unavoidable in a project of this scope and magnitude. This is one of those occasions.

Q. Please comment on Staff's reliance on the root cause analysis as a basis for its recommended disallowance?

A. Staff's recommendation does not reflect consideration of the actual management actions and decisions, or the information available to FPL at the time decisions were made. In contrast, Staff's recommended disallowance relies entirely on hindsight, which is prohibited in assessing prudence. This includes reliance upon the root cause evaluation.

Q. Why is Staff's reliance upon the root cause analysis impermissible hindsight?

A. A root cause analysis, one of the tools of the Corrective Action Program, is a backward-looking analysis to determine actions to prevent recurrence. It is not intended at all to assess the reasonableness of the actions of those involved prior to the event being analyzed. In fact, it is the incident itself that reveals the need for a particular process improvement. In this sense, it is the ultimate example of using "hindsight" to make forward-looking improvements.

Root cause analyses also, necessarily, focus on the error and apply a standard of perfection for corrective actions to ensure it will never happen again. The root cause analysis examining the Siemens error, for example, does not discuss the fact that Siemens was highly qualified for this type of work, that the workers on this particular project were very experienced, that applicable FPL and Siemens procedures were adhered to, or that the experience of both FPL and Siemens supported a determination that Siemens's procedures were adequate.

With this hindsight understanding in mind, the three root causes the report identifies are that (1) "an effective inspection was not performed by the vendor to ensure alignment pins were removed," (2) "ineffective tool control by the vendor in the work area resulted in alignment pins being unaccounted for," and (3) "alignment pins were not designed for fail-safe installation." None of the root causes or contributing causes in the report faulted FPL. Moreover, the root cause analysis in no way addressed or applied the prudence standard that my testimony has addressed.

Q. Does Staff's recommended disallowance align with the Root Cause Evaluation?

A. No. Even recognizing that the Root Cause Evaluation is a hindsight document, Staff's recommended disallowance overlooks the fact that nowhere in the root cause evaluation was any management action of FPL determined to be a root cause or a contributing cause. In contrast, the root causes and contributing causes were all attributed to Siemens.

Staff's three primary findings also do not align with the Root Cause Evaluation. Staff found that there was ineffective tool accountability, a lack of oversight, and inadequate training – and attributed each to FPL, However, the root cause evaluation does not attribute any of these issues to FPL. Rather, the Root Cause Evaluation identifies an ineffective inspection performed by Siemens, ineffective tool control by Siemens, and that alignment pins were not designed by Siemens to be fail-safe.

Q. Please respond to the assertion that there was ineffective tool accountability.

A. As described above, FPL and Siemens reasonably believed the applicable processes and controls were appropriate based on years of experience without incident and the many opportunities for effective generator inspection.

Staff states at page 31 of its report that alignment pins were not treated as multi-piece tool sets "although the tool had been in the Siemens inventory for approximately 18 months and used at other nuclear sites." The fact that the tool had been used at other nuclear sites demonstrates that they had been used before, successfully, without loss of parts or damage to equipment and without the specific multi-tool precautions that

Staff, with the benefit of hindsight, has in mind. Staff also cites the root cause for the proposition that "the risk of losing alignment pins was not recognized...even though several alignment pins had to be retrieved" during the inspection process (page 31). Again, I believe that what Staff cites for support undermines their position. It was reasonable for FPL and Siemens to rely on the inspection process to reveal any alignment pins or other tools for removal prior to generator testing. Regardless of whether the alignment pin sets were accounted for as a multi-piece tool or single tool, these inspections should have revealed the alignment pin in the ventilation hole.

Q. Please respond to the assertion that there was a lack of oversight.

A. Staff's assertion appears to indicate that FPL was responsible for examining Siemens's tools. They state that "an evaluation of this tool set by FPL or Siemens would have helped maximize the safety of worksite personnel and equipment" (page 32). FPL hired Siemens, the original equipment manufacturer, to rewind the St. Lucie Unit 2 generator because of its unique expertise and wide industry experience in rewinding generators supplied by Siemens. It is not expected in the nuclear generation industry that an owner such as FPL would examine and evaluate a unique contractor tool that was specifically designed by the contractor, Siemens, for this specialty application. Staff has not pointed to any industry standard practice requiring such detailed oversight of an original equipment manufacturer performing this type of specialty work, and I am unaware of any.

Staff notes at page 32 of its report that "subsequent FPL oversight inspections and quality assurance spot checks did not identify the potential risk" that an alignment pin

may be left in a ventilation hole and cause damage during testing of the generator. I agree with this statement. In other words, FPL had no reason to know that this event would occur. Therefore, it was reasonable for FPL to rely on Siemens's expertise in using the alignment pin tool and Siemens's inspection requirements.

Q. Please respond to the assertion that there was inadequate training.

A. In selecting Siemens to perform the turbine generator work for the EPU project, FPL relied on the expertise of Siemens specialty workers. Such expertise is gained through training and experience. FPL specifically required that Siemens provide workers that were experienced in the type of generator at St. Lucie unit 2. Siemens has indicated that the Siemens workers assigned to the St. Lucie Unit 2 generator rewind had on average more than 15 years of experience and many had completed over 40 Siemens training classes including basic winder training and core repair training. Siemens is required to train its workers to use its specialty tools. Based on these facts, it was certainly reasonable for FPL to rely on Siemens and other vendors of Siemens's caliber to train its workers appropriately.

Q. Staff points to two DOE documents and a speech by former NRC chairman Nils Diaz for the proposition that FPL should be responsible for this event. Do these documents support Staff's position?

A. No. The DOE documents are not applicable in any respect to the conduct of maintenance or operations at a commercial nuclear generating plant. Instead, these documents apply only to DOE facilities, not commercial nuclear power generating stations. Simply put, these documents are not at all authoritative or applicable to management or the conduct of work in the commercial nuclear generating industry.

Attached as Exhibit TOJ-27 are excerpts from those documents, clearly demonstrating that they are inapplicable.

As explained by Dr. Diaz in his rebuttal testimony, the Staff has taken Dr. Diaz's 2004 speech out of context, and it does not apply at all to this situation.

Q. What is your conclusion with respect to Staff's recommendation that the Commission disallow $3.5 million in costs related to this error?

A. FPL's actions in the hiring and oversight of Siemens were reasonable. FPL had no reason to know that the tool used by Siemens successfully on other projects and the procedures used by Siemens successfully on other projects would lead to the personnel error that occurred – particularly in light of the inspection requirements and steps that were required and taken to reveal materials such as alignment pins prior to generator testing. The $3.5 million that FPL incurred were necessary expenses in the repair of the generator. Accordingly, because FPL's actions were reasonable, this project cost should be allowed to be recovered.

Q. The staff audit report also briefly discusses Bechtel's performance. Please respond.

A. Staff briefly discusses a single, 3-page contractor evaluation form. Periodic contractor evaluation forms do not provide an overall picture of a vendor's performance. Rather, they are used as a communication tool to provide a vendor specific feedback. Contractor evaluations are used to ensure vendor workers meet FPL's expectations. This is an example of responsible owner feedback to an important contractor to continuously improve contractor performance.

Q. Does this conclude your rebuttal testimony?

A. Yes.

BY MR. ANDERSON:

Q You are sponsoring two exhibits?

A That's correct.

Q TOJ-26 and 27?

A That's correct.

MR. ANDERSON: Commissioner Brise, these were premarked as Exhibits 107 and 108.

BY MR. ANDERSON:

Q Have you prepared a summary of your rebuttal testimony?

A Yes, I've prepared a brief summary.

Q Please provide your summary to the Commission.

A Thank you. Good afternoon, Chairman Brise and Commissioners. The expedited approach to the Extended Power uprate project approved by the Commission has resulted in the project quickly coming to a successful completion with the addition of a total of approximately 530 megawatts.

FPL requests the Commission reject OPC witness Jacobs' rehash claim from last year that the Commission should break the uprate project apart for economic analysis. The uprate project was approved by the Commission and has been -- at all times been managed by FPL as one project.

The completion of the project is and always has been solidly cost effective for FPL's customers. Witness Jacobs' claim is even more unreasonable this year, being

raised, as it is, at the late stages of the project and on the verge of the project's completion. While witness Jacobs claims four things have changed since last year that should change the Commission's mind, none of his claims have merit.

Responding to this particular -- responding to his particular claims, first, witness Jacobs notes that FPL's non-binding cost estimate has changed. The fact that FPL's non-binding cost estimate changes as the project progresses is well established, and not a changed circumstance.

FPL has always been up front with the cost of the projects, indicating that increased cost certainty is gained with the achievement of each milestone. The cost of the EPU project in dollars per kilowatt expressed in all end costs have been shown to be less than that for new nuclear construction.

Second, witness Jacobs points out that Turkey Point work costs more than St. Lucie work. This is also nothing new. FPL never claimed that the cost of the uprate work at each site would reflect 50 percent of the total project cost. What's important to ours customers is that we complete the job, create additional power base in southeast Florida where the load is needed the most.

Third, witness Jacobs claims that the Turkey Point part of the project is less cost effective than the St. Lucie part of the project. The fact is that completing the EPU

project as planned remains solidly cost effective, just as in previous years, as explained by FPL witness Sim.

Fourth, witness Jacobs claims FPL should have used a preliminary draft High Bridge document for a purpose for which it was never intended. Commissioners, I was surprised by witness Jacobs' characterization of the High Bridge estimate. What he says is new information is nothing of the sort.

The 2010 High Bridge draft document and preliminary $1.4 billion figure referred to by witness Jacobs included a highly conceptual assessment of the Unit 4 EPU work. This draft did not have sufficient detail to be used to challenge Bechtel's modification estimates, which was the purpose of the High Bridge engagement.

Accordingly, the final report was completed by High Bridge to include only the Unit 3 EPU scope directly estimated by High Bridge. FPL appropriately used the final High Bridge report for its intended purposes of managing Bechtel costs and as an input for its non-binding cost estimate.

I thought I'd been clear on this, as I've addressed the High Bridge estimate on five separate occasions through depositions and testimonies in 2010 and '11.
For all these reasons, witness Jacobs' claim should be rejected and FPL's 2011 management decisions and project

costs should be found to be prudent. This concludes my summary.

MR. ANDERSON: Mr. Jones is available for cross examination.

CHAIRMAN BRISE: All right, OPC?

CROSS EXAMINATION

BY MR. McGLOTHLIN:

Q Mr. Jones, did you include in your summaries any material that was not in your rebuttal testimony?

A I'm sorry, could you repeat the question?

Q Did you include in your summary any material that was not in your direct testimony -- your rebuttal testimony?

A I'm not certain without doing a line-by-line review.

Q Well, I'm referring particularly to the several occasions that you cited in depositions and other places when you described the High Bridge estimate. That was not in your prefiled rebuttal, was it?

A No, that was not.

MR. McGLOTHLIN: I request that the Commission strike those references because there is a requirement that the witness confine the summary to the contents of the prefiled testimony.

CHAIRMAN BRISE: Okay. Mary Anne, any guidance on that?

MS. HELTON: Let me go back and look at what the prehearing order says with respect to witness summaries.

CHAIRMAN BRISE: Okay.

MR. ANDERSON: FPL would just note that it's an appropriate reference. He's sat before you all these times; he's just pointing back to what he said before you.

MR. McGLOTHLIN: Let me just add there's a good reason for the requirement, and that is that unless a witness is required to contain his summaries to the prefiled contents, there could be any opportunities for surprise and unfair surprise if the witness has the latitude to add new material at that point.

MR. ANDERSON: And just -- I refrained from making this point earlier, but Public Counsel's whole theory that Turkey Point should have been cancelled in 2011 was stated nowhere in Dr. Jacobs' testimony.

MS. HELTON: Mr. Chairman, we do have a practice here at the Commission that's a little bit unique to the Commission in that we don't take direct testimony live. That's the reason why we have summaries of witness testimony to kind of refocus everybody into what the witness has testified to in his or her prefiled testimony.

Our practice has been that the scope of the

prefiled testimony should be the subject of the witness summary. The prehearing order states that each witness shall have the opportunity to orally summarize his or her testimony at the time he or she takes the stand and summaries of testimony shall be limited to four minutes.

CHAIRMAN BRISE: Okay. So with respect to the issue at hand, if I'm understanding what you're saying properly, that the summary should be directly related to the content of the testimony.

MS. HELTON: That has been the Commission's practice in the past, yes, sir.

CHAIRMAN BRISE: Okay. All right. So what portions would you -- are you interested to have stricken from the record?

MR. McGLOTHLIN: The witness added references to several occasions during which he said he had addressed the High Bridge estimate. That was not part of his rebuttal testimony. But at this point, I don't want to belabor it. I think I've made my point. I'll withdraw the motion to strike and we can proceed.

CHAIRMAN BRISE: Okay, you may proceed.

BY MR. McGLOTHLIN:

Q Mr. Jones, at page five, lines 10 through 12, you say, once again, no Intervenor has identified a single imprudently incurred cost or disagreed with the results of

FPL's EPU project feasibility analysis.

You're certainly aware, are you not, that OPC, through its witnesses, has disagreed with the -- has -- contends that FPL has chosen the wrong approach to its feasibility analysis by its consolidated approach?

A I understand that, yes, you disagree with the methodology that was established by the Commission.

Q And with respect to the reference to a single imprudently incurred cost, do you agree with the statement in Mr. Reed's testimony to the effect that costs by themselves are not prudent or imprudent, rather decisions are prudent or imprudent?

A Yes, I agree with Mr. Reed's statement.

Q If you'll turn to page six.

A I'm there.

Q At lines three and four you say the implementation scope will be fully defined allowing the final refinement of the detailed implementation cost estimates and outage schedule durations. Is the increase of $671 million to which Dr. Sim and you testify the final refinement?

A No. As I stated earlier, the engineering design packages are complete, and as we finalize our construction for the fourth and final unit, there could be changes to the non-binding cost estimate.

Q On the same page, beginning at line 11, you assert

that Dr. Jacobs is wrong when he testified that the cost of the uprate, particularly that at Turkey Point, now exceeds the cost of new nuclear capacity, correct?

A That is correct. I explain that on line 19 through 23, as explained by Dr. Sim, that that was an apples to oranges comparison, and $8,500 in installed kilowatt cost is what should be used.

Q And that $8,500 per kilowatt cost is the cost of -- projected cost of Turkey Point 6 and 7 when it is entered in service in 2022, 2023, is that correct?

A That is correct. That's the all-in cost, and to compare it to EPU, which the EPU number is an all-in, including AFUDC, interest, finance charges, the whole thing.

Q And to that value for capacity installed in 2022, you want to compare cost of the uprates that will be in service in 2012 and 2013, correct?

A To compare them -- today's dollars -- to today's dollars all-in. And FPL witness Sim can address that in more detail.

Q Well, you've got some testimony at page six that goes to that point. What is net present value?

A Net present value is the value of future dollars in terms of today, so it's taking a projected cash flow and bringing it to the point of today, and what the value of those dollars are today.

Q Would you agree with me that dollars spent in the future will be subject to inflation and escalation?

A Yes.

Q Would you agree with me that net present value expresses future expenditures in terms of today's dollars?

A I would.

Q And isn't the term overnight cost used to describe how future expenditures that would otherwise be subject to inflation and escalation would be translated into today's dollars if that could be done currently?

A Could you restate that?

Q Well, let me ask you this. What does the term overnight cost mean to you, as applied to the utility industry construction?

A To me, overnight cost is in terms of today's dollars.

Q The EPU project values are expressed in today's dollars, are they not?

A That's correct.

Q And, in fact, some of the costs that are invited in the dollar per kW value for the EPU were spent in years '08, 09, '10 and '11, correct?

A That's correct.

Q So to express those dollars in terms of current costs, or 2012 dollars, those past expenditures would have to

be inflated and escalated accordingly, would they not?

A Yes, if you wanted to adjust them for -- as of the period of today, the majority that's spent is in '11 and '12.

Q Now, if one were to wish to compare the cost of new nuclear capacity, as represented by Turkey Point 6 and 7, in today's dollars, 2012 dollars, the way to do that would be through overnight costs, correct?

A No, I believe, as Dr. Sim provided to me, is that you have to include the all-in cost for 6 and 7, which is $18.7 billion, which would be an installed kilowatt cost of $8,500.

Q But when you use the term all-in, you are not -- you're including not only AFUDC and transmission, but you are including the time value of money between now and 2022, correct?

A You have to, to bring it in to today's costs, which is how you arrive at $8,500 a kilowatt hour -- I mean, a kilowatt.

Q Is $8,500 in terms of 2012 dollars?

A That's my understanding.

Q Do you agree with me that to be apples to apples the comparison of the cost per kW of the uprate activities should be -- and the cost of the new nuclear capacity should be in 2012 dollars?

A I would.

Q At page nine of your prefiled rebuttal --
A I'm there.
Q -- at line 11 you say, FPL has never claimed that the cost of the uprate work at each site would reflect 50 percent of the total project cost. The first estimates of the project costs for St. Lucie and Turkey Point, were those reflected in the determination of need, were they not?
A Subject to check, I believe that's correct.
Q And would you accept, subject to check, also, that at that point the estimated cost for the Turkey Point project was 50 percent greater than that for the St. Lucie project?
A No. The St. Lucie cost at the time of the need filing was projected at 651 million, and the Turkey Point was 750 million.
Q Okay. So the difference would be 99 million, correct?
A A hundred million, right, yeah, 99 million.
Q And if you divide that by 651, what do you get?
A What is it? You want me to --
Q I asked you to accept, subject to check, that the difference was about 15 percent, and you said you wouldn't. But you have the values there that would enable you to calculate it. What do you think the difference is?
A It looks to be between 15 and 20 percent.
Q Would you accept, subject to check, that based

upon the most recent estimate the Turkey Point project will cost 67 percent more than the St. Lucie project?

A Subject to check, yes.

Q Page 12 of your testimony, Mr. Jones --

A I'm there.

Q -- at line 20 you refer to it the High Bridge draft document and the $1.4 billion figure, do you not?

A Yes, I do.

Q Is it correct that that particular High Bridge estimate costed out or priced out fewer than the total number of modifications that were identified at the time?

A No, that's not correct. There were -- there were, as I recall, 44 modifications at the time, 40 for Unit 3, four common to Unit 3 and Unit 4, and ten by name that had not been determined as to whether or not they were going to be required as of that time or not.

I do want to point out that that $1.4 billion figure that you referred to was a preliminary report and not the final report on which this company relied on and made decisions.

MR. McGLOTHLIN: If you'll give me a moment, I may be ready to wrap up.

CHAIRMAN BRISE: Sure.

MR. McGLOTHLIN: Those are all my questions.

CHAIRMAN BRISE: Thank you. Ms. Kaufman?

MS. KAUFMAN: Thank you, Mr. Chairman.

CROSS EXAMINATION

BY MS. KAUFMAN:

Q Good afternoon, Mr. Jones. Vicki Kaufman. I'm here on behalf of the Florida Industrial Power Users Group.

A Okay.

Q We're doing a little switching back and forth here. If you would turn to page 11 of your rebuttal testimony.

A I'm there.

Q Beginning on line 13 you list some benefits of performing the two uprates at the same time. Do you see that?

A Yes, I do.

Q And you have sort of a laundry list of benefits. Anywhere in your rebuttal have you quantified the value of those benefits in dollars?

A No, I've not quantified the exact -- the value of those, but obviously when you're negotiating to buy 16 moisture separator reheater or eight turbines, as opposed to half of that, there are benefits.

Q But you haven't quantified those, generally or specifically, correct?

A Not in my rebuttal, no.

MS. KAUFMAN: Thank you. That's all you have.

CHAIRMAN BRISE: All right. FEA?
LT. COL. FIKE: No questions, Mr. Chairman.
CHAIRMAN BRISE: SACE?
MR. WHITLOCK: No questions.
CHAIRMAN BRISE: FRF.
MR. LaVIA: No questions, Mr. Chairman.
CHAIRMAN BRISE: Staff?
MR. LAWSON: No questions.
CHAIRMAN BRISE: Commissioners? Okay. Redirect?
MR. ANDERSON: Permit me to consult for a minute.
CHAIRMAN BRISE: Sure.
MR. ANDERSON: FPL has no redirect.
CHAIRMAN BRISE: All right, thank you. Let's move on to exhibits.
MR. ANDERSON: FPL offers Exhibits 107 to 108 into evidence.
CHAIRMAN BRISE: All right, at this time we will move Exhibits 107 and 108 into the record, seeing no objections.
(Exhibits 107 and 108 admitted in evidence.)
MR. ANDERSON: That concludes Mr. Jones' rebuttal testimony. FPL requests that he be excused from the balance of the hearing.
CHAIRMAN BRISE: Sure. Mr. Jones, you may be excused.

THE WITNESS: Thank you. I'd like to extend my personal invitation to OPC and the Commissioners to come visit us at Turkey Point or St. Lucie during our outages this fall and see the good work we're doing there. Thank you.

CHAIRMAN BRISE: Thank you for the invitation.

MR. ANDERSON: FPL calls as its next witness Steven Sim.

Thereupon,

STEVEN R. SIM

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

DIRECT EXAMINATION

BY MS. CANO:

Q Good afternoon again.

A Good afternoon.

Q And you were sworn, correct?

A Yes.

Q Would you please remind us all of your name, business address, and employment with FPL?

A Still Steve Sim, Senior Manager Resource Planning, FPL, 9250 West Flagler Street, Miami.

Q Did you prepare and cause to be filed 33 pages of rebuttal testimony in this proceeding on July 9th?

A Yes.

Q Do you have any changes or revisions to make to your rebuttal testimony?

A Other than the errata sheet that lists one item, no.

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

A Yes.

MS. CANO: Mr. Chairman, I would ask that the prefiled rebuttal testimony be inserted into the record as though read.

CHAIRMAN BRISE: Okay, at this time we will enter Dr. Sim's prefiled rebuttal testimony into the record as though read.

(Whereupon, the prefiled testimony was inserted.)

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

FLORIDA POWER & LIGHT COMPANY

REBUTTAL TESTIMONY OF DR. STEVEN R. SIM

DOCKET NO. 120009 - EI

July 9, 2012

Q. Please state your name and business address.

A. My name is Steven R. Sim and my business address is Florida Power & Light Company, 9250 West Flagler Street, Miami, Florida 33174.

Q. Have you previously submitted direct testimony in this proceeding?

A. Yes.

Q. Are you sponsoring any rebuttal exhibits in this case?

A. Yes. I am sponsoring the following two exhibits that are attached to my rebuttal testimony:

Exhibit SRS – 12: Summary of Potential Additional Benefits for New Nuclear Capacity If a Renewable Portfolio Standard (RPS) is Imposed: Calculation for EPU Project; and,

Exhibit SRS – 13: 2011 Feasibility Analysis Results for the EPU Project – Revisited, Total Costs and Total Cost Differentials for All Fuel and Environmental Compliance Cost Scenarios in 2011$: Sensitivity Analysis Assuming Higher EPU Cost Estimate.

Q. What is the purpose of your rebuttal testimony?

A. The purpose of my rebuttal testimony is to explain why a number of statements and recommendations made by Office of Public Counsel (OPC) Witnesses Jacobs and Smith who have filed testimony in this docket are fundamentally flawed and, therefore, should not be relied upon by the Florida Public Service Commission (FPSC).

Q. How is your rebuttal testimony organized?

A. My rebuttal testimony is organized into 4 sections. The first section "sets the stage" to provide what I believe is the proper context from which to view the testimony of the OPC witnesses. In the second section, the OPC witnesses' primary recommendation is examined. In the third section, a number of "hedge" benefits that accompany the EPU project, but which are not included in FPL's 2012 feasibility analyses, and which are completely ignored in the OPC witness testimony, are presented and discussed. In the fourth section, specific points regarding the OPC witnesses' testimony are discussed.

Because both of these witnesses are from the same company (GDS), and appear to have virtually identical views, I will use the convention of referring to their testimonies as "GDS" testimony or analyses. However, when discussing a specific statement, I will identify the witness who provided that statement.

Q. Please summarize your rebuttal testimony.

A. The results of FPL's 2012 feasibility analyses in regard to the EPU project is that completing the EPU project is projected to be cost-effective in 6 of 7

current scenarios of fuel cost forecasts and environmental cost forecasts. (In the 7th scenario, low fuel costs and low environmental compliance costs are assumed for each year for at least 30 years.) Based on these results, FPL concludes that completing the EPU project is cost-effective and a valuable addition for FPL's customers. GDS's testimony does not state that they disagree with the 2012 feasibility analysis results or with FPL's conclusion.

However, GDS attempts, again this year, to "change the rules of the game" in the final stages of the EPU project by recommending that a recent preliminary cost forecast for the portion of the EPU project at the Turkey Point site be turned into a binding cost value and that costs spent above this new "standard" should not be allowed to be recovered. GDS bases this recommendation on a overly simple "let's divide by two" calculation which they claim shows, with certainty, that the portion of the EPU project at the Turkey Point site is not cost-effective.

Yet an examination of the results of GDS's own analysis shows that their claim of certainty in their conclusion cannot be supported. The result for one of seven scenarios they analyzed already shows a cost-effective result. In addition, the results in their other six scenarios could clearly be reversed if, for example, values in assumptions and forecasts for natural gas and environmental compliance costs used in the 2012 feasibility analyses increased to levels used in feasibility analyses in the last few years. The

conclusion that GDS attempts to make from its analysis, and the recommendation it makes based on its analysis and conclusion, have come undone because GDS makes the common mistake of forgetting that assumptions and forecasts used in a particular feasibility analysis are frozen at a point in time in order to complete the analysis. Thus projected benefits for a project, such as the EPU project, will certainly change in the future. And, because the values in the current assumptions and forecasts are lower than values assumed/forecasted for all prior feasibility analyses, it is likely that any significant, long-term change in these values will be toward higher values which would result in greater benefits for both the EPU and Turkey Point 6 & 7 projects.

In addition, GDS's analysis and testimony have ignored a number of potential "hedge" benefits, mentioned in my direct testimony, that new nuclear capacity makes possible. These hedges made possible by new nuclear capacity provide potential benefits similar to those provided by insurance policies and by financial selections chosen to diversify a financial portfolio. Having such hedges in place provide significant benefits if future circumstances are different from those currently forecasted. FPL's 2012 feasibility analyses do not include these potential hedge benefits because they would be triggered by events not assumed in FPL's current forecasts. However, a quantification of these potential benefits shows that they are significant as will be discussed.

In conclusion, none of GDS's arguments change the fact that completion of the EPU project is still projected to be a cost-effective and valuable addition for FPL's customers. Furthermore, the feasibility analyses do not include a number of significant potential hedge benefits that the EPU project makes possible. When one adds the potential for these benefits to those already accounted for in the feasibility analysis, the EPU project becomes even more attractive.

I. "Setting the Stage" to Discuss the GDS Testimony

Q. Do the GDS witnesses overlook the fundamental reasons why FPL is implementing the EPU project?

A. Yes. Let's remember what conditions existed leading up to 2007 when FPL requested approval from the FPSC for a need determination for the EPU project. At that time, FPL was projecting that it would become increasingly dependent upon natural gas to serve its customers (and this projection is still accurate today.) The projection resulted in concerns regarding both gas deliverability and system reliability issues. For example, FPL's electric system operations were seriously imperiled in 2005 during the period following Hurricanes Katrina and Rita, when FPL struggled to maintain service for its customers when natural gas supplies from the Gulf of Mexico were reduced due to the storms. This heightened FPL's and the state of Florida's appreciation and desire for fuel diversity.

In addition, natural gas prices had been high and significant price volatility had been experienced. In 2005, for example, FPL paid natural gas prices in excess of $11.50 per MMBtu (compared with the forecasted natural gas prices for 2012 used in the 2012 feasibility analyses of less than $4 per MMBtu). This raised concerns about potential future electric rate impacts to FPL's customers from these high and volatile gas prices. Furthermore, the likelihood of having significant environmental compliance costs set on carbon dioxide (CO_2) emissions in the near future loomed.

In regard to this fuel diversity concern; i.e., increasing dependence upon natural gas, FPL had just attempted in 2006 to obtain approval for adding new, advanced technology coal-fired units to enhance fuel diversity. This effort proved unsuccessful, in part due to concerns over projected CO_2 compliance costs and CO_2 emission rates of coal-fired units. With this result, the option of addressing fuel diversity with coal was essentially closed for the foreseeable future.

Therefore, in regard to achieving any truly significant enhancement in fuel diversity, and in addressing expected CO_2 costs, additional nuclear capacity was a logical alternative. Additional nuclear capacity could be obtained in two ways: enhancing capacity at FPL's existing nuclear units, and by building

new nuclear units. In 2007, FPL sought FPSC approval to do both via the EPU project and the Turkey Point 6 & 7 project.

In its need filing for the EPU project, FPL pointed out that the project is a unique opportunity to obtain additional nuclear capacity at existing nuclear sites. New nuclear capacity, through capacity "uprates" at these existing sites, can be added much more quickly than is the case with new nuclear units, and requires no new land. The potential for nuclear uprates in FPL's service territory is limited to the Turkey Point and St. Lucie sites. Therefore, FPL requested approval for pursuing the EPU project at both sites as part of a total package that encompassed all 4 existing nuclear units at the two sites and was expected to provide a total of 414 MW of needed capacity by about 2012.

Also, in its need filing for the EPU project, FPL requested approval for pursuing the project on an expedited basis. The expedited approach has advantages and disadvantages. The primary advantage is that the additional nuclear capacity could be brought on-line approximately 6 years more quickly than if the approach had been to wait until all of the engineering studies had been completed. Bringing the EPU project on-line more quickly results in 6 additional years of fuel savings for FPL's customers. This not only benefits FPL's customers through earlier and greater fuel savings, but increases the benefits of the EPU project as well. Securing these additional, earlier years of fuel savings is especially important for a project such as the EPU due to the

fact that there are currently "hard stops" for each of the four existing nuclear units: the end of the existing operating licenses for each of these units. On the other hand, the disadvantage of the expedited approach is that there is greater uncertainty throughout the process in regard to the costs associated with uprating the existing nuclear units to obtain the additional capacity.

FPL's 2007 petition to the FPSC for need determination approval, and the economic analysis of the EPU project that was part of its need determination filing, was based on pursuing the EPU project as a total package (all four units at both sites), for a total of at least 414 MW of needed capacity, and on an expedited basis. The FPSC approved the EPU project both as a total package and on an expedited basis.

The total package, expedited approach has been the basis of the planning for, and work on, the project from that point on. In addition, in each year subsequent to 2007, FPL's annual nuclear cost recovery filings have included feasibility analyses using updated assumptions that project the cost-effectiveness of completing the EPU project. All of these analyses have utilized the total package, expedited approach for the EPU project that was approved by the FPSC. All of these annual feasibility analyses through 2011 have shown that completing the EPU was projected to be cost-effective in either all, or all but one, projected scenarios of fuel cost forecasts and environmental compliance cost forecasts. In years in which the EPU was

projected not to be cost-effective in one scenario, that scenario was always a scenario that assumed low fuel costs and low environmental compliance costs every year for at least 30 years.

Q. At what stage is the EPU project?

A. Work on the project is nearing completion. The work at two of the four existing nuclear units is scheduled to be completed by the time this docket goes to hearing. Work at a third unit is scheduled to be completed before the end of 2012 and work at the fourth unit is scheduled to be completed in March 2013. In short, the EPU project is in its final stages.

II. What GDS Recommends

Q. Please summarize the GDS testimony regarding the EPU project?

A. The GDS testimony can be summarized as follows: with the EPU project in its final stages: (1) let's change the "rules of the game" in regard to how the EPU project should be judged, and (2) let's impose a new arbitrary "standard" by which a portion of the project, the uprate work at the Turkey Point site, will eventually be judged for purposes of cost recovery.

Q. Has GDS made similar recommendations to change the rules of the game in previous NCRC dockets?

A. Yes. Previous GDS recommendations to change the rules of the game have included: (i) *include sunk costs in "going forward" analyses* (thus ignoring the Nuclear Cost Recovery Rule and statute, ignoring the FPSC's Order on

this subject, and ignoring common economic analysis practice that GDS has actually agreed with in another state's nuclear docket); (ii) *set up a new, single standard or cost recovery "cap" that would be a moving target from year to year* (thus introducing confusion into the evaluation of the project from year to year and ignoring the use of multiple scenarios of fuel cost forecasts and environmental compliance cost forecasts that help address uncertainty regarding these costs); and (iii) *pretend the uprate work is two distinct EPU projects – one at each site – for economic feasibility purposes.* These poorly conceived recommendations from GDS have all properly been rejected by the FPSC.

In 2012, GDS is attempting to revive its previous recommendation to separate the EPU project into two parts for economic analysis, and is again arguing for a cost recovery cap, contrary to previous FPSC rulings.

Q. What does GDS recommend this year?

A. This year's recommendation is presented by Witness Jacobs on page 23, lines 12 through 15, of his testimony where he recommends that the FPSC not allow FPL to recover any costs for the Turkey Point EPU work that exceed an early 2012 forecast of $1.6 billion.

Q. Does this new recommendation warrant serious consideration?

A. No. In addition to this latest "let's change the rules of the game after the game has started" recommendation violating basic concepts of reasonableness and fairness, there are at least three other reasons why this latest GDS

recommendation is not worthy of serious consideration. First, the FPL cost value GDS refers to is from a preliminary study used in the eventual development of FPL's "non-binding cost estimate" as referred to in the Nuclear Cost Recovery Rule (Rule). Section 8(f) of the Rule includes the following language referencing the need determination filing and the annual nuclear cost recovery docket filings: *"The estimates provided in the petition for need determination are non-binding estimates. Some costs may be higher than estimated and other costs may be lower. A utility shall provide such revised estimated in-service costs as may be necessary in its annual report."*

GDS's recommendation is to force a preliminary study result used in the development of a non-binding cost estimate to be turned into a binding cost value by allowing no cost recovery beyond the estimated amount. Therefore, GDS's recommendation violates the Rule.

Second, GDS's recommendation focuses only on a selected subset of project costs, not on the eventual cost-effectiveness of the total EPU project. GDS's testimony appears to take as established fact that the projected benefits of the EPU project included in FPL's April 2012 feasibility analyses are final and cannot change in the future.

As previously mentioned, using current 2012 forecasts for fuel and environmental compliance costs, FPL's 2012 feasibility analyses show that

completing the EPU project is projected to be cost-effective for FPL's customers in 6 of 7 scenarios; a result that is consistent with the results from all of FPL's economic/feasibility analyses from 2007 – on. FPL recognizes that the current 2012 forecasts have changed from those used last year and, in fact, that these forecasts have changed each year in FPL's annual feasibility analyses. Furthermore, the FPSC expects to see "updated assumptions", including updated fuel cost forecasts and environmental compliance cost forecasts, utilized each year in FPL's annual feasibility analyses. Therefore, it is reasonable to expect that costs for fuel and environmental compliance could, and likely will, continue to change in the future.

However, GDS ignores the fact that the projected values in the 2012 feasibility analyses represent a single frozen "snapshot in time" of projections that likely will continue to change. As evidenced by the economic analysis that accompanied the need determination filing for the EPU project, and by each of the annual feasibility analyses for the NCRC dockets from 2008 to the present, the projected benefits from completing the project can be seen to have changed from year to year. Therefore, it is reasonable to expect that the actual benefits that will be realized by the EPU project could be different than this one 2012 snapshot/ projection shows at this point in time.

Furthermore, the fuel cost and environmental compliance cost forecasts on which the 2012 feasibility analyses are based are the lowest forecasted values

among the set of all forecasted values that FPL has utilized since the 2007 need filing. Therefore, it is reasonable to assume that the actual future values for fuel costs and environmental compliance costs may well be higher, perhaps significantly higher, than those assumed in the current analyses. In such a case, that means that the actual benefits of the EPU project would be higher, perhaps significantly higher, than are currently projected. This underscores the weakness of the GDS analysis. Higher fuel and environmental compliance cost-based benefits, when divided by two as GDS has done, could very well reverse the conclusion GDS has reached with respect to the cost-effectiveness of the Turkey Point uprate work.

Third, the GDS testimony appears to not recognize, and certainly does not account for, other potential benefits that the EPU project brings which are not included in FPL's 2012 feasibility analyses. For purposes of this rebuttal testimony, these other potential benefits will be referred to as "hedge" benefits.

III. EPU "Hedge" Benefits Not Included in FPL's 2012 Feasibility Analyses (and Not Considered by GDS)

Q. What do you mean by "hedge" benefits?

By "hedge" benefits, I am referring to several types of risk reducing benefits for FPL's customers that exist due to the additional nuclear capacity from the

EPU project. The beneficial hedge aspect of new nuclear capacity was mentioned in my direct testimony. These potential benefits are not included in FPL's 2012 feasibility analyses because the bases for these potential benefits are outside of the current set of assumptions and forecasts utilized in the 2012 feasibility analyses. However, if entirely plausible circumstances arise in the future (such as the significantly higher natural gas prices experienced in recent years), substantial additional benefits will be realized by FPL's customers from the EPU project beyond those captured in the 2012 feasibility analyses.

In this sense, one can think of these potential benefits from additional nuclear capacity arising from the EPU project (but which would also arise from new nuclear capacity that will be provided by Turkey Point 6 & 7) as similar to the potential benefits offered by an insurance policy. An insurance policy provides security today for the future, and has great value if certain circumstances arise. Adding the incremental nuclear capacity from the EPU project to FPL's portfolio of generating units is also akin to diversifying one's financial portfolio to ensure that one's economic future remains viable when financial markets change. Sound financial planning dictates a diversified portfolio of investments. Additional nuclear capacity provides similar diversification for FPL's generation portfolio which must be designed for an uncertain future in regard to fuel costs and environmental compliance costs.

Q. Please provide examples of the types of costs that the EPU project can provide a hedge against.

A. Two types of hedges will be discussed. First, additional nuclear capacity is a hedge against significantly higher fuel and/or environmental compliance costs. Second, additional nuclear capacity can serve as a hedge against costs that would be incurred by FPL's customers if a renewable portfolio standard (RPS), or clean energy standard (CES), mandate was imposed.

Q. In regard to the first type of hedge, a hedge against significantly higher future fuel and environmental compliance costs, doesn't FPL's 2012 feasibility analysis already address different forecasts of these costs?

A. Yes. FPL's 2012 feasibility analyses are performed with 7 scenarios of forecasted fuel and environmental compliance costs. However, these forecasts are all based on recent or current prices and projections. As we have seen in the past, "current" prices can change quickly and significantly. And, with change in current prices, forecasts of future costs can also change significantly. This is best seen by looking at the differences between the "sets" of forecasted fuel costs, and forecasted environmental compliance costs, that have been utilized in FPL's last several annual feasibility analyses. For these comparisons, the forecasted Medium Fuel Cost forecast and the Env II forecast will be used. The comparison to be discussed is based on the annual percentage differences in terms of forecasted $/mmBTU costs for fuel, and forecasted $/ton costs for CO_2, between two forecasts for each year,

present valuing the annual differences in the cost values, then computing the average annual present value difference between the forecasted values.

A comparison of the 2012 and 2011 forecasts for natural gas shows that the 2012 forecast is 9% lower than the 2011 forecast. Similarly, the 2012 forecast is 25% lower than the 2010 forecast and 32% lower than the 2009 forecast. These comparisons show how significantly projections of fuel costs can change over a very short 3-year window.

A comparison of the 2012 and 2011 forecasts for CO_2 shows that the 2012 forecast is 74% lower than the 2011 forecast. The comparable differences between the 2012 forecast and the 2010 and 2009 forecasts are 79% and 74%, respectively. These comparisons show how significantly projections of environmental compliance costs can also change over even a 1-year window.

These comparisons also help to point out just how low the 2012 forecasted values are to values forecasted over the last three years. The 2012 forecasted values have decreased so much that it is reasonable to assume that any significant change in forecasted values that is likely to occur would be in the opposite direction; i.e., to higher forecasted fuel costs and environmental compliance costs. In fact, there is no reason to believe that actual cost values in the future cannot match, or exceed, the higher levels previously forecasted in just the last few years.

Q. Can you provide estimates of what such a change in forecasted values would have on the benefits of the EPU project projected in the 2012 feasibility analyses?

A. Yes. The estimates are also based on the Medium Fuel Cost and Env II forecasts. In FPL's 2012 feasibility analyses, the CPVRR system fuel cost savings of the EPU project is projected to be approximately $1.3 billion, or $1,300 million. In other words, the projected CPVRR difference in projected system fuel costs between the Resource Plan with EPU and the Resource Plan without EPU is approximately $1,300 million. As discussed above, the 2012 forecasted prices for natural gas are lower than the forecasted prices in 2011, 2010, and 2009 by 9%, 25%, and 32%, respectively. Selecting the middle value of 25% and applying it to the current projected EPU fuel savings value results in a potential increase of approximately $430 million ([(1300 / (1-0.25)) – 1300] = 433) CPVRR in additional fuel savings benefits for the EPU project if actual natural gas prices in the future match those forecasted as recently as 2010.

In FPL's 2012 feasibility analyses, the CPVRR system environmental compliance cost savings of the EPU project is projected to be approximately $90 million. As discussed above, the 2012 forecasted compliance costs for CO_2 have decreased from the costs forecasted in recent years by 74%, 79%, and 74%. Selecting the 74% value and applying it to the current projected EPU environmental compliance cost savings value results in a potential

increase of approximately $250 million ([(90 / (1-0.74)) – 90] = 256) CPVRR in additional environmental compliance cost savings benefits for the EPU project if actual costs match those forecasted only last year.

Therefore, if actual future fuel costs and environmental compliance costs matched very recent forecasts of these costs, the net benefits realized by the EPU project would be increased by approximately $680 million (680 = 430 + 250) CPVRR above the savings projected in the 2012 feasibility analysis for the Medium Fuel Cost forecast, Env II forecast scenario.

In section IV of this testimony, I will return to these estimates, and to estimates of other potential hedge benefits offered by the EPU project that will be discussed next, in regard to GDS's analysis of the portion of the EPU project at the Turkey Point site.

Q. How much would the EPU's projected benefits increase if the current licenses at FPL's existing nuclear units were extended?

A. In such a case, the projected benefits of the EPU project would increase tremendously. Using the 2012 cost forecasts for Medium Fuel and Env II, without any potential adjustment to these forecasts as discussed above, and assuming a 20-year extension of the operating licenses at each of the four nuclear units, the additional CPVRR benefits that would be realized by FPL's customers from only the fuel and environmental compliance cost aspects of

the EPU project would be approximately $1.2 billion, or $1,200 million, above those projected in FPL's 2012 feasibility analyses.

Q. Please discuss the second type of hedge regarding a potential RPS or CES mandate.

A. Recently proposed RPS or CES mandates have what can be termed a "nuclear neutral" provision. What a nuclear neutral provision means is that, although the RPS/CES mandate requires that a certain percentage of the energy delivered by the utility to its customers be "renewable / clean", the percentage calculation only applies to energy delivered by fossil fuel-based generation. Energy generated by nuclear units is not included in the RPS/CES calculation regarding the amount of energy that must be served by renewable/clean sources.

For example, suppose that a particular RPS/CES mandate requires that 20% of a utility's energy be from renewable/clean sources and assume that a utility without any nuclear generation delivers 100,000 GWh annually. The 20% mandate would require that 20,000 GWh per year be generated from renewable/clean sources. Now assume that the mandate has a nuclear neutral provision and the utility is adding 490 MW of new nuclear capacity (as FPL is adding with the EPU project). If we assume that the 490 MW of nuclear capacity operates at a 90% capacity factor, approximately 3,860 GWh per year will be supplied by nuclear energy (490 MW x 8,760 hours per year x 90% x 0.001 GW per MW = 3,860 GWh).

The amount of renewable/clean energy that the mandate would now require is reduced from 20,000 GWh to 19,228 GWh ((100,000 – 3,860) x 20% = 19,228). This equates to a reduction in the renewable energy requirement of 772 GWh (20,000 – 19,228 = 772) per year. Because of the nuclear capacity addition, the utility will not have to incur the cost of renewable facilities that would annually produce 772 GWh. These avoided costs would represent additional benefits for the incremental nuclear capacity.

Q. Can you provide an estimate of what the magnitude of the additional potential benefits might be for the EPU project if such a 20% RPS/CES mandate were imposed?

A. Yes. Exhibit SRS – 12 provides the summary results of a projection of what the potential benefits for the EPU project might be if a 20% RPS/CES mandate with a nuclear neutral provision were imposed, similar to recent proposals from U.S. Senator Bingaman. If such a mandate were to be imposed, FPL would seek to meet the mandate using the most economical means possible. It is very likely that a significant portion of these renewable energy additions would be photovoltaic (PV) facilities. Therefore, for purposes of this example, it is assumed that the renewable energy expenditures that would be avoided by the EPU's 490 MW would be PV-related net costs. These avoided net costs consist of avoided capital and fixed O&M costs from not having to build and site as much PV, minus fuel and

environmental compliance cost savings that would otherwise have been realized if the additional PV capacity had not been avoided.

Using the Medium Fuel Cost and Env II forecasts for fuel and environmental costs that are used in FPL's 2012 feasibility analyses, and a reasonable set of current assumptions for PV as shown in Exhibit SRS-12, the additional potential benefits for the EPU project is projected to be approximately $192 million CPVRR. Thus the imposition of an RPS/CES mandate with a nuclear neutral provision would be expected to significantly enhance the economics of the EPU project (and, to an even greater extent, of the Turkey Point 6 & 7 project).

Q. Please summarize how you believe the potential hedge benefits from the EPU project discussed in this section should be viewed when considering the projected cost-effectiveness of the EPU project.

A. It is important to remember that FPL's 2012 feasibility analysis, like all of the economic analyses from the need determination filing in 2007 through the annual nuclear cost recovery dockets from 2008 through 2011, is essentially a snapshot taken in time in which numerous assumptions and forecasts are frozen. In reality, these assumptions and forecasts are continually changing. As evidenced by the discussion in this section, these assumptions and forecasts have changed quickly and significantly over the last three years and can be expected to continue to change over the 30-plus year remaining operating lives of the uprated nuclear units. GDS's recommendation ignores

this reality and proposes to disallow recovery over an arbitrary cost threshold on the basis that one single snapshot, FPL's 2012 snapshot, with respect to anticipated EPU benefits, will never change.

It should also be recognized that the most recent snapshot, the 2012 feasibility analysis, includes fuel cost forecasts and environmental compliance cost forecasts that assume lower cost values than any other snapshots have included. Therefore, I believe that any significant long-term changes in either of these forecasts will likely be toward higher costs, thus increasing the projected benefits of both nuclear projects.

In addition, none of the potential hedge benefits that have been discussed in this section have been included in FPL's 2012 (or earlier) feasibility analyses. Yet the EPU project definitely serves an important hedge role just as an insurance policy, or a diversification choice in a financial portfolio, play important roles in offering hedge benefits that would be realized if actual circumstances experienced in the future are different than those currently expected or forecasted.

The 2012 feasibility analyses already project that it is cost-effective for FPL's customers to complete the EPU project in 6 of 7 fuel cost, environmental compliance cost scenarios. When one also takes into account these other

hedge considerations, the projected economic outlook for the EPU project is further enhanced.

IV. A Discussion of Specific Points in the GDS Testimony

Q. Do the GDS testimonies state that they disagree with FPL's conclusion that completing the EPU project is projected to be cost-effective for FPL's customers based on the results from the 2012 feasibility analysis?

A. No.

Q. How would you characterize GDS's analysis approach designed to examine a portion of the EPU project at the Turkey Point site?

A. Witness Smith's approach is an overly simple "let's divide by two" exercise. By its very design, this approach is not intended to provide detailed, accurate results. Therefore, I do not believe that the results of the GDS analysis are accurate or meaningful.

Q. GDS claims it is certain that, based on the results of their analysis, the portion of the EPU project at the Turkey Point site will not be cost-effective. Would you please discuss this?

A. Yes. On page 8, lines 17 and 18, Dr. Jacobs states that *"...it is apparent that the Turkey Point uprate project already is sure to result in net costs, not benefits, to customers"*(emphasis added). Then on pages 20 and 21, lines 23 through 2, Dr. Jacobs states *"Even more significant, however, is the analysis by Brian Smith of GDS that demonstrates the Turkey Point EPU project will*

result in net costs, not net benefits, to FPL's customers..." (emphasis added). From these statements, it is clear that GDS believes it is certain that the portion of the EPU project at the Turkey Point site will not be cost-effective. Furthermore, from Dr. Jacobs' last statement, their belief in this certainty is based on Witness Smith's analysis.

To justify a claim of "certainty", the results of any analysis that examines the projected cost-effectiveness of a project should have at least two characteristics. First, the results for each scenario examined in the analysis should all reach the same conclusion; i.e., the project is cost-effective in all scenarios or the project is not cost-effective in all scenarios. Second, the results of the analysis in all scenarios should be so overwhelmingly in the one direction (cost-effective or not cost-effective) that there is no way to reverse the results with a reasonable change in the assumptions used in the analyses.

So, setting aside the issue of inaccuracy that is inherent in their analysis approach, the results of the GDS analysis can be examined to see if they meet both of the above-mentioned characteristics required for "certainty".

Q. Do the results of this GDS analysis meet both of these characteristics?

A. No. Neither of these characteristics is met. The first characteristic, that the results for all scenarios show (for GDS's claim to be supported) that the portion of the EPU project at Turkey Point is projected to not be cost-effective is not met because GDS's analysis for the High Fuel Cost, Env III scenario

shows a cost-effective result. Therefore, even at this first step of the examination of GDS's claim of certainty, it is clear that the GDS analysis fails the "certainty'" test.

The second characteristic, that the results of the analysis in all scenarios should be so overwhelmingly in the one direction (cost-effective or not cost-effective) that there is no way to reverse the results with a reasonable change in the assumptions used in the analyses, is also not met. For example, in the GDS analysis of the two other High Fuel Cost scenarios, although their results show a "net cost" result, the magnitude of the CPVRR net costs is far from overwhelming: $12 million and $38 million. Any number of changes in assumptions or forecasts could easily change those results to a cost-effective outcome.

For example, after accounting for the CPVRR effect of annual revenue requirements, a decrease in actual capital costs of approximately $10 million and $30 million, respectively, from the cost estimate used in the analyses would reverse the results for these two scenarios to cost-effective. Or, looking at the benefits side of the equation and referring back to the two types of hedge benefits discussed in section III, if potential benefits from either of these types of hedges were to be experienced, the revised projections for the $12 million and $38 million CPVRR net cost scenarios would change to cost-effective.

An examination of the GDS results for the three Medium Fuel Cost scenarios shows much the same thing: their results are far from overwhelming. For these scenarios, GDS projects CPVRR net costs of $157 million, $199 million, and $226 million. Recalling the discussion in section III, fuel savings benefits alone in regard to the Medium Fuel Cost forecast could increase by $430 million CPVRR if actual fuel costs matched values projected only two years ago. Utilizing GDS's "let's divide by two" approach to benefits, such a change in the actual fuel costs would result in both the $157 million net cost value scenario, and the $199 million net cost scenario, now turning cost-effective due to the additional $215 million (430 / 2 = 215) CPVRR fuel savings benefits.

In addition, if actual environmental compliance costs were to match those projected only last year, the resulting $250 million CPVRR in additional benefits would translate, in GDS's analysis, to another $125 million CPVRR in benefits for the portion of the EPU project at the Turkey Point site. In combination with the additional fuel savings value just discussed, this would change the $226 million net cost scenario to cost-effective.

Finally, if the operating licenses for the four existing nuclear units were extended as discussed in section III, the resulting $1,200 million CPVRR, cut in half by GDS's approach to $600 million CPVRR for the Turkey Point site,

would reverse the outcome for not only all three Medium Fuel Cost scenarios, but for all 6 scenarios that GDS's analysis projects will result in net costs.

It is clear that GDS's own analysis, with which they are trying to justify their claim of "certainty", does not come close to providing this justification. In fact, the results of GDS's own analysis immediately refutes their claim because their result for one scenario is a cost-effective result. Furthermore, GDS presumes there will be no change in fuel or environmental compliance costs in an upward direction over the long term -- a presumption no one can make with any certainty. And finally, GDS simply has not considered a number of hedge benefits, not included in FPL's 2012 feasibility analyses, which could be provided by the EPU project. The application of these potential benefits could change the outcome of GDS's analysis in all scenarios to cost-effective.

Q. The GDS analysis approach is based on the "to go" costs of completing the EPU project. In regard to the "to go" cost values they used in their analysis, what point in time do these "to go" costs represent and how different might their analysis results have been if more current "to go" costs were used?

A. The "to go" costs they used were based on projections as of December 31, 2011. As of July 9, 2012, the EPU project is now 6 months closer to its early 2013 completion. In terms of expenditures for the EPU project that have been made in these 6 months, the sum of the actual expenditures from January

through May of 2012, plus the estimated expenditures for June 2012, are at least $800 million. These costs are no longer "to go" costs. After accounting for the CPVRR annual revenue requirement effect on these costs, it is safe to say that approximately $1 billion, or $1,000 million, CPVRR in "to go" CPVRR costs have been removed. Therefore, if the GDS analysis were to utilize current "to go" costs, their analysis results would show that net benefits would have increased $1,000 million CPVRR for all scenarios which would result in a cost-effective result for all scenarios.

Q. Witness Jacobs states that, if FPL had used the 2010 High Bridge-based estimate of higher capital costs in its 2011 feasibility analysis, the 2011 feasibility analyses results presented to the FPSC in that year would have been "materially different." Please discuss.

A. On page 20, lines 11 through 14, Dr. Jacobs asserts *"Had FPL incorporated an estimate for Turkey Point that was consistent with High Bridge's 2010 estimate during the 2011 proceeding, the magnitude of the increase necessarily would have led to a materially different feasibility calculation."*

Part of what GDS is saying is that FPL's 2011 feasibility analysis should have included a different cost estimate for Turkey Point. GDS raised no such claim last year when the 2011 feasibility analysis was considered and accepted by the FPSC. While the time for challenging the 2011 feasibility analysis has long passed, nonetheless, even if FPL had used the 2010 High Bridge estimate for the Turkey Point work in its 2011 feasibility analysis, the

EPU project would have remained cost-effective in six of seven scenarios. This is demonstrated in Exhibit SRS – 13. Therefore, Dr. Jacobs' claim that the incorporation of this higher cost estimate would have *"materially"* changed the results of what FPL presented to the FPSC in its 2011 feasibility analyses is simply not true.

Q. GDS attempts to compare various "$/kw" costs for the portion of the EPU project at the Turkey Point site and for the Turkey Point 6 & 7 project. What is being discussed here?

A. On page 10, lines 14 through 21, Witness Jacobs attempts to make a comparison of different "$/kw" cost values. One value is a $5,190/kw value that represents the high end of the range of FPL's overnight construction cost estimate for Turkey Point 6 & 7. The other value is a $7,520/kw value that Dr. Jacobs appears to have developed for the portion of the EPU project being carried out at the Turkey Point site. (Dr. Jacobs also makes reference to these values, directly or indirectly, on several other pages including page 11, lines 18 through 24; page 17, line 17; page 18, lines 1 through 3; and page 20, lines 19 through 22.)

On page 17, lines 16 through 19, Dr. Jacobs quotes a portion of FPL Witness Jones' direct testimony which states (paraphrasing) that the EPU project is projected to provide nuclear capacity at a lower $/kw value than could be obtained from building a new nuclear unit. Dr. Jacobs has developed his "$7,520/kw" value for the portion of the EPU project at the Turkey Point site,

compared it to FPL's overnight construction cost estimate for Turkey Point 6 & 7 of $5,190/kw, and attempts to make the point that not only is FPL Witness Jones' statement incorrect, but that this indicates that the portion of the EPU project at the Turkey Point site will not be cost-effective.

Q. Are there problems with Dr. Jacobs comparison and conclusions?

A. Yes. There are several problems. First, Dr. Jacobs is attempting to assign meaning to the results of a "$/kw" screening type calculation involving two nuclear projects that have significantly different characteristics. FPL has previously explained in detail (in my rebuttal testimonies in the 2009 and 2010 nuclear cost recovery dockets) the fundamental problems inherent in using a "cents/kwh" screening type calculation to compare resource options with significantly different characteristics. These same inherent fundamental problems also exist for a "$/kw" screening calculation that Dr. Jacobs is attempting to use.

Second, Dr. Jacobs has misunderstood FPL Witness Jones's statement. Witness Jones was comparing, on a $/kw basis, the high end of the total estimated installed costs for the total EPU project and Turkey Point 6 & 7.

For the EPU project, the $/kw value is based on the total cost estimate of approximately $3.15 billion divided by 490 MW which results in an installed cost of approximately $6,429/kw. For the Turkey Point 6 & 7 project, the upper end of the installed cost estimate is approximately $18.7 billion. When

that installed cost value is divided by 2,200 MW, the result is an installed cost value of approximately $8,500/kw.

Third, Dr. Jacobs is mistakenly attempting to compare two distinctly different "types" of cost values: an installed total cost value for the portion of the EPU project at the Turkey Point site and an overnight cost for Turkey Point 6 & 7. The $5,190/kw overnight cost value for Turkey Point 6 & 7 does not account for any of the annual escalation in labor and materials cost that would occur over the approximately 10-year period prior to project completion in 2022/2023. On the other hand, the cost values Dr. Jacobs is using to develop his $/kw number for the portion of the EPU project at the Turkey Point site includes the impacts of these annual cost escalations as well as sunk costs. Clearly he is trying to compare two values that are distinctly different in regard to what types of cost components are included in each value. In other words, he is attempting to make a comparison of two types of values that are inherently not comparable.

Q. GDS refers several times to certain scenarios associated with the 2012 Medium Fuel Cost forecast as FPL's "base case". Are these statements accurate?

A. No. On page 3, lines 1 and 2, Witness Smith claims *"...including the medium fuel price scenario that FPL regards as its base case, ..."*. Similarly, on page 9, lines 14 and 15, Witness Jacobs asserts *"...in FPL's 'base case'*

scenario...". (Dr. Jacobs appears to be referring to the Medium Fuel Cost, Env II scenario at this point in his testimony.)

Both of these representations of a specific fuel cost forecast, or a scenario of a combination of a specific fuel cost forecast and a specific environmental compliance cost forecast, as representing a "base case" for FPL are inaccurate. For purposes of the nuclear feasibility analyses, FPL does not consider any specific forecast, or scenario of combined forecasts, as a 'base case'.

Q. GDS states that "less than half" of the costs for the EPU project have been spent to-date. Is this statement accurate?

A. No. On page 14, lines 20 and 21 of Dr. Jacobs' testimony, he says: *"According to Dr. Sim's analysis, less than half of the revised estimate of costs has actually been spent."* What Dr. Jacobs appears to be referring to are the values presented in lines 9 and 10 of Exhibit SRS – 6 of my direct testimony which show that approximately $1.46 billion have been "previously spent" and approximately $1.59 billion are the "going forward" costs.

However, on page 24, lines 13 and 14 of my direct testimony, it is explained that the $1.46 billion represents costs spent through December 31, 2011. As of July 9, 2012, the EPU project is more than 6 months closer to project completion in early 2013 than it was at the end of 2011. As previously mentioned, the actual/estimated costs that have been spent through June 2012 are at least $800 million. Consequently, the percentage of the total project

cost that has already been spent, as of July 9, 2012, is at least 74% ((1.46 + 0.8) / 3.05 = 74%).

Q. Does this conclude your rebuttal testimony?

A. Yes.

BY MS. CANO:

Q And you also sponsored exhibits to rebuttal testimony?

A Yes.

MS. CANO: And those were labeled SRS-12 and SRS-13. I would note that these have been premarked for identification as Exhibit 109 and 110 and those are as corrected by the errata that was previously entered with his direct testimony.

CHAIRMAN BRISE: Okay, thank you.

BY MS. CANO:

Q Did you summarize -- prepare a summary of your rebuttal testimony?

A Yes.

Q Would you please provide that at this time.

A Yes, I will. Good afternoon, again, Chairman Brise, and Commissioners. My rebuttal testimony addresses the direct testimony of OPC witnesses Jacobs and Smith, who, with the EPU project now in its final stages, seek to change the rules of the game in regard to how the project should be judged. They seek to change the rules through several recommendation and claims. I'll discuss two of those in this summary.

First, witness Jacobs recommends that the integrated EPU project be broken into two site specific

pieces for purposes of judging the project. This recommendation ignores the previous decisions of this Commission. The EPU was presented to and approved by the Commission as an integrated project.

Furthermore, all economic analyses of the EPU project from the 2007 need filing to the present have all been based on an evaluation of the integrated project, which has been projected to be solidly cost effective in our analyses.

In addition, this recommendation ignores a primary driver for why the EPU was proposed to and approved by the Commission in the first place; to provide the maximum amount of capacity and maximum fuel diversity to the FPL system for nuclear capacity.

Second, the two witnesses claim with certainty that a calculation performed by witness Smith proves that the Turkey Point portion of the EPU project cannot be cost effective. However, this calculation is an overly simple divide-by-two exercise that cannot provide accurate results.

Moreover, the OPC witnesses do not disagree with the results of FPL's 2012 feasibility analysis that show that completing the integrated project is projected to be cost effective in six of seven scenarios of fuel and environmental costs. Furthermore, even their own calculation shows that the Turkey Point portion of the project can be cost

effective, thus undermining their claim that with certainty it cannot be cost effective.

Their calculation used stale December 2011 to-go cost data. If OPC's calculation is updated for the progress made in 2012, the result is a projection of cost effectiveness for Turkey Point EPU in all seven scenarios.

Their claim is also based on an incorrect assumption that actual future fuel costs and environmental compliance costs cannot deviate from the current forecast. Their calculation also ignores a number of significant potential hedge benefits offered by nuclear capacity that may be realized in the future.

In conclusion, Commissioners, these recommendations and assertions, in addition to seeking to change the rules now that the EPU project is in its final stages, are poorly thought out and do not warrant serious consideration. Completion of the EPU project continues to be projected as a cost effective and valuable capacity and fuel diversity addition for FPL's customers. Thank you.

MS. CANO: We tender the witness for cross examination.

CHAIRMAN BRISE: Mr. McGlothlin.

CROSS EXAMINATION

BY MR. McGLOTHLIN:

Q Dr. Sim, at page 27 of your rebuttal testimony --

A I'm sorry, sir, what page?
Q Twenty-seven.
A Thank you.
Q You may beat me there.
A Yes, sir.
Q And you mentioned this in your summary, as well. You said that GDS used the to-go cost projection as of December 31st, 2011, correct?
A That's correct.
Q And then you observe that FPL has spent some $800 million since then. And you conclude, therefore, that if that $800 million is removed, then that affects the outcome of the comparison they were performing with respect to the segregated feasibility analysis. Is that your -- is that what you contend?
A Essentially, yes. Their testimony was provided, I believe, July 9th, so I assume their calculations were probably done as of June, certainly right before they filed. Therefore, they knew that project expenses, to-go costs, had been reduced considerably from the August -- excuse me, the December 31st, 2011 costs to that point. Six more months of to-go costs have now gone off the board.
Q Dr. Sim, haven't you stated in testimony from time to time that in preparing an exercise such as a feasibility analysis the analyst freezes at a point in time and freezes

assumptions for the purpose of the analysis?

A I have, but I don't believe that that is applicable to the point I'm trying to make here.

Q Well, you would have them subtract out $800 million of additional expenditures, but isn't it also true that FPL's estimate of the cost to complete will change over time, as well?

A It will change over time. But the point I believe that you were referring to in my previous testimony in terms of freezing assumptions is we tend to freeze assumptions but we try to freeze them as close to the point where we do the analysis as possible. What GDS has done is they've chosen to go back and use assumptions that at that point were at least six months old, which they knew were no longer applicable.

Q Well, those values were as FPL reported them as of December 31st, 2011, were they not?

A That's correct. But again, six more months had gone by at the time that they did their calculation and/or provided their testimony. Those were stale, quite dated assumptions at that point.

Q At page -- I believe it's 28 -- no, page 29 you say Dr. Jacobs claimed that the incorporation of this higher cost estimate would have materially changed the results of what FPL presented to the PSC in its 2011 feasibility analyses is simply not true.

Is your assumption, when you make that statement, are you assuming that Dr. Jacobs expected -- did not expect FPL to incorporate that increase in a plant site specific feasibility analysis?

A Could you repeat the question, please, sir?

Q Yes. Are you assuming, when you make this statement, that Dr. Jacobs did not expect FPL, upon developing this large increase, to perform a plant site specific analysis?

A Let me try to answer your question. I had a tough time following it. My understanding was he was pointing back to the analysis we did in 2011. That 2011 analysis was an integrated plant -- or, excuse me, integrated project analysis. Therefore, I was assuming he was saying add additional costs onto that analysis of the integrated project and the results would be materially different. As shown in my Exhibit 13, they were not materially different.

Q You were here to hear the testimony of Brian Smith, were you not?

A I was not in the room at the time, no, sir.

Q Have you read it?

A I have read his testimony, yes, sir.

Q You know that the thrust of his testimony is to perform analyses that are -- that separate the St. Lucie and Turkey Point sites, site specific analyses?

A Yes, sir. Two points to make there. Number one, I --

Q I only asked you to acknowledge what he did, Dr. Sim. You understand that that was the thrust of his testimony?

A I do understand that, and I would like to say that I believe that a number of errors were made in that calculation.

MR. McGLOTHLIN: Excuse me. Mr. Chairman?

CHAIRMAN BRISE: Dr. Sim, the question was very clear as to an acknowledgement of what is there. I think on redirect there could be an opportunity for an explanation.

THE WITNESS: Yes, sir. Thank you. In response, Mr. McGlothlin, yes, I do understand the thrust of Mr. Smith's testimony was a site specific analysis.

BY MR. McGLOTHLIN:

Q And did you understand that Dr. Jacobs' recommendation is premised upon the results of Mr. Smith's analyses?

A No, sir, that was not my understanding of reading his testimony when he referred back to a 2011 analysis that FPL had done.

Q If you'll turn to page 31, and beginning with the question that starts on line five, you refer to Dr. Jacobs'

assertion that the cost of the uprate exceeds the cost of new nuclear capacity, do you not?

A I'm sorry, sir, I don't see a question on line five of page 31. Did I misunderstand the page?

Q If you'll turn to page 30, the discussion begins at line five. Pages 30 to 31, that's where you address Dr. Jacobs' comparison, do you not?

A Yes, sir, I do.

Q If you'll look at page 31, at lines seven and eight, you say the $5,190 per kW overnight cost value for Turkey Point 6 and 7 does not account for any of the annual escalation in labor and materials cost that would occur over the approximately ten-year period prior to project completion in 2022, 2023; do you see that?

A Yes.

Q That $5,190 figure is the high end of a range, is it not?

A It is the high end of an overnight cost range.

Q And the range you provide in your April testimony, do you not, at Exhibit SRS-6?

A I do not have my direct testimony here. Subject to check, yes.

Q And if you'll accept this subject to check, I'm reading SRS-6, column two, value for 2012 feasibility analysis, non-binding overnight cost estimate for new nuclear

units in dollars per kW, a range of 3,570 to 5,190 in 2012 dollars; does that sound about right?

A Yes, sir.

Q Did you hear Mr. Jones agree with me that a comparison of the cost of uprates and the cost of new nuclear capacity, to be apples to apples, should be expressed in 2012 dollars?

A I heard the discussion. I'm not sure I agree with the outcome of that discussion.

Q There should be a rule as to how many binders witnesses can bring and require us disorganized attorneys to keep up with.

CHAIRMAN BRISE: We can -- we can make one of those, if you'd like.

MR. McGLOTHLIN: What's that saying, be careful what you ask for?

CHAIRMAN BRISE: Indeed.

BY MR. McGLOTHLIN:

Q Well, at page 31, lines 10 through 12, the portion of your testimony that -- to which I referred you a moment ago, you make the point that this overnight value does not embody or incorporate what would happen to the 2012 cost over time, do you not?

A That's correct. It's an overnight cost.

Q Well, assuming for purposes of my question that a

determination is made that the appropriate comparison is to compare the cost of the uprate and the cost of the new nuclear capacity both expressed in 2012 dollars, with that assumption, would you agree with me that Dr. Jacobs was correct when he says that the cost of the uprate exceeds the overnight cost?

A No, I don't.

Q And by overnight cost I'm referring to the range in your Exhibit SRS-6. Is your answer the same?

A Yes, sir.

Q Page 23, you refer, at line 12, to what you call the let's divide-by-two exercise. You're referring there to the assumption that Mr. Smith incorporated in his analyses, which is that Turkey Point and St. Lucie will contribute equally to the fuel savings over time?

A I don't quite accept that characterization. What -- what GDS did was essentially take all benefits, not just fuel savings benefits, and divide by two, and assign half to Turkey Point, half to St. Lucie. So I'm taking exception to just the fuel savings part, because that's not what they did.

Q Would you agree with me that the fuel savings constitutes the largest source of benefits for nuclear units in a cost effectiveness comparison?

A Generally, yes.

Q Would you agree with me that the quantity of fuel savings is largely a function of the total megawatt hours generated?

A It's certainly a driver of that, yes, and a significant driver.

Q Would you agree with me that a plant site that has 14 years -- 14 unit years of generation more than another plant site is going to have significant -- significantly more megawatt hours within which to produce fuel savings?

A Yes, they will have significantly more megawatt hours of fuel savings but they will be discounted back more steeply than will the megawatt hours in earlier years.

Q Would you agree that another factor bearing on the amount of fuel savings that each site will contribute would be the capacity of the units?

A Yes, and that is one of the errors I believe GDS made in their calculation.

Q Is the capacity of the St. Lucie units larger than the capacity of the Turkey Point units?

A No. The total -- let me back up and clarify one point. Again, we're talking about the feasibility analysis we filed based on circumstances and inputs as of April of this year. We're not referring to the additional megawatts that Mr. Jones' supplemental testimony talked about.

So with that clarification, when we filed our

feasibility analysis, it's true we were saying that the total capacity that would be added at Turkey Point and at St. Lucie would be roughly equivalent. It would be 246 megawatts at Turkey Point, 244 megawatts at St. Lucie.

However, in our feasibility analysis -- and this is where this one error comes in -- we had already taken 31 megawatts of St. Lucie capacity increase essentially off the table by accounting for it in both the resource plan with and without EPU. So our feasibility analysis wasn't looking at a 50-50 split of megawatts, it was looking a 246 at Turkey Point, 213 at St. Lucie, which is a significant difference.

If that point alone, among the other errors I'd like to have a chance to discuss, is corrected in the calculation that Mr. Smith did, we would move from one out of seven scenarios at Turkey Point being cost effective to three out of seven scenarios being cost effective, which further moves away from GDS's claim that with certainty Turkey Point portion of the project cannot be cost effective. And again, that's only one of the points that I have a problem with in their calculation.

Q Elsewhere in your testimony you assert that the divide-by-two approach was not intended to be precise, did you not?

A I believe I characterized it as not an accurate approach and cannot provide meaningful results.

Q And the nature of the simplifying assumption, a large measure of which was to attribute equal fuel savings to the St. Lucie and Turkey Point units, was to, by virtue of the different years of operation, was to favor the St. Lucie -- excuse me, favor the Turkey Point unit, was it not?

A I can't agree with that. I don't -- I found nothing in their testimony that said we're going to do this so we can favor it. I think what they said, or at least my interpretation of what they said is we're going to do this, and, oh, by the way, it does favor Turkey Point. They chose the analysis approach.

What I'm trying to point out is, after they chose the analysis approach, they made several errors in their calculation which, when corrected, change the results dramatically.

Q Yes, but in the course of the analysis they incorporated an assumption that favors Turkey Point. You don't disagree with that, do you?

A In regard to fuel savings, that's probably correct. But again, they chose the analysis approach, and I believe they need to live with it. All I'm trying to point out is after they chose their approach, they did their calculation, but they made several errors. And I've pointed out one of them.

Excuse me, I've pointed out two. There was

another one I pointed out in my rebuttal testimony. If they had used, instead of the stale to-go cost of six months before they filed testimony and used what were readily available numbers for what the correction in to-go costs should have been --

MR. McGLOTHLIN: Mr. Chairman, there's no question pending.

CHAIRMAN BRISE: I'd agree.

MR. McGLOTHLIN: If you could let me have a moment?

CHAIRMAN BRISE: Sure.

BY MR. McGLOTHLIN:

Q Dr. Sim, when you said in response to an earlier question that you would not agree that comparing overnight costs to the costs of the uprate for Turkey Point indicates that Turkey Point is more expensive than new nuclear capacity, what value for the Turkey Point uprate were you -- did you have in mind in dollars per kW?

A I think the problem as I see it is you're trying to create or look at the Turkey Point uprate cost or the entire uprate project cost as if it were an overnight cost. I don't believe I have seen from 2007 on a depiction of an overnight construction cost for Turkey Point.

What I've seen are costs that have escalation, and at this point we not only have escalation, we have sump costs in there. The only comparable costs that we have to the --

let's look, for ease, the 3.15 billion cost for the integrated EPU project is the $18.7 billion cost for Turkey Point 6 and 7, which would include the effect of escalation over the life of the project construction. That is the proper comparison point to make.

Q Well, I understand that you and I disagree about that. But the question I posed to you assumes a determination is made that the appropriate comparison is between the overnight costs of the new capacity with the corresponding 2012 costs in dollars per kW of the Turkey Point uprate.

Under that assumption, do you still disagree with Dr. Jacobs when he says that the cost per kW or the Turkey Point uprate now exceeds the overnight cost of the Turkey Point 6 and 7?

A Yes, because I believe he is confusing overnight and installed costs.

Q When you say installed costs, are we going back to 2022?

A For the Turkey Point 6 and 7 project?

Q Yes.

A I think those are the only costs we have that are comparable to the costs from '07 through today for EPU, costs that include escalation, that include increases in labor costs, et cetera, over the years.

Q Now, you sponsor an exhibit that shows overnight costs for the proposed nuclear units, do you not?

A For the Turkey Point 6 and 7 project.

Q And that's a range that has as a high end the 5,000 -- approximately $5,000 per kW?

A Yes. And what that represents is what the cost would be per kW if you could build the entire two nuclear units today, no escalation over the time over the years.

Q In 2012 dollars?

A Yes, which is an unrealistic cost, because you simply can't build the unit overnight.

Q Well, people in the industry use overnight costs for comparisons, don't they?

A Yeah, but I've never seen one get to the end of a project and try to claim that those costs are now overnight costs, simply because they're not.

Q Well, let's talk about that for a minutes. If the costs were incurred, let's say, between 2008 and 2012, to put them all in 2012 dollars you would have to escalate those '07, '08, 09, '10 and '11 dollars, would you not?

A That would be one way to do it, but that would be, to my way of thinking, a ridiculous way to take costs that have already been incurred and then escalate them to a higher value just to try to force an awkward and, to me, senseless comparison.

Q Well, I'll tell you what, let's not do that, let's just take the total costs spent, divide by the megawatts, and compare that to the overnight costs. Dr. Jacobs says that's about $7,000 per kW. Is 7,000 bigger than 5,000?

A No, but again, you're confusing apples and oranges, in my view.

Q My question is, is 7,000 greater than 5,000?

A 7,000 is greater than 5,000. But in the context you're using them, you're comparing apples and oranges.

MR. McGLOTHLIN: I have no further questions.

CHAIRMAN BRISE: Okay, thank you. FIPUG? Ms. Kaufman?

MS. KAUFMAN: I have no questions.

CHAIRMAN BRISE: Okay. FEA?

LT. COL. FIKE: No questions, Mr. Chairman.

CHAIRMAN BRISE: SACE?

MR. WHITLOCK: No questions, Mr. Chairman. Thank you.

CHAIRMAN BRISE: FRF?

MR. LaVIA: No questions, Mr. Chairman.

CHAIRMAN BRISE: Staff?

MR. LAWSON: No questions.

CHAIRMAN BRISE: Commissioners? All right, redirect.

MS. CANO: No redirect. Thank you.

CHAIRMAN BRISE: All right, exhibits.

MS. CANO: FPL moves Exhibits 109 and 110.

CHAIRMAN BRISE: Okay, we will enter Exhibits 109 and 110 into the record, seeing no objections.

(Exhibits 109 and 110 admitted in evidence.)

MR. ANDERSON: FPL would request that Dr. Sim be excused for the balance of the hearing and would call as its final rebuttal witness Terry Deason.

CHAIRMAN BRISE: Sure. Dr. Sim, you are excused.

THE WITNESS: Thank you, sir.

MR. ANDERSON: Mr. Deason was here this morning and was previously sworn.

CHAIRMAN BRISE: Sure. We are coming up on that two-hour mark for the court reporter. Rather than begin with Mr. Deason and then break up right after we begin, I think we'll take a ten-minute break at this time, and then we'll resume shortly. So we stand in recess.

(Brief recess)

CHAIRMAN BRISE: All right, FPL, if you could present your next witness.

MR. ANDERSON: Thank you, Chairman Brise. Thank you. Microphone malfunction. None of them work. All right, it's the master switch. Now we're good.

Thank you, Chairman Brise. FPL calls as its last rebuttal witness Terry Deason, who has previously been

sworn.

Thereupon,

TERRY DEASON

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

DIRECT EXAMINATION

BY MR. ANDERSON:

Q Good evening, Mr. Deason. Would you please tell us your name and business address.

A Yes, my name is Terry Deason. My address is 301 South Bronough Street, Suite 200, Tallahassee, Florida, 32301.

Q By whom are you employed and in what capacity?

A I'm employed by the firm Radey, Thomas, Yon and Clark as a consultant.

Q Have you prepared and caused to be filed 25 pages of prefiled rebuttal testimony in this proceeding on July 9, 2012?

A Yes.

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

A No.

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

same?

A Yes.

MR. ANDERSON: Chairman Brise, FPL requests that the prefiled rebuttal testimony of Terry Deason be inserted into the record as though read.

CHAIRMAN BRISE: Okay, we will enter Mr. Deason's prefiled rebuttal testimony into the record as though read, seeing no objections.

(Whereupon, the prefiled testimony was inserted.)

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

FLORIDA POWER & LIGHT COMPANY

REBUTTAL TESTIMONY OF TERRY DEASON

DOCKET NO. 120009-EI

July 9, 2012

Q. Please state your name and business address.

A. My name is Terry Deason. My business address is 301 S. Bronough Street, Suite 200, Tallahassee, Florida 32301.

Q. By whom are you employed and in what capacity?

A. I am employed by the law firm Radey Thomas Yon and Clark as a Special Consultant specializing in the fields of energy, telecommunications, water and wastewater, and public utilities generally.

Q. Please describe your educational background and professional experience.

A. I have thirty-five years of experience in the field of public utility regulation spanning a wide range of responsibilities and roles. I served a total of seven years as a consumer advocate in the Florida Office of Public Counsel (OPC) on two separate occasions. In that role, I testified as an expert witness in numerous rate proceedings before the Florida Public Service Commission (Commission). My tenure of service at the Florida Office of Public Counsel was interrupted by six years as Chief Advisor to Florida Public Service Commissioner Gerald L. Gunter. I left OPC as its Chief Regulatory Analyst when I was first appointed to the Commission in 1991. I served as

Commissioner on the Commission for sixteen years, serving as its chairman on two separate occasions. Since retiring from the Commission at the end of 2006, I have been providing consulting services and expert testimony on behalf of various clients, including public service commission advocacy staff and regulated utility companies, before commissions in Arkansas, Florida, Montana, New York and North Dakota. My testimony has addressed various regulatory policy matters, including: regulated income tax policy; storm cost recovery procedures; austerity adjustments; depreciation policy; subsequent year rate adjustments; appropriate capital structure ratios; and prudence determinations for proposed new generating plants and associated transmission facilities. I have also testified before various legislative committees on regulatory policy matters. I hold a Bachelor of Science Degree in Accounting, summa cum laude, and a Master of Accounting, both from Florida State University.

Q. Are you sponsoring an exhibit?

A. Yes. I am sponsoring the following rebuttal exhibit:

- TD-1, Biographical Information for Terry Deason

Q. What is the purpose of your rebuttal testimony?

A. The purpose of my rebuttal testimony is to respond to certain assertions and recommendations made by OPC witnesses Jacobs and Smith concerning Florida Power & Light Company's (FPL) extended power uprate (EPU) project. I also provide a contextual background for the consideration of

certain findings and recommendations contained in the Commission Staff June 2012 Review of Project Management Internal Controls.

Q. Do witnesses Smith and Jacobs make a recommendation on how the Commission should treat certain costs of the EPU project?

A. Yes. Based on a strained analysis of the relative cost effectiveness of the Turkey Point portion of the EPU project versus the St. Lucie portion of the EPU project provided by witness Smith, witness Jacobs recommends that the Commission disallow any costs exceeding a recent forecast of the cost of the Turkey Point portion of the project. In essence, witness Jacobs is recommending an arbitrary cap on otherwise prudently incurred costs.

Q. Should the Commission accept this recommendation?

A. No, the Commission should absolutely reject this recommendation.

Q. Why should the Commission reject witness Jacobs' recommendation?

A. A close examination of this recommendation quickly reveals that it is a rehashing and repackaging of arguments that have already been considered and rejected by the Commission. In addition, this recommendation runs grossly afoul of Florida's policy to promote nuclear generation and the standards of nuclear cost recovery contained in statute and rule.

Q. What is Florida's policy concerning nuclear generation?

A. Florida's policy is to promote electric utility investment in nuclear power plants and allow for the recovery in rates of all such prudently incurred costs. This is expressly stated in Rule 25-6.0423, F.A.C.

Q. What was the impetus for the Commission's adoption of Rule 25-6.0423, F.A.C.?

A. The most direct and obvious impetus was the enactment in 2006 of Section 366.93, Florida Statutes, which directed the Commission to "establish, by rule, alternative cost recovery mechanisms for the recovery of costs incurred in the siting, design, licensing and construction of a nuclear power plant."

Q. What was the purpose of this directive?

A. The Legislature determined that the risks of planning, constructing, and operating new nuclear generation were great and that the traditional regulatory model was insufficient to address those risks. The traditional regulatory model, which was used in the last round of new nuclear plants constructed in the United States, resulted in the disallowance of substantial investments based on reviews being undertaken only after plants were completed and requests were made to have them included in rate base. Often these reviews entailed upwards to a decade of costs that had been incurred. This caused several problems, not the least of which was the complexity and the span of time of the reviews. Another factor was the accumulated carrying costs of the investments and their resulting impact on rates. For investors to be willing to devote their capital to the planning, construction, and operation of new nuclear plants and for the benefits of new nuclear generation to be achieved, the Legislature determined that a different regulatory approach was needed. A key component of this new approach was to provide greater certainty to the amount and timing of recovery of all prudently incurred costs. Providing

regulatory certainty for the recovery of all prudently incurred costs avoided the unacceptable risk of a prudence determination being made only after many years of construction expenditures had been incurred. Pursuant to this directive, Rule 25-6.0423, F.A.C., established annual prudence determinations with much needed finality.

Q. Did the Commission specifically address the need for annual prudency reviews and the need for finality?

A. Yes, the matter received much discussion at the Commission's December 19, 2006, Agenda Conference during which the Commission voted to propose Rule 25-6.0423, F.A.C. The Public Counsel, while acknowledging his initial opposition to an annual prudence review, stated that "it's probably a good idea for you to take an annual look at this program, a pervasive look, and enter a judgment as to whether you believe the investment undertaken to that point is prudent or not prudent..." And in response to a question on the finality of those determinations, the Commission's General Counsel stated: "I think the concept of administrative finality doesn't let you go back and revisit decisions that were made looking at the record and doing the normal course of things." And the general sentiment of the Commission was encapsulated in this statement by Commissioner Arriaga:

> *Are we leaving doors open in the middle so that the companies may not avail themselves of the rules? I think the purpose here is to make sure that nukes are built, because we need that energy. We said it over and over and over, we need nuclear energy. Ten*

years from now if we don't have it, we are going to look back and say we did not do our job as Commissioners.

Q. Why is this finality needed?

A. It is needed to avoid the same concerns I expressed earlier with prudence reviews spanning unacceptable time frames and addressing costs that have accumulated over multiple years. Without the finality of the annual prudence determinations, it is possible and perhaps likely that investments in new nuclear generation would be subject to the same risks that plagued earlier investments in nuclear generation.

Q. What is Florida's policy on the finality of prudence determinations of nuclear costs?

A. Florida's policy is to review the prudence of incurred costs annually and to disallow those costs found to be imprudent. Costs determined to be prudent are no longer subject to disallowance or further prudence review.

Q. Were there any other statutory changes in 2006 setting forth Florida's policy concerning nuclear generation?

A. Yes, there were significant additions and clarifications made to Section 403.519, Florida Statutes. These changes work in conjunction with Section 366.93, Florida Statutes, and Rule 25-6.043, F.A.C., to further delineate and implement Florida's policy to promote nuclear generation.

Q. What were the notable changes to Section 403.519, Florida Statutes?

A. Section 403.519 establishes the Commission to be the exclusive forum for a determination of need of an electrical power plant subject to the Florida

Electrical Power Plant Siting Act. The notable changes did three things. First, nuclear generation was exempted from Rule 25-22.082, F.A.C., which is commonly referred to as "the bid rule." Second, standards and procedures for the determination of imprudence were established. And third, the Commission was specifically charged to consider whether a proposed nuclear generation facility would: "Enhance the reliability of electric power production within the state by improving the balance of power plant fuel diversity and reducing Florida's dependence on fuel oil and natural gas."

Q. Was this last item a new consideration for the Commission?

A. No, while this specific statutory language was new, the Commission had long recognized the need for fuel diversity and the need to reduce Florida's dependence on fuel oil and natural gas.

Q. What has the Commission done to promote fuel diversity?

A. The Commission recognized the need for generation from "solid fuel" plants. As early as the 1980s the Commission encouraged utilities to purchase "coal-by-wire" from the Southern Company, which had coal capacity available. As part of this initiative, the Commission instituted an "Oil Back-out Clause" to provide a more rapid recovery of costs and thus to promote the use of coal generation. In 2005, FPL's and Progress Energy's contracts with the Southern Company came up for renewal and the Commission approved them.

The Commission also expressed concern over the increasing reliance on natural gas as a base-load generation fuel. As part of its review of 2004 Ten

Year Site Plans, the Commission stated, "based on current fuel mix and fuel price projections, Florida's utilities should explore the feasibility of adding solid fuel generation as part of future capacity additions."

Q. What was the response from the utilities?

A. The result was the inclusion of seven new coal plants in the reporting utilities' 2005 Ten Year Site Plans. JEA, Gainesville Regional Utilities and Seminole Electric Cooperative, Inc. each proposed to build new coal-fired generating units. The Florida Municipal Power Agency, JEA, Reedy Creek, and City of Tallahassee proposed joint ownership in a new coal-fired project. The Orlando Utilities Commission planned to build an integrated coal gasification combined cycle unit. And FPL planned to build two new coal-fired units.

Q. Were any of these planned units ever constructed?

A. No.

Q. What were the circumstances concerning FPL's two planned coal-fired units?

A. In response to the Commission's concerns over a lack of fuel diversity, FPL committed to file a feasibility study of coal-fired alternatives, which was filed in 2005. In 2006, in emphasizing its concern of a lack of fuel diversity, the Commission further stated that utilities should not assume the automatic approval of gas-fired plants in future need determination proceedings. In response to the Commission's direction, FPL then proposed building two ultra-supercritical pulverized coal units in Glades County to come on line in 2012 and 2013. These units were referred to as the Florida Glades Power

Park and were the subject of a proposed need determination before the Commission in 2007. While the project had attractive economics and significant reliability benefits, it was not approved by the Commission. The Commission cited concerns with the risks associated with new coal generation in light of anticipated greenhouse gas emissions regulations. FPL then found itself in a situation of meeting its need reliably and cost effectively and providing greater fuel diversity while minimizing greenhouse gas emissions. As a result, FPL proposed the EPU project on an expedited basis in order to meet these needs. The Commission issued an order approving FPL's need determination request in 2008.

Q. Why did the Commission encourage utilities to pursue solid fuel generation?

A. The Commission had two primary reasons. First was a desire to maintain the reliability of Florida's electric generation. Second was a desire to mitigate the impact of the volatility of natural gas prices and the resulting impact on customers.

Q. Why was the Commission concerned with the reliability of Florida's electric generation?

A. During the time the Commission was encouraging the pursuit of solid fuel generation, the Commission was particularly concerned with two fundamental facts impacting Florida's electric generation reliability, facts which continue to this day.

First is the fact that Florida is a peninsula with limited electric power import capability. In the early 1990s, the Commission attempted to address this constraint. Studies were performed to determine the feasibility of constructing additional transmission lines that would increase the import capability of coal-fired generation from the north. Cost effectiveness considerations, local opposition to construction, and ambiguity in wholesale pricing policies all led to the project not being constructed. And in subsequent years, the amount of coal-fired generation available for import declined.

The second fundamental fact is that Florida was then becoming and continues now to be increasingly dependent on gas fired generation to meet base-load requirements. This fact, coupled with Florida's dependency on two main natural gas pipelines into the state, added to the urgency.

Q. Are there instances when these concerns actually manifested themselves?

A. Yes, there are at least two. First, was an incident involving the Florida Gas Transmission line. In 1998, when natural gas supplied approximately only 15 percent of Florida's needs, a lightning strike and subsequent explosion at a compressor station near Perry, Florida, significantly reduced the pressurization and pumping capability in the pipeline. This in turn reduced the amount of gas fired generation available for dispatch and jeopardized the integrity of the grid. The Florida Department of Environmental Protection declared a thirty day state of emergency and stated: "The Department finds that the explosion has created a state of emergency threatening the public

health, safety, and welfare throughout portions of the state that are adversely affected by the curtailment of natural gas supply to various power plants in these areas." Resulting environmental waivers to allow increased output from non-gas generating units and the extensive use of load control programs were necessary to maintain integrity and prevent a large scale black-out. And then in 2005, Hurricanes Katrina and Rita shut down natural gas production in the Gulf of Mexico. As a result, gas importation into Florida was curtailed and utilities had to make public appeals for conservation and had to seek environmental waivers allowing them to burn back-up fuels such as oil.

Q. In response to previous questions you indicated that the Commission was also concerned with the price volatility of natural gas and its impact on customers. Could you explain?

A. While the price of natural gas is low at present, it still remains volatile and difficult to predict. This exposes utilities and their customers to the potential for large under-recoveries of fuel costs. This was particularly evident during the years 2001 through 2005. The Commission's Review of 2007 Ten-Year Site Plans addressed this and at page 10 stated:

> *Starting in 2001, natural gas prices began to increase nationwide despite electric utility forecasts of flat prices with moderate growth rates. For example, the actual cost of natural gas for FPL more than doubled between 2002 and 2006, rising from approximately $4.06 per MMBtu in 2002 to $8.81 per MMBtu in 2006. In 2005, hurricanes and tropical storms in the Gulf of Mexico caused short-*

term spikes as high as $12 per MMBtu due to gas supply disruptions. The effects of higher volatile gas prices can be dramatic on customer bills. Between 2003 and 2005, Florida's IOUs experienced record fuel cost under-recoveries compared to forecasts. Under-recoveries of fuel costs totaled approximately $670 million in 2003, $353 million in 2004, and $1.564 billion in 2005. The three years of higher than predicted fuel costs alone are approximately the same as the capital cost of a new coal-fired plant.

Q. How does the Commission's encouragement of solid fuel generation relate to FPL's EPU project?

A. All of the concerns earlier expressed by the Commission arising from an increasing reliance on natural gas continue today. Coal no longer appears to be an available means to increase solid fuel generation in Florida, primarily due to concerns with air emission impacts. Nuclear generation remains a cost-effective means to increase solid fuel generation without air emission impacts. The policy of the State of Florida recognizes this and encourages the development of additional nuclear generation. Relying on this policy and the procedures provided in law and rule, FPL has taken on the higher risk of constructing additional nuclear generation to comply with this policy and to address the Commission's long held concerns.

Q. Given Florida's policy of promoting nuclear and the procedures in law and rule, why is nuclear a higher risk option?

A. As a general rule, a higher capital cost and lower fuel cost alternative is a more risky choice than a lower capital cost and higher fuel cost alternative. This risk differential is further amplified in the case of nuclear construction and the unique challenges it brings. This is clearly stated by Commission Staff in its February 1, 2007, recommendation to the Commission to adopt new Rule 25-6.0423, F.A.C., which the Commission did by Order No. PSC-07-0240-FOF-EI:

> *No new nuclear power plants have been built in the United States in several decades. This is in part due to the extraordinary obstacles faced by electric utilities wishing to construct new nuclear power plants that are not present for other types of generation like coal and natural gas. These obstacles include the requirement of an intensive federal application, permitting, and review process, including oversight by the federal Nuclear Regulatory Commission; an extremely long permitting and construction period; and a public perception of nuclear generation which can pose significant challenges. The clear intent of the 2006 Florida Legislation is to promote new nuclear generation in Florida by providing Florida utilities the incentives needed to overcome these obstacles; the Legislature was clearly concerned that without these incentives, Florida utilities will continue to build natural gas and coal fired generation to meet Florida's growing energy needs. The provisions of the rule which staff is*

recommending for adoption were designed to address the intent of the statute and these concerns, which are unique to construction of nuclear power plants.

Q. In answer to a previous question, you stated that Section 403.519, Florida Statutes, was revised in 2006 to establish standards and procedures for the determination of prudence or imprudence. What is the standard in making these determinations?

A. After a new nuclear project has received a determination of need, the associated costs are not subject to challenge unless and only to the extent the Commission finds, based on a preponderance of the evidence adduced at a hearing, that certain costs were imprudently incurred. In addition, imprudence shall not include any cost increases due to events beyond the utility's control. Further, a decision to proceed with construction after a determination of need is granted "shall not constitute or be evidence of imprudence." This standard is contained in Section 403.519(4)(e), Florida Statutes, and is specifically referenced by Rule 25-6.0423, F.A.C.

Q. Is witness Jacobs' recommendation consistent with this standard?

A. It is not. Witness Jacobs' recommendation presents at least three inconsistencies with this standard. First, witness Jacobs' recommendation is not based on evidence that certain costs were imprudently incurred. Rather, his recommendation is based on an arbitrary cap on otherwise prudently incurred costs. Second, he ignores the statutory requirement that any costs incurred due to events beyond the utility's control are not subject to a finding

of imprudence. His arbitrary and still yet to be determined amount of disallowance is based upon the potential for costs to escalate beyond a recent forecast. It is possible that future cost escalations will be due to events beyond FPL's control. However, witness Jacobs would have the Commission ignore this possibility and impose an arbitrary cap with no determination of costs that were beyond the utility's control. And third, witness Jacobs' recommendation could effectively penalize FPL for proceeding with construction after a determination of need has been granted by the Commission. His recommendation that FPL be "put on notice" is tantamount to a warning that proceeding with construction may result in a disallowance of otherwise prudently incurred costs. This and the other inconsistencies I have identified puts witness Jacobs' recommendation in direct contravention of Florida's policy and standards to promote nuclear power.

Q. Are there other provisions contained in Section 403.519, Florida Statutes, which witness Jacobs' recommendation ignores?

A. Yes, there are at least two. Section 403.519(4)(a) recognizes that the estimate of costs of a nuclear power plant presented as part of a need determination is nonbinding. This provision recognizes that the same challenges, which make the construction of new nuclear power difficult and in need of policies to overcome them, also make the estimation of costs difficult. Thus it is clearly set forth in statute that the cost estimates are nonbinding. This same acknowledgement and rationale would logically extend to subsequent cost estimates. However, witness Jacobs' recommendation would have the

Commission make a recent cost estimate binding on FPL. And second, Section 403.519(4)(c) declares that no provision of Rule 25-22.082, F.A.C., shall be applicable to a nuclear power plant, including provisions for cost recovery. This provision recognizes that the many challenges of constructing nuclear power, such as the high capital costs, the many permits and licenses required, the length of construction, and the difficulty of estimating costs, make the bidding and cost control provisions of Rule 25-22.082, F.A.C., inapplicable. Yet witness Jacobs' recommendation ignores this and would impose a strict cost cap on the EPU project. It should also be noted that even Rule 25-22.082, F.A.C., when applied to conventional power plants allows a public utility an opportunity to demonstrate that costs over those identified in the need determination are prudently incurred. The provisions of Rule 25-6.043, F.A.C., specifically recognize the need for this and provide for annual prudence determinations of costs incurred. FPL has been demonstrating the prudency of costs annually since the inception of the EPU project. However, witness Jacobs' recommendation would violate this basic opportunity to show costs to be prudent and declare that costs in excess of a recent forecast will be assumed imprudent and denied recovery.

Q. In response to a previous question, you stated that witness Jacobs' recommendation is a rehashing and repackaging of previous recommendations that have been rejected by the Commission. Please explain.

A. Witness Jacobs' recommendation to impose a cost cap on the Turkey Point portion of the EPU project is basically a repackaging of two arguments that have previously been considered and rejected by the Commission.

Q. What is the first argument that has been presented and rejected by the Commission?

A. The first argument is that a risk sharing mechanism should be adopted for the recovery of nuclear project costs.

Q. How does witness Jacobs' recommendation constitute a risk sharing mechanism?

A. Whether called a "risk sharing" mechanism or a "cost cap," both approaches attempt to accomplish the same outcome of denying FPL the opportunity to recover all prudently incurred costs. As I explained earlier, the cost cap based on a recent projected cost of the Turkey Point portion of the EPU project does not attempt to determine the prudence of costs and thus is in conflict with the statutory and rule provisions encouraging nuclear projects. In Order No. 11-0095-FOF-EI, the Commission found that a risk sharing mechanism would not be consistent with the clear statutory requirement that all prudently incurred costs are recoverable. The Commission stated:

> *In conclusion, based upon the analysis above, we find that we do not have the authority under the existing statutory framework to require a utility to implement a risk sharing mechanism that would preclude a utility from recovering all prudently incurred costs resulting from the siting, design, licensing, and construction of a*

nuclear power plant. To do so would limit the scope and effect of a specific statute, and an agency may not modify, limit, or enlarge the authority it derives from the statute.

This same rationale would equally apply to witness Jacobs' current recommendation. Accordingly, his recommendation should be rejected.

Q. What is the second argument that has been presented and rejected by the Commission?

A. The second argument that has been rejected is that a break-even analysis should be used to cap otherwise prudently incurred costs. This argument was presented by witness Jacobs last year in Docket No. 110009-EI. Like his current recommendation, his break-even recommendation was premised on establishing a level of costs beyond which cost recovery would be denied.

Q. Did the Commission accept witness Jacobs' break-even recommendation?

A. No, the Commission rejected it. In Order No. PSC-11-0547-EI, the Commission specifically addressed the break-even recommendation and stated:

Based on the above analysis, we find that, as asserted by various FPL rebuttal witnesses, the methodology recommended by OPC witnesses Jacobs and Smith may result in hindsight review of prudence by use of future facts and assumptions to determine the extent of current or past prudently incurred costs. Moreover, the evolving nature of OPC's proposal, the possibility of inappropriate use of long-term planning, and the possibility of limiting FPL's

ability to recover costs previously deemed to be prudently incurred, are aspects that lead us to question the adequacy of record evidence in support of adopting the proposal. Accordingly, we reject the proposal of the OPC witnesses.

This same rationale would equally apply to witness Jacobs' current recommendation. Accordingly his recommendation should be rejected.

Q. If actual costs were ultimately to be higher than current projections, would those costs be unreasonable or imprudent?

A. Not necessarily. As I testified last year, and as recognized by the Commission in its 2011 NCRC order (Order No. PSC-11-0547-FOF-EI, p. 55), "there is nothing so magical" about a particular cost estimate (or a breakeven point) that would render costs incurred above that estimate unreasonable or imprudent, as witnesses Jacobs and Smith imply. Rather, it is the nature of the costs themselves and whether the costs have been prudently incurred that determines their recoverability.

Q. You have indicated that witness Jacobs' current recommendation is inconsistent with Commission precedent. Is his recommendation consistent with good regulatory policy?

A. No, it is not. Consistent with good regulatory policy, the Commission has the responsibility to balance the needs of investors and customers. Customers have the reasonable expectation to receive safe, reliable and efficient services and the responsibility to pay the cost of providing those services. Investors have the reasonable expectation that capital deployed to provide services to

customers will earn a reasonable return and will be eventually repaid in the form of depreciation allowances. In balancing these interests, the Commission should protect customers from imprudent costs and yet ensure that all prudent costs are recovered. Witness Jacobs' recommendation does not do this and would not be consistent with good regulatory policy.

Q. Do you have any other concerns with the recommendation to institute a cost cap as recommended by witness Jacobs?

A. Yes, I do. Aside from the fact that the Commission has found the rationale for a cost cap to be statutorily impermissible, and that it constitutes bad regulatory policy, I am concerned that adopting such an approach would have severe negative implications for future generation expansion plans in Florida.

Q. How so?

A. I believe good regulatory policy should encourage utilities to consider all cost-effective options for new generation. Having a full array of viable options can only serve to provide benefits to customers in terms of reliability, cost and fuel diversity. I fear that capping cost recovery at projected costs, as contemplated by witness Jacobs, will lead to only the lower-risk options being considered. In today's environment, this would mean an even greater reliance upon gas-fired generation. Of course, a potential over reliance on natural gas is one of the things the Legislature and Commission are attempting to mitigate by encouraging additional nuclear generation.

Q. Have you reviewed the Review of Florida Power & Light Company's Project Management Internal Controls for Nuclear Plant Uprate and

Construction Projects issued by the Commission's Office of Auditing and Performance Analysis and the recommendations to disallow costs associated with a Siemens work stoppage at St. Lucie Unit 2?

A. Yes, I have.

Q. Why does audit staff recommend a disallowance?

A. Audit staff believes the "costs specific to this event do not represent prudently incurred costs."

Q. Has the Commission established a standard for determining prudence?

A. Yes, the Commission's standard is well documented. It is:

> *The applicable standard for determining prudence is consideration of what a reasonable utility manager would have done in light of conditions and circumstances which were known or reasonably should have been known at the time decisions were made.*

Thus for matters that are within the control of utility management the standard is one of reasonableness, i.e., "what a reasonable utility manager would have done."

Q. Do you agree with audit staff's recommendation to disallow costs associated with the Siemens work stoppage?

A. I neither agree nor disagree. The acceptance or rejection of this recommendation hinges on some critical factual determinations and the Commission's interpretation of those facts. There also are policy implications associated with this recommendation. However, I do have some concerns which may be helpful in this determination.

Q. Please explain.

A. In stark contrast to witness Jacobs' recommendation to disallow costs based on an arbitrary cost cap in contravention of Florida's policy to promote nuclear power, audit staff engaged in a review of specific costs to judge their reasonableness and ultimately their prudency. Therefore, my criticisms of witness Jacobs' recommendation as being contrary to Florida's policy do not apply to audit staff's approach. Nevertheless, I have a concern that the audit staff's recommendation is not entirely consistent with the Commission's reasonableness standard and Commission case precedent.

Q. How is the recommendation not consistent with Commission case precedent?

A. Whether the recommendation is consistent or inconsistent with Commission case precedent depends on the ultimate facts. However, my review of the facts in the Review of Project Management Internal Controls raises some doubt.

Q. What is the Commission case precedent to which you refer?

A. I am referring to *Florida Power Corp. v. Public Service Commission, 456 So.2d 451 (Fla. 1984).*

Q. What were the circumstances of this Florida Supreme Court Case?

A. At issue was whether Florida Power Corporation (predecessor to Progress Energy of Florida) should have to bear the cost of delay in service due to a damaged fuel assembly caused by a dropped test weight at its Crystal River Unit 3 nuclear power plant. The Commission found imprudence because

Florida Power Corporation had failed to adequately plan and supervise the move of the test weight device based on a lack of various procedures which might have been employed. The Court reversed the Commission's finding of imprudence. The Court ruled that a statement by an employee concerning the adequacy of internal procedures cannot properly be used as evidence of imprudence, because it was made in response to questions concerning the deficiencies in Florida Power Corporation's safety-related procedure regarding the labeling of hooks. The Court continued by stating:

> *The lack of procedures which might have prevented the accident, suggested by the PSC, amounts to an application of the 20-20 vision of hindsight. The PSC has not shown the FPC management acted unreasonably at the time.*

Q. How does this case relate to the disallowance recommended for the Siemens work stoppage?

A. Both the dropped test weight disallowance and the recommended Siemens work stoppage disallowance are based on a review of post incident reports and the reasonableness of management actions based upon that backward looking review. In addition, they both are based upon a finding of a lack of procedures that may have prevented the incidents.

Q. How does the use of post incident reports impact a determination of imprudence?

A. The Supreme Court expressed misgivings about doing so. In its initial opinion in the dropped test weight case in *Florida Power Corporation v. Public Service Commission, 424 So. 2d 745 (Fla. 1982)*, the Court stated:

> *After a careful review of the record and of the PSC's order no. 9775, we believe that the PSC relied excessively on the NGRC report and the NRC notice of violation. While these documents are undoubtedly useful for numerous purposes, they should not serve as the primary source of evidence in a fault-finding determination. Such use of these documents would be analogous to using evidence of subsequent repairs and design modifications for the purpose of showing that the original design was faulty. This would clearly violate Florida's strong public policy in favor of post accident investigations.*

Q. Does a finding of a lack of procedures necessarily mean that management has been imprudent?

A. No, the Supreme Court addressed this and found that a lack of procedures does not necessarily mean that management has been imprudent. It all falls to a judgment of what was reasonable for management to have foreseen as being a possible incident and what procedures management should have adopted before the incident ever took place. And the use of post incident reports which recommend the adoption of new procedures to prevent similar occurrences should not be the only evidence to make an ultimate determination of imprudence.

Q. In response to an earlier question you indicated that the recommendation to disallow costs associated with the Siemens work stoppage also had policy implications. Could you explain?

A. Any recommended disallowance needs to be considered in light of Florida's policy of encouraging nuclear generation. While clearly imprudent costs should be rejected for cost recovery, the disallowance of all costs associated with a third party vendor based on a hindsight review of an incident report, needs close scrutiny and judicious application of the reasonableness standard applied by the Commission.

Q. Does this conclude your rebuttal testimony?

A. Yes, it does.

BY MR. ANDERSON:

Q You have one exhibit, TD-1?

A Yes.

MR. ANDERSON: That has been premarked as Exhibit 111, Chairman Brise.

CHAIRMAN BRISE: Thank you.

BY MR. ANDERSON:

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

A Yes, I have.

Q Please provide it to the Commission.

A Yes. Commissioners, good evening, and given the hour, I will be brief. Commissioners, Florida has always had a challenge with the concept of fuel diversity. Even in the late seventies, the early eighties, the Commission adopted policies to try to address this. Some policies more successful than others, but it has been a continuing challenge. This has continued to present day.

Florida is challenged with the fact that it's a peninsula. It is becoming more reliant on natural gas. It appears that coal as a solid fuel alternative is no longer feasible in our state.

Given all of these dynamics, the policy of the state, legislation was passed in 2006 by the Legislature promoting nuclear as a means to promote fuel diversity and to

provide benefits to customers.

This Commission proposed a rule in late 2006 and adopted it in 2007 conforming with the policy set out in statute, and has consistently applied that rule in matters coming before it.

And more importantly, the utilities in the state have adopted this -- have taken this rule, and FPL has adopted or has proposed an EPU project, and that is the focus of my testimony.

I rebut the testimony of OPC witnesses Smith and Jacobs and their recommendation to impose an arbitrary cap on costs to be recovered through the Nuclear Cost Recovery Clause. Their recommendation is contrary to the policies of the state of Florida and I think there would be consequences from their recommendation.

Their recommendation would expose FPL customers to greater risk of volatile fuel costs and risks to reliability, be contrary to the Commission standards to determine prudency, as contained in statute and rule, ignore whether cost increases were due to events beyond management's control, be contrary to previous Commission decisions wherein the Commission has denied a risk sharing approach and a break even approach to determine recoverable cost.

In essence, I believe their recommendations would constitute bad regulatory policy. This completes my summary.

MR. ANDERSON: Mr. Deason is available for cross examination.

CHAIRMAN BRISE: Mr. McGlothlin?

MR. McGLOTHLIN: No questions.

CHAIRMAN BRISE: FIPUG, Ms. Kaufman.

MS. KAUFMAN: No questions.

CHAIRMAN BRISE: FEA?

LT. COL. FIKE: No questions, Mr. Chairman.

CHAIRMAN BRISE: SACE?

MR. WHITLOCK: No questions, Mr. Chairman.

CHAIRMAN BRISE: FRF?

MR. LaVIA: No questions.

CHAIRMAN BRISE: Staff?

MR. LAWSON: No questions.

CHAIRMAN BRISE: Commissioners? Commissioner Edgar.

COMMISSIONER EDGAR: Chairman Brise and I were commenting at the break about how long the questions would be for Mr. Deason, and I was right. I have just one or two, Mr. Deason. Nice to see you.

THE WITNESS: Commissioner, I'm glad you were right.

COMMISSIONER EDGAR: I wasn't sure if I was going to ask or not, but there were one or two statements in your testimony that I found particularly intriguing and

you referenced one of them in your summary, so I would like to talk to you about it briefly. And I'm looking at page 12 of your prefiled rebuttal testimony, and there are two statements in response to the question there on line ten.

In your summary you said -- and I quote -- it appears coal is no longer feasible in our state. And in your prefiled testimony you make the statement that coal no longer appears to be an available means to increase solid fuel generation in Florida.

So with those two statements in mind, let me start with the first, the statement that you made in your summary. Are you of the belief -- so it is your opinion that coal is not feasible at this time in Florida?

THE WITNESS: I would like to answer yes or no, but let me break that rule at the very beginning.

COMMISSIONER EDGAR: That's not actually one of my big issues.

THE WITNESS: Okay. Well, feasibility, I think it is technically feasible, the technology is known and can be constructed in a cost-effective manner. So in that sense it's feasible. But when I'm using the term feasible, I mean it in the sense that the economic -- I mean, the environmental concerns are so great, and that casts doubt upon whether it can be constructed in

the state. That's my concern.

COMMISSIONER EDGAR: Okay. And I presume that you are familiar with the final order issued by this Commission a few years back denying the need determination requests for the proposed Glades Power Park facility?

THE WITNESS: Yes, I'm familiar with that.

COMMISSIONER EDGAR: Power park -- yeah. When you make the statement that coal may no longer be economically feasible in Florida, what role does that prior Commission decision play in your analysis, if any?

THE WITNESS: It is a basis for that determination because the Commission went through a very exhaustive review of the merits of that proposal, and at the end made a determination that it was not the most cost-effective alternative because of the uncertainties with the environmental costs.

I do not take issue with that decision. It was well thought out. But it put the state, particularly FPL, in a situation where it had to evaluate, what then. And it was determined that there needed to be greater fuel diversity through some type of solid fuel generation, which meant nuclear, because it offered that fuel diversity without the negative consequences of CO2 emissions.

COMMISSIONER EDGAR: And I would concur with your description of the order and the analysis that went into it and therefore the conclusions.

In your prefiled testimony you say, again, coal no longer appears to be an available means to increase solid fuel generation in Florida, quote, primarily due to concerns with air emission impacts.

I have been a part of an audience and presentations and a part of group discussions with EPA Assistant Administrator Gina McCarthy where she has made the statement numerous times that recent EPA regulations do not foreclose new source coal generation. And I have heard some industry experts disagree with that statement. Do you have an opinion?

THE WITNESS: Yes, and let me say that in my opinion the biggest hurdle is the uncertainties that remain. If there were a clear policy in this country with the requirements clearly set out, well, then -- and the uncertainty was diminished, well, then, smart people could put together projects and make a determination as to whether additional coal generation could be built.

But it is my opinion that with the uncertainties that exist that the risks are too great to come forward with a coal project at this time. And let me reiterate, That is one of the essential ingredients of this state's

policy concerning nuclear generation is with the statute and the rule is to try to diminish that uncertainty and provide a mechanism which gives companies and their investors the willingness to devote substantial dollars to investment with the idea that as long as costs are determined to be prudent that they will be recovered.

COMMISSIONER EDGAR: So with the statement that you just made about there being, again, in your words, too many uncertainties for a new coal project to be brought forward at this time, when you say uncertainties, are you talking about the uncertainties about potential future air emissions, additional requirements, or uncertainties beyond the air emissions subject area?

THE WITNESS: Primarily the air emissions uncertainties.

COMMISSIONER EDGAR: Okay. And then at the very bottom of that same paragraph, again, you're talking about coal and then it makes -- you, in your written testimony, make the statement, and I quote, on line 19, FPL has taken on the higher risk of constructing additional nuclear generation.

So by that are you saying that nuclear is of higher risk than new coal generation would be?

THE WITNESS: It would be higher risk, everything else being equal, in the sense that if we knew the

parameters of the air emission regulations and what the requirements would be, I would think that nuclear would be more -- more risky. But given that in Florida we have a policy in statute and in rule that has been consistently applied by this Commission, it has enabled investments to be made.

So, you know, I really didn't write this testimony in terms of trying to determine whether one is more risky than the other, but generally high capital cost projects and lower fuel cost projects are more risky, and coal would fit into that category, as well. But the capital costs for nuclear are even greater than coal.

COMMISSIONER EDGAR: All right. Thank you.

CHAIRMAN BRISE: Any further questions? All right, seeing none, redirect?

MR. ANDERSON: There's no redirect for the witness, and we would offer Exhibit 111 into evidence.

CHAIRMAN BRISE: All right, we will move Exhibit 111 into the record, seeing no objections.

(Exhibit 111 admitted in evidence.)

MR. ANDERSON: We'd ask that Mr. Deason be excused.

CHAIRMAN BRISE: Mr. Deason, you are excused.

THE WITNESS: Thank you, Mr. Chairman.

MR. ANDERSON: That completes FPL's rebuttal case.

CHAIRMAN BRISE: Thank you very much. Are there

any additional issues that we need to take up at this time?

MR. LAWSON: We're all done from the Staff side.

CHAIRMAN BRISE: Okay. Critical dates, so that everybody is aware of those: Hearing transcripts, I suppose, will be available on September 21st of 2012. Briefs are due on October 1, 2012. Staff recommendation will be available November 7, 2012. And our special agenda is currently set at November 20, 2012.

And I think that that concludes all of the issues associated with this docket at this time, and with that, we adjourn the hearing. Thank you, and travel safe.

(Whereupon, the hearing was concluded at 5:27 p.m.)

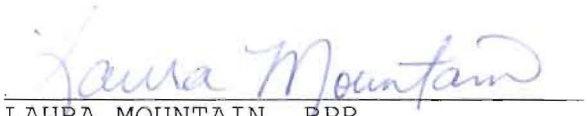
CERTIFICATE OF REPORTER

STATE OF FLORIDA)
COUNTY OF LEON)

I, LAURA MOUNTAIN, Court Reporter, do hereby certify that I was authorized to and did stenographically report the foregoing proceedings; and that the transcript is a true record of the aforesaid proceedings.

I FURTHER CERTIFY that I am not a relative, employee, attorney or counsel of any of the parties, nor am I a relative or employee of any of the parties' attorney or counsel connected with the action, nor am I financially interested in the action.

Dated this 19th day of September, 2012.



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