BEFORE THE
FLORIDA PUBLIC SERVICE COMMISSION

In the Matter of

PETITION TO DETERMINE NEED FOR AN ELECTRICAL POWER PLANT IN MARTIN COUNTY BY FLORIDA POWER & LIGHT COMPANY — DOCKET NO. 020262-EI

PETITION TO DETERMINE NEED FOR AN ELECTRICAL POWER PLANT IN MANATEE COUNTY BY FLORIDA POWER & LIGHT. — DOCKET NO. 020263-EI

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VOLUME 4

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PROCEEDINGS:	HEARING
BEFORE:	CHAIRMAN LILA A. JABER COMMISSIONER J. TERRY DEASON COMMISSIONER BRAULIO L. BAEZ COMMISSIONER MICHAEL A. PALECKI COMMISSIONER RUDOLPH "RUDY" BRADLEY
DATE:	Thursday, October 3, 2002
TIME:	Commenced at 8:30 a.m.
PLACE:	Betty Easley Conference Center Room 148 4075 Esplanade Way Tallahassee, Florida
REPORTED BY:	LINDA BOLES, RPR Official PSC Reporter (850) 413-6734
APPEARANCES:	(As heretofore noted.)

I N D E X

WITNESSES

EXHIBITS

NUMBER:		ID.	ADMTD.
16	Late-Filed Deposition Exhibit SRS-1	444	495
17	FPL's Response to Staff's 2nd Set of Interrogatories Numbers 5, 6 & 7	445	496
18	(Late-Filed)Martin and Manatee Data in the form of Confidential Filing C-1	468	
19	FPL's Response to Staff's 2nd Set of Interrogatories Number 35	496	541
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PROCEEDINGS

(Transcript continues in sequence from Volume 3.)

CHAIRMAN JABER: Good morning. We're going to go ahead and get started, get back on the record, Mr. McGlothlin. You were in the process of cross-examining Dr. Sim.

CONTINUED CROSS EXAMINATION

BY MR. McGLOTHLIN:

Q Dr. Sim, we were discussing the manner in which FPL modeled its self-build proposals in three elements, the fact that each of the units, Manatee 3 and Martin 8, was broken out into three pieces for purposes of modeling. Do you recall the conversation?

A Yes, I do.

Q And just to catch up for a second, those three pieces consisted of a peak-firing mode, a duct-firing mode and a base portion; is that correct?

A That's correct.

Q And I believe you said that they were, those pieces were linked, I think that was your expression. Do you recall that statement?

A I don't recall using that exact word, but I don't disagree. They were linked.

Q Because -- and by that, I understand you to mean that if any portion of the three pieces was included in the plan, all three were included in the plan; is that correct?

A Yes. You couldn't select the 27-megawatt peak firing component alone; you had to select the entire unit.

Q Now of the three pieces, the peak-firing mode had the lowest heat rate; is that correct?

A That's correct.

Q For purposes of dispatching the three pieces then, the peak-firing mode was dispatched ahead of anything else; correct?

A Yes. Lower heat rate, it would have been dispatched ahead of the other pieces. But, again, with an availability of one percent, its impact on the total production cost would be negligible.

Q In reality, it would be physically impossible to dispatch this peak portion unless the base portion was already in operation; isn't that correct?

A That's correct.

Q So in terms of the modeling, this peak portion would have to have a sort of out-of-body experience in order to go ahead of the base portion that was not in operation.

A I don't know about out-of-body. But, again, what you're trying to do is approximate in your modeling the economics of the utility system and, in doing so, in carrying out the way that we did so, we believe that we modeled it as accurately as was possible.

Q With this specific example though, the modeling

assumes something which was physically impossible in the real world, that is that there would be a peak firing portion in the absence of the base portion of which it was a part.

A Yes. But when looking on it at an annual basis, you're still capturing the correct amount of hours that the, each piece of the unit would be dispatched economically.

Q The correct number of hours. But in terms of the sequencing of this that and the order of the economic dispatch, that did not reflect the real world manner in which it would happen.

A Slightly different than the real world. But, again, I think it's important to consider what we're talking about here. We're talking about a 27-megawatt piece of unit, which, if we use the example yesterday of a 15-megawatt need being approximately one-tenth of one percent of our capacity, well, 27 megawatts is, again, roughly about one-tenth of one percent with an availability of one percent. So we're talking about the total number of megawatt hours that would be affected of one one-thousandth of one percent or point -- I think it's .00001 -- would be the total contribution. So if it's being modeled inaccurately, as you might be trying to portray, the impact is negligible.

Q Yesterday references were made to a late-filed exhibit, deposition exhibit to your -- that you prepared. And I can't recall whether that was identified at the time.

CHAIRMAN JABER: It was not.

MR. McGLOTHLIN: Okay.

BY MR. McGLOTHLIN:

Q Dr. Sim, yesterday in discussing the choice to use EGEAS as opposed to an hourly production costing simulation model for the last round of comparisons, you stated that because this is a 30-year plan there would be little value in using a more precise model during those out years. Am I, am I summarizing your statement fairly?

A Essentially correct. My opinion is that the difference in the plans that we saw was not driven and could not be driven by production costing simply because we're dealing with the same type of units, virtually the same heat rates for all the units, all using the same fuel and the same fuel forecast.

So regardless of which production costing model tool that's used, the production costing is not going to make a difference, a significant difference in the results, especially when you consider that the FPL units are coming in with lower heat rates than their closest competitors in those plants.

Q In his testimony Mr. Silva said it's important to capture all costs, including indirect costs associated with the comparison. Do you recall that statement?

A Yes. I believe he made that statement.

Q And those indirect costs would include production

costs; is that correct?

A I'm sorry. Direct or indirect you said?

Q Yes. Directly or indirectly production costs are among those that were within his statement; is that correct?

A Oh, yes.

Q And those production costs include, include system fuel costs?

A Yes.

Q I only have one copy of your late-filed deposition exhibit. I want to hand it to you just for the purpose of asking the next question.

A I have a copy in front of me, if that will help.

CHAIRMAN JABER: Mr. McGlothlin, which one is that, please?

MR. McGLOTHLIN: It hasn't been identified to this point. It was referred to yesterday. This is styled as Late-Filed Exhibit SRS-1 to the deposition of Dr. Sim. And unfortunately I don't have additional copies, but I think I'm going to ask the witness simply to read several numbers that I think would frame the next question.

CHAIRMAN JABER: Okay.

MR. HARRIS: Madam Chairman, we had planned to pass that out as an exhibit for staff. If it would be helpful, we could pass it out now so everybody would have a copy.

CHAIRMAN JABER: No. I don't need that kind of help.

Thank you though.

Mr. McGlothlin, go ahead and show the witness.

BY MR. McGLOTHLIN:

Q Dr. Sim, I'll refer you to the late-filed exhibit, Page 2 of 4, if you have that available to you.

A Yes.

Q Column 7 shows -- it is captioned System Net Fuel In Millions, and that's displayed there for the years 2001 through 2030; is that correct?

A That's correct.

Q And that's the 30-year period of analysis that EGEAS examined; is that correct?

A Correct.

Q Looking at the years 2001 through 2010 and the entries for system net fuel in millions, is it correct that when one looks at the first ten years, in order of magnitude we're talking about $25 to $30 billion?

A Are you referring to a sum of those individual years?

Q I am.

A I haven't done the arithmetic, but you're talking of something over $2 billion each year for ten years. So, subject to check, 25 seems reasonable.

Q Okay. So within the first ten years of the 30-year period, according to EGEAS, EGEAS examining, is examining the impacts of proposals on $25 to $30 billion of fuel cost.

Now yesterday in the example you gave the difference between the two proposals, including capital costs and other components, excluding only the equity penalty, was $2 million; is that correct?

A I disagree with the beginning premise of your line of questions. I believe you stated that EGEAS is examining the production cost difference due to the proposals for the first ten years shown on this page and that equals $25 billion.

The proposals do not impact year 2001, 2002, 2003 and 2004 because they're not assumed to come on the system until 2005. So, therefore, those years are not impacted by the, by the outside proposals or by the FPL unit.

Q I accept your correction. So let's look at the years 2005 through 2015. Is it true that in 2015, that year alone, the fuel costs system wide are $3.4 billion?

A Yes.

Q So, if anything, because in future years the system fuel costs increase, that $25 billion figure is, is on the low side.

A Not in terms of net present value numbers.

Q All right. Well, let's just use the 25 -- is $25 billion still a fair representation of the first ten years of analysis then?

A For nominal, in nominal dollars, yes.

Q Okay. So as corrected it remains a fact that within

the first ten years of analysis EGEAS or whatever model you're looking at or whatever model you're using is examining the relative impacts of proposals on a $25 billion universe; correct?

A Yes.

Q Now how many combined cycle units does FPL have on its system?

A Roughly a half dozen.

Q And what is the operating range of each of those combined cycle units?

A Would you define "operating range," please?

Q Yes. The range within which -- above its minimum operating conditions and its maximum operating capacity.

A I, I don't know that information. Mr. Yaeger might be the more appropriate witness to ask that.

Q But in the real world, you agreed yesterday that the output of a combined cycle unit varies within the minimum/maximum conditions according to economic decisions on an hourly basis?

A Could you repeat the question, please?

Q Yes. I believe you agreed yesterday that in the real world the way the operator operates a physical system, a combined cycle unit, the output of a combined cycle unit varies over time depending on economic conditions.

A Yes. I think that's safe to say.

Q Whereas in the EGEAS modeling the maximum capacity of the combined cycle unit was either all in or all out; correct?

A That's correct.

Q And isn't it also true that in the real world on a daily or nightly basis operators examine whether to leave a combined cycle unit on or shut it down overnight based on the economic conditions at the time?

A That's true. But it's my understanding on the FPL system that the combined cycles operate essentially in a base load manner around the clock primarily.

Q But there may be conditions when it's economic to shut them down?

A Certainly there may be certain circumstances. But for the majority of the time those units are on.

Q And a production costing simulation model would examine these, these economic criteria on an hourly basis for each of the units for each of the years of the analysis; correct?

A Yes, it would do that.

Q Okay. My question is, given that within the first ten years the system fuel cost being impacted is $25 billion and given that in the example you gave yesterday the difference between the two proposals you looked at, excluding equity penalty, was only $2 million, would you agree that it isn't necessary to go 30 years before the size of the universe of

dollars being impacted warrants enough, enough precision to determine whether a more accurate model would indicate a swing of $2 million or more?

A No, I disagree with your question, the premise of your question. I think you're mixing net present value numbers and nominal numbers.

We talked about for ten years the total fuel cost on the system is $25 billion. What I said yesterday in my example was you would have to have a production cost difference of $250 million based on one, essentially the difference in one unit in each plan alone out of a production costing model.

And since you're starting the, the, this hypothetical analysis with another production costing model with the plan that already has a $250 million advantage and its unit has a lower heat rate, I don't see any way you're going to get a production costing model to make up that ground.

Q Yes. And by the $250 million, you are including the equity penalty; correct?

A Which is a real cost and which should be included.

Q And my question, understanding your position, but also understanding that the use of the equity penalty is in dispute in this case, the question is whether the $2 million differential would warrant a more refined modeling to determine whether the, on a more precise basis the difference remained?

A And in my opinion, no, it would not.

Q Dr. Sim, yesterday you said that you were not familiar with, with the characteristics or capabilities of POWERSYM. You also said that you haven't personally run EGEAS in something, in several years; is that correct?

A That's correct.

Q Who made the decision to use EGEAS and not something else?

A Is the question in regard to this RFP analysis?

Q Yes.

A Okay. I think it was a forgone conclusion to use the EGEAS model. It was not even considered once we had settled on the type of analysis plan that we were going to, to follow that EGEAS was, was or was not an appropriate model. It was the appropriate model because it's what we use for all of our resource planning decisions.

Q But somebody had to decide. Who was it? Was that your responsibility?

A If you want to put somebody's name in front of that responsibility, I'll gladly accept it, yes.

Q Who did the actual modeling?

A The actual modeling was done by one of my co-workers.

Q Who is?

A Daisy Iglesias.

Q May I have a moment in place?

I have several questions on Exhibit 9 that I believe

are within your responsibility. One of the entries there is for higher transmission integration costs at $24 million. And that was also referenced in your late-filed exhibit, was it not?

A That's correct. Mr. McGlothlin, I don't have a copy of Exhibit 9. If you would be kind enough.

MR. McGLOTHLIN: Counsel, do you have one?

MR. GUYTON: Yes, I do.

MR. McGLOTHLIN: Thank you.

THE WITNESS: Thank you.

BY MR. McGLOTHLIN:

Q Do you have that in front of you now?

A Yes, sir.

Q I'm referring to the higher transmission integration cost line entry item of $24 million. As I understand it, the rationale for including $24 million here is that because of constraints in moving power from the west to the east.

If Manatee is built -- well, let's back up.

Relative to each other, Manatee is west of Martin; is that correct?

A Yes. Manatee is west of Martin.

Q If Manatee is built prior to the in-service date of Martin, that has an impact on the ability of the system to transport power west to east such that upgrades are called for that would cost $24 million; is that correct?

A Commissioners, I'm not a transmission planner. Mr. Stillwagon is the one who developed this, this estimate, and he would probably be the more appropriate witness.

My extremely limited knowledge of this is that to build one of the units without the other, one on the west coast and nothing balancing it on the east coast, does result in an imbalance and, therefore, transmission expenditure are needed in order to upgrade the system. But that's the extent of my knowledge on this.

Q Well, that may serve the purpose for the questions I have.

Do I understand correctly that if Manatee and Martin come on-line in the same year, the impact of Martin on the system is such that that $24 million is an unnecessary expenditure?

A I think, I think the answer is yes, with, again, my fairly limited understanding of I've seen transmission integration cost calculations where both units are in there and it, they're $24 million less than if you just build the one unit.

Q Less than if you build Manatee alone?

A Than if you build Manatee alone and wait a year before you build a comparable amount of capacity comparable to Martin on the east coast.

Q I think we're saying the same thing. As I understand

it, if, if the east side of the equation is balanced in some manner such as the addition of Martin 6, then that has the effect of offsetting the, the impact of the west coast addition such that this $24 million is not necessary to be spent; is that correct?

A If I understand your question correctly, if you have an imbalance as was depicted in this example, the cost is $24 million higher for integration. Yes.

Q Now one of the scenarios we've discussed is the possibility of building Manatee in 2005 and Martin in 2006; is that right?

A I think the issue has come up. It was never a plan that was considered until we received a request for a late-filed exhibit from the staff.

Q Fair enough. But that's the scenario of your late-filed deposition exhibit. It's also the scenario of Exhibit 9; correct?

A I don't believe so. I believe Exhibit 9 is talking about not a delay of one year in the Martin Unit but a plan in which the Martin Unit is simply not built. That's my understanding of Exhibit 9. I didn't create Exhibit 9.

CHAIRMAN JABER: Did you say Mr. Stillwagon created Exhibit 9?

THE WITNESS: No. I believe Mr. Silva created Exhibit 9.

CHAIRMAN JABER: Silva?

THE WITNESS: Yes.

CHAIRMAN JABER: And what was it -- I could have sworn you said that Mr. Stillwagon developed something on this exhibit; right? Was it just --

THE WITNESS: The $24 million transmission integration cost estimate, Madam Chairman.

CHAIRMAN JABER: Thank you.

BY MR. McGLOTHLIN:

Q And the $24 million was included by you in your late-filed deposition exhibit as a component of that calculation, was it not?

A That's correct.

Q Assume that Manatee 3 comes on-line in 2005 and that Martin 8 comes on-line in 2006. At that point has the balance that offsets the need for transmission upgrades been achieved such that there's no longer the inability to transport power within the system?

A I'm sorry. Can you repeat, please?

Q All right. Let me rephrase.

I believe we established, as far as you understand it, that if both Manatee 3 and Martin, Martin 8 are on-line, Martin 8 has the, has the effect of obviating the need for the transmission grades in the amount of $24 million; correct?

A If they're built in the same year.

Q All right. If Martin 8 comes on one year later, it would have that same impact on the system, would it not?

A In terms of dollars, there's a $24 million net present value difference between the, between those two plans. But I can't state that the situation is analogous because in 2006 other things are happening. It's not simply -- going back to your first case where you build Martin and Manatee in the same year, if you take the Martin Unit out, you've got an imbalance. In 2006, the, all the other underlying assumptions as to what's happening throughout the system will have changed. So I'm not sure you can tie back any particular impact to simply the Martin Unit in that, in that year.

Q What else would have changed in one year that would --

A I don't know. I don't -- I'm not familiar with the transmission planning database. Mr. Stillwagon, I'm sure, could tell you.

Q All right. I'll pose that question to him.

But as far as you know, the addition of Martin 8 renders unnecessary this transmission integration cost of $24 million?

A That's my understanding, yes.

Q And you don't know if Martin 8 comes on a year later there are other things going on that would make that answer different?

A I don't know what's happening in the database in 2006 in your example.

Q All right.

A In your hypothetical example.

Q Assume for the moment that all, holding everything else equal, you've got Martin 8 coming on in 2005 in one scenario, Martin 8 coming on in 2006 in the other scenario, and all other things being equal, Martin 8 would have the impact of rendering unnecessary this transmission upgrade; correct?

MR. GUYTON: Objection. I think you just asked him to assume a hypothetical and then asked him if it was correct. And I don't know how -- I object to the form of the question. I don't know how the witness can answer -- I think he can say he accepts the hypothetical, but I don't know that he can say that it's correct.

CHAIRMAN JABER: Mr. McGlothlin, do you want to just turn it into two questions?

BY MR. McGLOTHLIN:

Q First, I'll ask you to accept the hypothetical that we're holding other things constant. And holding other things constant, as you understand it, would the addition of Martin 8 in 2006 have the effect of obviating the need for the transmission upgrades necessary to transport power west to east?

A It would certainly better balance the system as

opposed to not building Martin at all.

Q And under my assumptions, would obviate the need for the $24 million upgrade?

A Not if you faced transmission problems for the intervening year which are requiring you to build the $24 million worth of upgrades.

Q Yes, sir. And that wasn't --

A Your -- you seem to be, in your question, jumping, skipping that year and ignoring any impact on the system that might incur in that one year.

Q Okay. But if Martin 8 has that effect, then we're talking about a one-year transmission constraint problem, are we not?

A Essentially, yes.

Q And is it possible that if we're looking at this as a one-year problem as opposed to a permanent problem, there may be ways to accommodate that that cost less than $24 million?

A There may be. But in the form of the analysis that Mr. Stillwagon carried out there clearly was not a less expensive way to do it. I'm sure he conducted his analyses keeping consistent assumptions and consistent constraints in the analysis. And by not building the unit in 2005, the cost that jumped up was $24 million.

COMMISSIONER DEASON: Let me ask a question at this point.

If you did not have the transmission integration upgrade or whatever terminology you want to use, would that affect the dispatchability of the one unit that was built in 2005?

THE WITNESS: It's possible, Commissioner. I don't know exactly what problem cropped up in Mr. Stillwagon's analyses, the nature of that problem that drove them to say you need this upgrade and it's going to cost $24 million. I don't know if it would impact the dispatch of the unit or not because I don't know the nature of the problem.

COMMISSIONER DEASON: Would Mr. Stillwagon, would Mr. Stillwagon know that or --

THE WITNESS: Yes, sir, I believe he would.

CHAIRMAN JABER: Mr. McGlothlin, if you're asking a lot of these questions because of the outstanding objection related to Exhibit 9, let me tell you that I've decided not to rule on the admission of Exhibit 9 until after Mr. Stillwagon testifies.

MR. McGLOTHLIN: Thank you.

CHAIRMAN JABER: So in an effort to move this along.

MR. McGLOTHLIN: All right. I'm about to change subjects.

BY MR. McGLOTHLIN:

Q Yesterday, Dr. Sim, in response to one of my questions you made the observation, absent constraints, your,

your, the answer is yes. And you elaborated to me that by constraints, you meant such things as environmental conditions or limitations as well as transmission constraints. Do you recall that question and answer?

A Yes.

Q And this entry for $24 million of integration costs is an example of a transmission constraint, is it not?

A It's an example of a transmission cost.

Q A transmission cost designed to overcome or deal with a constraint that would otherwise be in place?

A I think you're using constraint in a different, in a different manner than I was understanding your question yesterday.

Q Well, we've discussed the fact that there are problems in moving power west to east because of limitations of the transmission system. Isn't that an example of a constraint?

A I don't know if it's a constraint or if it's a problem. It may be a constraint only in certain limited circumstances. But, again, since I didn't do the transmission planning calculation, I don't know what problems cropped up that caused them to calculate that an upgrade was needed.

Again, Mr. Stillwagon is the appropriate witness to ask that type of question to, I believe.

Q Yes, sir. But you and the people who work for you

had the job of modeling the system in conducting the evaluations of proposals, and you said yesterday that it's important to take constraints into account.

Now assuming that -- looking at the scenario in which both Manatee 3 and Martin 8 come on-line in 2005, there will be times when Martin 8 is down for maintenance or for other reasons; correct?

A All units have to come down for maintenance eventually, yes.

Q And when Martin 8 is down, it no longer has this balancing effect that, that has, takes care of this transmission upgrade requirement; correct?

A I'm sorry. Repeat again, please.

Q Yes. When Martin 8 is down for whatever reason, it is no longer having this balancing effect that offsets the need for transmission upgrades.

A I'm not sure I can agree with you because I don't, again, I don't know what condition, what or how often the condition would exist that would cause this imbalance, as you call it, to create the need for this transmission upgrade. Is this something that, that we see a problem with a great number of hours during the year or does it only occur on a certain small set of circumstances or small number of hours? In which case if you take a unit down and the vast majority of the time that would not create a problem, then I don't, I don't agree

with your premise.

Q Okay. Well, if it occurs only in a small number of hours and is no big deal, would you spend $24 million to take care of it?

A Again, that would depend upon the set of assumptions and the set of consistent constraints that were put in when they did the transmission integration cost. I'm sure they tried to evaluate for all of the expansion plans a calculation that would be as consistent as possible across all of them.

Q For purposes of modeling the system, you did not incorporate anything in the EGEAS models to take into account this limitation on moving power west to east that led Mr. Stillwagon to conclude the need for a $24 million upgrade?

A The EGEAS calculation did not include that sort of calculation, that's correct, because the transmission integration cost calculation was supposed to address such concerns.

Q Would you repeat that last statement?

A Because the transmission integration cost calculations were supposed to address each of the calculations in a consistent manner.

Q Well, again, the scenario we're looking at is Manatee 3 and Martin 8 in service in the same year. And in that scenario, the transmission integration situation was that no upgrades would be necessary; correct?

A No, I don't believe that's correct. There were transmission integration costs that were calculated for the Martin and Manatee in 2005 plan.

Q Okay. This particular $24 million expenditure was not included in that scenario.

A That's correct.

Q So whenever Martin 8 is down, the limitation exists.

A I can't agree with that.

Q Because you don't know?

A Because I don't know.

Q Okay. In any event, you didn't model any constraint.

A We didn't model any transmission constraints.

Q In your last answer was, were you saying that you did not model transmission constraints in general?

A That's correct.

Q Now one of the entries on Exhibit 9 is for lower capital and O&M costs for five months due to the revenue sharing rate settlement, $20.1 million. To whom should I talk about that?

A I'm afraid he's come and gone. Mr. Silva was the one who put this exhibit together.

CHAIRMAN JABER: But did Mr. Silva actually make that calculation? Do you know?

THE WITNESS: I don't know for certain.

CHAIRMAN JABER: Mr. Guyton, can you answer that

question? Because during Mr. Silva's testimony I thought some of the calculations he referred to other folks. Do you recall who calculated the $20.1 million amount?

MR. GUYTON: My notes on that, Commissioner, don't address that particular line item. I have notes for Mr. Stillwagon for the $24 million, and the $55 million was taken from Dr. Sim's late-filed exhibit, as was the $16 million. I simply don't have a note --

CHAIRMAN JABER: Maybe you can find out during the next break.

MR. GUYTON: Yes.

CHAIRMAN JABER: Thank you.

MR. McGLOTHLIN: Since this proposed exhibit refers to the revenue sharing rate settlement, Counsel, do you object to the Commission taking official recognition of the order that implemented that stipulation?

MR. GUYTON: I'm sorry, Joe. I was making a point and I didn't hear the first part.

Are you asking if we have an objection to the Commission taking official recognition of the rate settlement agreement?

MR. McGLOTHLIN: Correct.

MR. GUYTON: No.

MR. McGLOTHLIN: I'd ask the Commission to take official recognition of that order, which is Order

PSC-020501-AS-EI, April 11th, 2002.

CHAIRMAN JABER: It's granted.

BY MR. McGLOTHLIN:

Q Dr. Sim, I'm going to first read a paragraph from that rate settlement order and then ask a question to be answered, if you know.

This is paragraph eight of the rate settlement order. "If FPL's retail base rate earnings fall below a ten percent return on equity as reported on an FPSC adjusted or pro forma basis on an FPL monthly earning surveillance report during the term of this stipulation and settlement, FPL may petition the FPSC to amend its base rates, notwithstanding the provisions of Section V. Parties to this stipulation and settlement are not precluded from participating in such proceeding. This stipulation and settlement shall terminate upon the effective date of any final order issued in such proceeding that changes FPL's base rates.?

Dr. Sim, if you know, does this $20.1 million line entry alter in any way the ability of FPL to seek to increase its base rates if its return on equity falls below ten percent?

A I have no idea.

Q One of the line items is $16 million called the added cost of building Manatee 3 alone compared to the FPL plan.

Did you prepare that analysis?

A It was part of our EGEAS analysis, yes.

Q Well, part of your EGEAS analysis. Does that mean it was simply plugged in or did you develop the $16 million figure?

A The, the origin of the $16 million value, Commissioners, was originally provided to us by our Power Generation Division. We asked them is there a cost of building simply one of the two units, the Martin and Manatee units, because we had posted the cost in the supplemental RFP for building both units.

We then asked them, since some of the plans we are coming up with are selecting one of the units, either Manatee or Martin, and pairing them with outside proposals, is there an additional cost of building only one of the units? In other words, there may be shared savings between building both of the units and those shared savings would go away.

They provided us a, a cost of approximately 14 to -- $14 million for building one of the units, $15 million for building the other unit. We adjusted it for AFUDC and revenue requirements and came up with $16 million in case the Martin Unit is not built. It adds $16 million of cost for the Manatee Unit for forgone cost sharing or cost savings. So that's the, the genesis of that number.

Q So other than the AFUDC calculation, the results of your request were simply provided to you by another department?

A That's correct. The same department that provided us

the original cost for building Martin and Manatee together.

Q Is that analysis anywhere in the company's case in chief?

A The analysis of the original estimate that was provided to us for the extra cost of building only one unit?

Q Yes.

A I haven't seen every document that every department in the company has provided, so I'm afraid I can't answer that question.

Q How far apart are the Manatee and Martin sites?

A Are you talking geographically?

Q Yes.

A I don't know. Ballpark, 100, 200 miles maybe.

Q Do you know what was assumed by the persons who developed this figure in terms of whether one company or two would be doing the work, one crew or two would be doing the work? What were the assumptions?

A I don't know the answer to that question. Mr. Yeager would be the appropriate witness for that.

Q All right. You were involved in the, in the first or original RFP process?

A Yes. What we've been calling the initial RFP. I was involved.

Q Whose decision was it to go forward with the supplemental RFP?

A I don't know there was any one individual that decided. I was simply told we're, we're going to have this fun all over again. But I'm not sure who at the company decided definitively that we would proceed that way.

Q Well, whose, whose responsibility would it have been either to make the decision or to approve the decision?

A Upper management would have, would have certainly made that decision.

Q Is that Mr. Evanson or someone else?

A I would imagine it would have been Mr. Evanson, probably after consulting with a number of, of his peers in upper management at FPL.

Q If, if FPL encountered a situation where it could not meet its firm customers' requirements with its own generation, would FPL attempt to purchase power so that the firm customer continues to receive service?

A I believe this is a question you asked me in deposition, and I had trouble then trying to grasp the, I guess, the circumstances of the question.

Are you talking about a one-time only one hour interruption, are you talking about a repeated series of interruptions over an extended time? If you could help me there, perhaps I can answer your question.

Q Let's take them one at a time. Let's say there's a short-term problem that absent some other action would prevent

FPL from serving its firm customers. Would FPL undertake to purchase power outside its own resources to keep service to the firm customer?

A This is assuming we've dispatched all of the load management, load control that's available on our system?

Q That's correct.

A I would assume at that point if there were short-term purchases to be made on the market, we would attempt to purchase them rather than interrupt firm customers.

MR. McGLOTHLIN: I have no further questions.

CHAIRMAN JABER: Thank you, Mr. McGlothlin.

MR. PERRY: No questions, Madam Chairman.

CHAIRMAN JABER: Thank you. Mr. Twomey?

MR. TWOMEY: Yes, ma'am. Thank you.

CROSS EXAMINATION

BY MR. TWOMEY:

Q Good morning, Dr. Sim.

A Good morning.

Q Now as I understand it from your attorney's opening statement and from Mr. Silva's testimony, Florida Power & Light thinks it highly important that it fully comply with the 20 percent reserve margin stipulation that was accepted by the Commission; is that correct?

A That's correct.

Q Okay. The current projected reserve margin for the

summer peak of 2005 is some 19.92 or 19.94 percent; is that correct?

A No, I don't believe that's correct. The, the correct percentage is over 20 percent with the assumption that the most cost-effective plan is implemented, which is Martin and Manatee in 2005.

Q I'm sorry, the -- what I meant to say was isn't it correct that the, if you assume the construction and operation of the Manatee Units, that the reserve margin Summer 2005 will be somewhere in the order of 19.9 something percent?

A Of building Manatee only without the Martin?

Q Only Manatee. Yes, sir.

A Yes. I believe the reserve margin would drop to 19.91 or 92.

Q Okay. Can we use 19.92?

A Close enough.

Q Okay. Because we are dealing in hundredths of percentage points; right?

A We're dealing in hundredths of percentage points which are below the reliability criterion of 20.0. That's correct.

Q Let me ask you there, would you concede that the, the, that reliability criteria, if you want to call it that, has virtually no consequential bearing on your ability to meet your load at that time?

A I would say from a strict operational standpoint 15 megawatts is highly unlikely to cause us to not be able to serve load.

Q Right. Because your, your -- isn't it correct that your current reserve margin is on the order of, of 15 percent?

A No. It's higher than that. It's closer to 20 percent.

Q Currently it's 20 percent?

A Yes. In fact, I think it's over 20 percent.

Q Historical its been as low as 15 percent or lower; is that not correct?

A We have traditionally over the last decade or so built to a 15-percent reserve margin. But once we entered into the stipulation with the Commission for 20.0 percent we have endeavored to achieve ahead of time the 20.0 percent.

Q Yes, sir. But you've managed historically, have you not, to meet your load when you built to 15 percent?

A We have done the best job we could possibly do, yes.

CHAIRMAN JABER: Mr. -- Dr. Sim.

THE WITNESS: Yes.

CHAIRMAN JABER: Yes or no answers, please.

THE WITNESS: Yes, Madam Chairman.

CHAIRMAN JABER: Mr. Twomey, ask your question again.

BY MR. TWOMEY:

Q So would the last question, answer be yes?

A Yes.

Q Okay. Thank you. Now -- so the -- as I understand it, the shortfall necessary to reach 20.00 percent, assuming the operation of the 1,107-megawatt Manatee Unit at June 1st, 2005, is 15 megawatts; correct?

A Yes.

MR. GUYTON: Asked and answered.

BY MR. TWOMEY:

Q The -- would you refer to your Exhibit SRS-1, please?

A In the direct testimony?

Q Yes, sir. Okay. This depicts, does it not, your projection of FPL's summer and winter peak demands for the years 2005 and 2006 without any capacity additions in those years? Isn't that what the title says?

A It's a projection not of our peaks but of our capacity needs, yes.

Q I'm sorry. Okay. As I understand your system, Dr. Sim, your capacity, your peak capacity needs are driven by peak demand, not your LOLP; is that correct?

A Well, they are related. In terms of what's shown on this page, reserve margin, what drives it is our peak demand minus our DSM megawatt amount for that season. In this case we have summer and winter.

Q Yes, sir.

A So it would be our peak demand for, peak demand

forecast for summer minus the projected load management and conservation impacts to give you a net firm peak.

Q Yes, sir. But more specifically isn't it, isn't it the summer peak that drives your capacity needs, not the winter peak?

A Currently that is correct.

Q Okay. Now the -- on SRS-1 then, it is at the top part of the exhibit for 2005, that line that shows the development of what your reserve margin will be for the summer absent the, the addition of any new capacity in those years, right, and that's the 14.1 percent; right?

A Yes.

Q At Column 8. And then the calculation at Column 9 shows that you need 1,122 megawatts to reach 20.0 percent; correct?

A That's correct.

Q Okay. Now that number -- those two numbers in turn are dependent upon all the, all the numbers in the columns to the left; correct?

A Yes. It's a calculation that's depending upon the numbers that came before it.

Q Right. Now if you'll look at Column 3 for the year 2005, the column that's titled Projection Of Total Capacity In Megawatts. Do you see that?

A Yes, sir.

Q Okay. Is that, if you know, is that based upon the name plate ratings of the units available to you, whether native or third party, or is it some type of a net demonstrated performance rating?

A It's the projected peak output of each unit.

Q Okay. So that, that, in a sense, is, is a factual number as opposed to being projection?

A No. It is a projection because we are projecting for the capability of our units on that line for 2005. We don't know for certain in 2005 whether it'll be higher than that, whether it'll be lower, whether it'll be right on the money. It is a projection.

Q Okay. So if it was -- if it turned out to be higher, then the number of megawatts you needed to reach 20.0 would be less; is that correct?

A Assuming nothing else in that calculation changed, that would be correct. However, if the peak load forecast were higher or the DSM forecast were lower, you might need more megawatts.

Q Okay. Now the next column, 4, peak load forecast, 20,719 megawatts; correct?

A Yes.

Q Okay. Now then you subtract from that Column 5, which is your demand side management; right?

A Yes.

Q Okay. Which gives you what you -- Column 6.

The peak load forecast in Column 4, Dr. Sim, is a projection, is it not?

A Yes. The forecast is a projection.

Q Okay. Do you have a copy -- do you have the volume to the Need Study that has Appendices E through J?

A Not with me, no.

MR. TWOMEY: Could you supply that, Counsel? And actually you'll need -- I'd like to ask him to look later at the volume, at the preceding volume that has Appendices A through D.

BY MR. TWOMEY:

Q If you'd turn to Page E-44, Dr. Sim.

A Yes, sir.

Q Okay. The -- we find, do we not, the 20,719 megawatts from Column 4 of your SRS exhibit in Column 2 at the line for 2005; is that correct?

A On Page E-44, yes.

Q Okay. Now I've got a question -- and, again, that is a forecast and it's a forecast that is arrived at by using certain modeling techniques that you described earlier, that are described earlier in, in the, this same document, is that correct, an econometric type --

A In the Need, in the Need Study document, yes, that is discussed.

Q Okay. Now on that page, E-44, I have a question. When you go down to the last note, it says projected values 2002 to 2011, do you see that?

A Oh, the footnote at the bottom.

Q Yes, sir. The projected values 2002 to 2011. The, the first sentence says, "Columns 2 and 4 represent FPL's forecasted peak without incremental conservation or cumulative load control." What does that mean?

A It means the forecast is developed without incorporating the impact of any future conservation measures we may put on the system or without implementing any load control capability we have.

Q Okay. If you were to implement load control in any of those years, if it were required, that would have the effect of, of reducing the number in those columns; is that correct?

A I'm sorry. It would reduce the numbers in which columns?

Q The Columns 2 and 4 which it refers to.

A No, not as I understand your question. Because the intent of Column 2 is to create a forecast that is completely independent of any incremental conservation or the implementation of load control.

We take the load control and conservation into account by not creating Column 2, but in creating Column 10, the net firm demand.

Q Yes, sir. But the -- okay. So if I understand you correctly then, Column 10 on Page E-44 is comparable to, would it be Column 6 on your SRS-1; is that right?

A Yes, sir.

Q Okay. Thank you. Now is it, is it true generally, Dr. Sim, that the forecasting of future demands on your system is an art as well as a science of sorts?

A I'm having a hard time at the moment considering Dr. Green as an artist, but perhaps he would, he would view it that way.

Yes. I'm sure it, there is certainly judgment involved in, in forecasting.

Q Yes, sir. And I guess more specifically or pertinently, it's not, it's an art in the sense that it's not an exact science. You don't always get it right, do you?

A That's correct.

Q In fact, it would be -- isn't it true that it would be rare that you would ever get it right exactly?

A On a forecast for peak demand, I would agree.

Q Okay. Now in that regard, would you turn to Page D-44 of the volume having Appendices A through D?

A I'm sorry. D?

Q D-45. It's about this far through.

A I have it.

Q Now your, your -- I had asked Mr. Silva yesterday if

FPL reviewed the worth or the accuracy of his prior projections as, as actual data became available, and I think he said something to the effect that probably you did, but I think he said you would be the correct witness to ask. Does the company do that?

A Yes. I have seen those calculations, but they're performed by Dr. Green.

Q Dr. Green?

A Yes, sir.

Q Okay. Well, let me, let me ask you this. I'll ask Dr. Green that question or try and remember to.

The -- look at the -- on Page D-45, that is the, the comparable page to E-44, but from the previous year's ten-year site plan, is it not?

A Yes.

Q Okay. Now look at, look at Column 2 for the year 2005, Dr. Sim. The number is 2,433; right?

A 20,433.

Q You're right. That's what I meant to say, 20,433. So if my, if my math is correct, the difference is 86 megawatts; right? Did I get it right?

No. I'm sorry. It's what? It's -- I only did the last two.

A Roughly 300 megawatts.

Q I'm sorry. 286. Okay.

Now, so from the 2001 ten-year site plan where you calculated or somebody, FPL calculated that your peak summer demand, the demand that I think has been indicated that drives your generation capacity requirements, increased by almost 300 megawatts when that same calculation was made in the 2002 site year plan; correct?

A That's correct.

Q Okay. Now do you have a calculator?

A No, sir.

MR. TWOMEY: May I give him this calculator?

CHAIRMAN JABER: Counsel, if you don't have any objection.

MR. GUYTON: Yes.

BY MR. TWOMEY:

Q Dr. Sim, I'd like to ask you to go back to your Exhibit SRS-1 and do the necessary calculation to get the answer for summer peak 2005 in Column 9 if you substitute the peak load forecast the company had in its 2001 site year plan versus the 20,719 you used.

A In other words, simply changing the calculation, the projection of peak load?

Q Yes, sir. That is substitute for 20,719 in Column 4 of SRS-1, insert 20,433.

MR. GUYTON: I'd object as to there hasn't been a proper predicate laid as to whether that's an appropriate

calculation to be made.

CHAIRMAN JABER: Mr. Twomey, your response.

MR. TWOMEY: I'm not sure that there needs to be any predicate that this is the proper calculation. I'm merely asking him to insert one number versus another and do the math. And the result will be, whatever it turns out as, will be a different number in terms of the capacity requirements needed to meet the 20.0 reserve margin.

CHAIRMAN JABER: How about you establish -- because, frankly, I think you do need the predicate -- how about you establish that that calculation does result in a different number for the capacity requirement.

MR. TWOMEY: Okay, Madam Chairman. I'll do that.

CHAIRMAN JABER: Okay. Thank you.

BY MR. TWOMEY:

Q Dr. Sim, would that, in fact, changing that one number, result in Column 9 being different?

A Yes. It would lower it by approximately 300 megawatts.

Q It would lower -- did you do the calculation?

A No. I know that if the peak load forecast drops by 300, the megawatts needed to meet reserve margin, absent any other changes, is also going to drop by 300 megawatts roughly.

Q Okay. Now -- and then if that were, if that were the, if that were the case now just hypothetically, then you

wouldn't be, FPL wouldn't be 15-megawatts short. You would be some 285 or whatever to the plus side of meeting 20.0 percent, is that correct, if that were, if that were the case?

A That was -- the answer is yes. If the load forecast was lower than it was by 300 megawatts, we would not be facing a 15-megawatt shortfall if we were to build only the Manatee Unit in 2005.

Q Okay. Now is Dr. Green the, the correct witness to ask what happened in the modeling techniques between preparation of the 2001 site plan, ten-year site plan and the 2002 site plan to make this difference, the increase in the forecasted peak for 2005?

A Yes, sir. He would be the appropriate witness.

Q Okay. I'll wait and ask him.

Mr. McGlothlin had asked you a number of questions about the, the EGEAS model. And I know Ms. Iglesias is here. I just wanted to ask you, if you know, as between the two of you which of you is the more proficient or knowledgeable about the functions of that modeling technique?

A Certainly Ms. Iglesias.

Q Okay. I also wanted to ask -- Mr. Moyle, I think, asked both you and Mr. Silva a question about what officers would know about a settlement, if any, between the unnamed bidder, and I'd like to ask it to you just a little bit differently. And that is if there were such a settlement with

the unnamed bidder, would, would your company's CEO, Mr. Evanson, be aware of that settlement?

MR. GUYTON: Objection to -- the same standing objection as to the inquiry about a settlement at all. But in addition, this calls for speculation on the part of the witness.

CHAIRMAN JABER: Mr. Twomey.

MR. TWOMEY: Well, I'm not -- I don't know that -- I don't know how speculative that is. It seems, it seems to me that, that the CEO of a major corporation like this would be in on such a decision and that Dr. Sim would be aware of whether or not. If he doesn't know, he can certainly say so.

CHAIRMAN JABER: I'll allow the question.

THE WITNESS: Would you repeat the question, please?

BY MR. TWOMEY:

Q Yes, sir. If there, there was a discussion about a possible settlement between FPL and the, the unnamed or undisclosed bidder, I guess the thought was that it would have them not participating in this docket any longer, if there were such a settlement, wouldn't it be true that your CEO, Mr. Evanson, would be aware of it?

A Our president Mr. Evanson?

Q I'm sorry. Your president.

A If there were a settlement, I don't know whether he would be aware of it. I don't know if the details of this

agreement, if it exists, would be significant enough to have been brought to his attention.

Q Okay. Fair enough, Dr. Sim. Thank you. That's all I have.

A Thank you.

CHAIRMAN JABER: Staff?

MR. HARRIS: Thank you. Dr. Sim, we're going to start by passing out two separate documents, and I would ask that they be marked for identification as hearing exhibits.

The first will be a document that's described as deposition of Steve Sim, late-filed deposition exhibit. The second is a composite exhibit of FPL's response to staff's second set of interrogatories, numbers 5, 6, 7 and 35.

CHAIRMAN JABER: Tell me one more time.

MR. HARRIS: The first is the deposition of Mr. Sim, late-filed deposition exhibit.

CHAIRMAN JABER: Hearing Exhibit 16 will be identified as Dr. Sim's deposition transcript.

MR. HARRIS: I'm sorry. It's not a transcript.

CHAIRMAN JABER: Oh, I see. It's Late-Filed Deposition Exhibit SRS-1.

(Exhibit 16 marked for identification.)

MR. HARRIS: And the second is a composite which is FPL's response to staff's second set of interrogatories numbers 5, 6, 7 and 35.

CHAIRMAN JABER: Hearing Exhibit 17 is identified as FPL's response to staff's second set of interrogatories, 5, 6, 7 and 35.

MR. HARRIS: Thank you.

(Exhibit 17 marked for identification.)

CROSS EXAMINATION

BY MR. HARRIS:

Q Dr. Sim, if I could start with what's been marked as Exhibit Number 16, which is your late-filed exhibit. Do you have a copy of that in front of you?

A Yes.

Q My specific questions involve the relationship between that exhibit and Exhibit 9, which I believe was marked yesterday by Mr. Silva. Do you have a copy of that in front of you?

A Yes.

Q You were asked some questions about that a little bit earlier by counsel.

My first question is does the Exhibit 9 affect in any way your Late-Filed Deposition Exhibit Number SRS-1?

A Does it affect?

Q Does it change the numbers in any way?

A No. I believe the exhibits are designed to look at two different situations.

Q Could you explain that for me?

A Yes. The late-filed exhibit that staff requested was intended to look at what would happen if we were to ignore the 20 percent reserve margin and build Manatee only in 2005 and move the Martin Unit into 2006.

My understanding of Exhibit 9 is that it looks at what happens if you build the Manatee Unit in 2005 and simply do not build the Martin Unit.

CHAIRMAN JABER: At all?

THE WITNESS: Correct. That's my understanding.

BY MR. HARRIS:

Q On Exhibit 9 there's a figure of $16 million, and I believe that refers to a notation "added cost of building Manatee Unit 3 alone compared to FPL plan." When I look at that number but compare it to your late-filed exhibit, I believe I come up with a number of $18 million; is that correct?

A Can you point me to the $18 million, please?

Q I think it's on Page 4 of 4, Column 14, bottom entry.

A In Column 14 you're referring to the bottom right number?

Q That's correct.

A Okay. All right. Those are not comparable numbers.

Q Why not?

A Because they represent different things. Let me try to explain.

The $18 million on Page 4 of 4 of the late-filed exhibit represents the total net present value cost of shifting a unit one year; in this case the Martin Unit.

The -- on Exhibit 9 the $16 million number represents the additional costs for construction of the, of one unit, if you did not build the second unit. We're talking a shift of a year versus not building and costs that are then incurred by the unit that is built.

Q With that understanding, I see that Column 11 on Page 4 of 4 is marked "Adjustment for one FPL unit only (millions)," and that column contains a number of zeros. Shouldn't that change, that $16 million you referred to on Exhibit 9, be in that column somewhere?

A No. I don't believe so. The assumption we used throughout all of our analyses is that if you simply deferred a unit one year, there would be no additional cost as long as it was built. But if you did build only one unit, the shared cost savings between the, the two plants would disappear and additional costs would have to be picked up by the one unit that was built.

Q So would I be correct in assuming then that at the bottom of Exhibit 9, the last entry, "Future construction if subsequently Martin Unit Number 8 is built, its cost will be at least $15 million greater when built alone (compared to the FPL plan)," that's what's intended to be captured on your

late-filed exhibit?

A That's correct. It was never intended to be captured because that's not the assumption we used throughout the RFP analyses. And I understood the, the request for a late-filed exhibit to perform the calculation identical to the way that we had performed all of the other RFP analyses.

CHAIRMAN JABER: Then that begs the question, why was Exhibit 9 put together? As I understood the cross-examination yesterday, Exhibit 9 was put together because of the company's desire to respond to staff's request at a deposition for a late-filed exhibit.

THE WITNESS: Madam Chairman, I'm not exactly sure why Exhibit 9 was put together. I was asked to review some numbers in there and did so. However, my understanding is the document that, that is termed the late-filed exhibit is what FPL responded to in the request for the late-filed exhibit.

I believe Exhibit 9 was created for other purposes, but I did not have a hand in creating it. So I'm not exactly sure what purpose it was designed for.

CHAIRMAN JABER: Thank you.

MR. HARRIS: Thank you.

BY MR. HARRIS:

Q So would it be correct to say then that there is no change to the late-filed exhibit you provided and which has been marked as Exhibit Number 16?

A I would not change it. That's correct.

Q Thank you. I wanted to ask you a question about the TECO reserve margin that you referred to yesterday in your testimony, I believe.

Do you recall being asked some questions about the proposals that included a power purchase from TECO being of concern to Florida Power & Light due to the reserve margin of TECO falling below a certain percentage?

A I don't believe I was asked that, but I do recall that Mr. Silva was asked about it.

Q Could you, if you know the answer, explain to me why Florida Power & Light was concerned about TECO's reserve margin?

A I would characterize it as it was a check we did for both Florida Power Corporation and for TECO to see if they, if it appeared that they actually had the amount of megawatts they were offering to us based on their ten-year site plans.

Q But if TECO represented to you that they can meet their contractual obligation to provide you with power, isn't it incumbent on TECO to ensure that they can do that as opposed to you all ensuring that they can do that?

A Yes, it certainly would be. And if we had short listed them and gotten into additional negotiations, I'm certain that would have been a question that would have been asked of them.

Q Do you know if anyone from Florida Power & Light called anyone at TECO to discuss that reserve margin issue?

A To my knowledge, no.

Q Do you know why that was?

A Simply because at that, at the time we would have called them -- well, let me back up.

There would have been two times we could have called them or have otherwise contacted them. One of those was initially in the first couple of days after we got the proposals in I contacted every one of the outside bidders for information that was either confusing or appeared to be missing on their forms. This issue was not raised at that time.

When the question arose later in regard to both Power Corp and to TECO, we did the calculation with the understanding, at least on my part, that if they made it into initial negotiations, this would be a question we would ask them.

Q Am I correct in my understanding that TECO was not placed on the short list because of that reserve margin deficiency?

A I don't believe that is what Mr. Silva stated yesterday and that's not my understanding.

Q What is your understanding?

A That they were in an expansion plan that was not the most competitive, and the plans that they appeared in, they

were paired with a bid from a bidder's name we're not mentioning here who had, there were financial questions about them.

But primarily the TECO proposals were in expansion plans that were not the most competitive as El Paso and Power Corp's were.

Q I think there's been some significant discussion about the 15-megawatt shortfall in Power & Light's reserve margin for 2005, and I won't belabor that point. But I wanted to ask you, I understand that the 20.0 is a hard target for Florida Power & Light; is that correct?

A Yes.

Q Would it be your testimony that the Commission is not bound by the 20.0 for 2005?

MR. GUYTON: Objection to the extent that it calls for a legal conclusion on the part of the witness.

CHAIRMAN JABER: Staff, your response?

MR. HARRIS: I'm not asking for a legal conclusion, I don't believe. If I am, I'll be happy to rephrase.

MR. GUYTON: That's fine, just as long as we're clear in that regard.

CHAIRMAN JABER: And, Mr. Guyton, I didn't hear it call for a legal conclusion either. Ask your question again, staff. I'll allow it.

MR. HARRIS: Thank you.

BY MR. HARRIS:

Q My question is this: Florida Power & Light felt bound to the 20.0 percent reserve margin. Is it your understanding that the Commission in a proceeding has the discretion or could choose to allow that 15-megawatt shortfall in 2005?

A I really don't know if the Commission has or, if it has, if it would exercise that discretion. All I know is we had stated in the RFP and stated in discussions in our prebid workshop and in the Q&A web site an amount of megawatts that we would build towards that was based on a 20.0 reserve margin, and we did not want to work off of that. In other words, we wanted to play the game by the rules that we stated.

To do so, in the example that has been brought up in staff's late-filed exhibit of building Manatee in 2005 having the 15-megawatt shortfall and building Martin in 2006, would have been, would have treated the All-FPL plan by a different and lower reliability standard than what we were treating all of the combination and all of the outside plans. And we didn't feel like that was fair to the bidders, so we were not going to get into that.

Q When, when you ran the EGEAS models, it's my understanding from your deposition that the 20.0 figure was not actually the input in EGEAS; is that correct?

A That's correct. Because in terms of inputting data,

there is rounding or truncating of numbers. And the way a computer model will then handle that truncated or rounded number means that sometimes on a constraint like 20.0 percent you have to put in something slightly different in order to allow a plan that on paper would get you exactly 20.0 percent. But the intent all along was for the model to only evaluate plans that would meet on paper a 20.0 percent.

Q It's my understanding from your deposition that Florida Power & Light did not print out the results of any runs that did not meet the 20.0 on paper reserve margin; is that correct?

A Yes. EGEAS does not print that out.

Q Okay.

A It was not a decision on FPL's part not to print those out.

Q And it's my understanding that Florida Power & Light did make the decision not to run any sensitivities at different reserve margin criteria other than at 20.0 percent; is that correct?

A That's correct. We wanted to be fair to the bidders in this process and run the analysis on the evaluation criteria that we stated in the RFP.

Q Thank you. I provided you a document which has been marked as, I think, hearing Exhibit 17. Do you have that in front of you? It's a set of answers to interrogatories.

A Yes, I do.

Q The, the exhibit contains an answer, the first page, it's Page 1 of 1, answer to Interrogatory Number 35. Did you prepare this document?

A I'm sorry. This is Interrogatory Number 35?

Q The response to Interrogatory Number 35, Page 1 of 1.

A I don't believe I prepared this response.

Q Do you know who did?

A No, I don't.

Q Okay. Are you familiar with the information contained in this document?

A Only to the extent that I have seen this document fly by as we were going through all of the documents that were produced in the case. I've glanced at it.

CHAIRMAN JABER: Mr. Guyton, with respect to these responses that came to staff's interrogatories, you're not going to have an objection to this exhibit being admitted into the record?

MR. GUYTON: Madam Chairman, we're not going to object to the authentication of those exhibits. We would like some understanding for the purpose for which it's intended to be used so that we'd just simply ask if it -- so that we understand whether a witness needs to address it or whether it can just simply come in.

CHAIRMAN JABER: What I'm looking for is a way to

speed this up by getting a stipulation that this may become an exhibit in the hearing.

We haven't taken a break yet. We're going to take a ten-minute break. Would you please meet with staff and find out if this can just become a stipulated exhibit?

MR. GUYTON: Yes.

CHAIRMAN JABER: Thank you. And I don't mean to exclude the parties from that. I mean, talk with the parties as well.

(Recess taken.)

CHAIRMAN JABER: We're going to go ahead and get back on the record.

MR. HARRIS: Thank you.

CHAIRMAN JABER: Staff?

MR. HARRIS: Thank you, Madam Chairman. There was some discussion, as you suggested with counsel for FPL, and I think we're going to reserve most of our questions about Interrogatory 35 for subsequent witnesses, for subsequent witnesses Mr. Green and Mr. Yupp, I believe.

CHAIRMAN JABER: Thank you.

MR. GUYTON: We can stipulate to Interrogatories 5, 6 and 7, Commissioner.

CHAIRMAN JABER: Okay. All right.

BY MR. HARRIS:

Q Dr. Sim, regarding exhibits or, I'm sorry, Exhibit

17, Interrogatories Number 5, 6 and 7, could you take a look at those and familiarize yourself with those?

A Okay.

Q Could you tell me what those are or appear to be?

A These are responses to staff's Interrogatory Number 5.

Q Okay. 5, 6 and 7. Could you tell me what basically the information contained there is?

A Yes. My recollection is that the interrogatory requested that the total cost information for several of the plans be presented in a specific format, and that is what we've done on these spreadsheets.

Q What format was, was requested?

A My recollection is it was a format that matched that requested by staff in an interrogatory to the initial RFP.

Q Would that be the accumulative net present worth or cumulative present worth revenue requirements format?

A In part. I believe you also asked for annual costs and then to total them up and give you a cumulative running total, which is what we've done in the last column.

Q Thank you. And would it be correct to say that what we basically have is a, an all out, the All-FPL plan, some different combination plans involving Florida Power & Light and outside bid proposals and then a run with Martin and Manatee separated by one year?

A Yes.

Q And it's my understanding that the, the best FPL plan is about $83 million more cost-effective than the next best plan; is that correct?

A It's $83 million less expensive than the, than the next best plan that includes only one of the FPL units.

Q If you could turn to the response to Interrogatory Number 5, and I'd like you to look at Table 5, Page 1 of 4. And would it be fair to say that this is the best FPL plan?

A It is the only FPL plan that meets the reserve margin criteria for both years and, therefore, it's the best plan.

Q If you could turn to the next page, Page 2 of 4. And if you could explain to me what this table reflects or this page reflects.

A Give me a moment to refer back to the footnote page, please.

It appears to be a break out of a cost calculation with a plan that includes both the Martin and Manatee units but in separate years. And I believe this plan also includes an outside proposal that makes up the capacity difference for 2005.

Q And in the bottom right-hand entry, Column 14, the very bottom right-hand, if you could tell me the difference on Page 1 of 4, the All-FPL plan, and Page 2 of 4, the plan separated with the outside proposal.

A The differential appears to be $23 million.

Q With that $23 million difference, did any of the things we discussed this morning about the late-filed deposition exhibit or Exhibit 9 presented by Mr. Silva change these numbers in any way?

A No.

Q With the late-filed deposition exhibit that's been marked as Exhibit 16 for hearing, how is that different from this Table 5, Page 2 of 4?

A Let me try to answer the question this way.

Page 1 of 4 of Exhibit 17 and Page 2 of 4 of Exhibit 16, if I have the exhibit numbers correctly, both represent the All-FPL plan where Martin and Manatee are built in 2005 and they show identical cost calculations. The difference appears on the staff requested split plan with Manatee only in 2005 and Martin Number 8 in 2006, which is Page 3 of 4 of Exhibit 16 and Page 2 of 4, which is Exhibit 17. And the difference there is, to my recollection, the Page 2 of 4 in Exhibit 17 differs from what is shown on the staff's requested split plan by the fact that we do have an outside proposal that makes up the capacity difference in 2005.

Q So staff requested that you run the Exhibit 16 as a late-filed deposition exhibit; is that correct?

A That's correct.

Q Okay. Do you know why -- do you recall why staff

asked you to produce that exhibit?

A My understanding of the intent of the request is to see if FPL were to ignore the 20.0 percent reserve margin requirement in 2000, money could be saved for customers by moving the Martin Unit back one year. That was my understanding of the request. And, as the late-filed exhibit shows, that is not the case. It actually ends out to being more costly to our customers to do that.

Q Do you know approximately how much more costly it would be?

A I believe our calculation is shown on the late-filed exhibit, Page 4 of 4, to be $18 million cumulative present value.

Q Would it be fair to say then that regardless of the need for the 15 megawatts in 2005, it would be beneficial to add both plants in 2005 in order to save approximately $18 million?

A It certainly is to our customers' benefit both monetarily and reliability-wise to put both units in 2005.

Q What I asked was, ignoring the 15 megawatts, the reliability, would it be a benefit to the consumers or the ratepayers to add both Martin and Manatee in 2005?

A Yes. It would result in lower cost to our customers.

Q Thank you. I have one last set of questions for you. Do you have a copy of your deposition transcript?

A Yes.

Q If you could refer to Pages 52 and 53 when you have a chance.

A I'm sorry. Which page, please?

Q Page 52.

A 52.

Q And beginning with Line 12. Do you recall being asked whether you could provide some data to staff which would be in the same format as the data contained in confidential filing C-1 but reflect the data from the Martin and Manatee plants?

A Yes.

Q Do you know whether that data has been provided to staff?

A My understanding, it has not been provided to staff.

Q Why is that?

A When we looked at the form C-1s, the appropriate form would have been, even, even though it's not an exact match because it is not a turnkey project, it is, FPL's self-build options would be more closely aligned with a turnkey project. And the information that would be provided on a turnkey project form is actually less detailed than what we provided in Table 6, so we felt that staff already had that information.

Q For purposes of ease of comparison, if staff would like to see the same data for Martin and Manatee but in the

format of C-1 so staff could hold the two pieces of paper next to each other and look from column to column, wouldn't that be possible?

A It would be possible. But we believe that staff already has that information and more in what we provided in, in our filings.

Q Would you agree that the data we have in your filing is in a different format than that in Table C-1 or confidential --

A Yes. I would agree it's in a different format.

Q How would staff be able to easily reconcile that data from what we have versus the format in confidential filing C-1?

A Because they provide essentially the same information. The turnkey project form on, in C-1 that was used for the turnkey outside proposals provides the total cost of the unit, which is also provided in several places in FPL's filing, it provides O&M numbers, et cetera. So the same information, although not in the exact same form, is repeated a number of times in our filing.

Q Would staff need to make different calculations or rework the data in any way to have a direct comparison with the confidential filing C-1 format?

A I don't believe so, if you would use the appropriate C-1 form.

MR. HARRIS: May I have a moment?

CHAIRMAN JABER: Sure.

(Pause.)

CHAIRMAN JABER: Mr. Harris, are you trying to just reconcile the late-filed exhibits with the filings we already have?

MR. HARRIS: No. Staff is interested in being able to make a comparison between the Martin and Manatee, an easy comparison between the Martin and Manatee plants and the information provided as the confidential exhibit.

The problem staff sees is that the, the, the data we have from Martin and Manatee are in one format; I think a total dollars format. The data in the C-1 filings is in the form of payments, capacity payments and variable energy payments. And the question I was going to ask Mr. Sim is, is it his testimony that staff could convert from the one format to the other simply in order to make that comparison piece of paper to piece of paper.

CHAIRMAN JABER: Without calculations?

MR. HARRIS: Correct.

THE WITNESS: My understanding of your request is to take a self-build option and compare it to the appropriate outside proposal C-1 form. And I don't think you need to do any calculations to compare it to the most appropriate C-1 form, which would be the turnkey forms.

BY MR. HARRIS:

Q Would you be saying that I could take the C-1 -- I'm sorry to belabor this point -- that I could take a piece of paper from the C-1 exhibit and take a piece of paper from either Martin or Manatee and hold them against each other and be able to track one number from form to form or one series of numbers or something?

A There's not much tracking involved. It's simply a total purchase price for the unit versus a total cost for the self-build option.

Q Isn't, isn't a purchase price different from a cost though?

A Now we're talking about a different C-1 form, which in my opinion is not the appropriate form to compare to. In C-1 we have two different types of forms, Commissioners; we have one for a turnkey and one for a series of annual purchases, so to speak.

The self-build option, to our way of thinking, is certainly more closely aligned with the turnkey form. And the information on the turnkey form, I believe, we have already provided in several places in our filing.

CHAIRMAN JABER: Staff, is there a document you can show him? Do you want to show him the C-1 form you were looking at?

MR. HARRIS: We could do that. Those would be confidential forms and we'd have the issue with

confidentiality, but we could do that easily.

CHAIRMAN JABER: Well, we just need to be careful. And, Dr. Sim, you can't reveal the information on the confidential exhibit.

THE WITNESS: I think I've seen them before, but, yes.

CHAIRMAN JABER: And, staff, the other alternative is to ask for what you want in a late-filed exhibit. Just tell him what it is you want and perhaps we can obtain them.

MR. HARRIS: I think we'll take that option, Commissioner. Thank you, Chairman.

CHAIRMAN JABER: Tell him what you want.

BY MR. HARRIS:

Q Dr. Sim, would it be possible for Florida Power & Light to provide staff with a late-filed hearing exhibit which would contain information for the Manatee 3 and Martin 8 plants in the same format as it is contained in the confidential exhibit C-1, both turnkey and purchase forms?

A Yes, it would be possible.

Q Would Florida Power & Light be willing to provide that?

A I'm not sure I can answer for the company on that.

Q Who would be able to speak for the company?

A I'm not sure.

CHAIRMAN JABER: Dr. Sim, you're being offered on

behalf of the company. Is that an exhibit that you are able to put together for this agency?

THE WITNESS: Yes, Madam Chairman.

CHAIRMAN JABER: Okay. That's all I need to know.

So this exhibit, do you understand what staff is requesting?

THE WITNESS: I believe I do, but I will be happy to get with staff after I get off the stand and ensure that I know exactly what they are after.

CHAIRMAN JABER: No. Let's take care of it right now on the record. Let's make sure that you understand the request, and anything additional to that we'll let the attorneys work out later.

But on this exhibit I don't want anything more and I don't want anything less, so let's make sure we understand what staff's request is.

Is there any part of this request you think you don't understand?

THE WITNESS: Let me repeat it back to them and, and make sure.

CHAIRMAN JABER: Thank you.

THE WITNESS: I believe what you're asking for is to take both the Martin and Manatee units separately, fill in the form as if it were a turnkey on the turnkey project form, and then do the same thing for the purchase power form.

MR. HARRIS: That's correct.

THE WITNESS: Okay. But you do want the two units separated?

MR. HARRIS: That's correct.

THE WITNESS: Okay.

CHAIRMAN JABER: Thank you, Dr. Sim.

Staff, give me a short title for that late-filed exhibit which will be Exhibit 18.

MR. HARRIS: I would say it would be Martin and Manatee data in the form of confidential filing C-1. Would that be accurate, Mr. Guyton?

CHAIRMAN JABER: What did you say, Mr. Harris?

MR. HARRIS: Martin and Manatee data in the form of confidential exhibit or confidential filing C-1.

COMMISSIONER DEASON: Madam Chairman, let me ask staff a question.

CHAIRMAN JABER: Uh-huh.

COMMISSIONER DEASON: I don't want any of the confidential information. But I just want to understand, this confidential form C-1, what does it contain?

MR. HARRIS: It's my understanding, Commissioner, that that is the data that was provided as the bid process from the bidding companies. It's capacity payments and energy payments.

The information we have on Martin and Manatee is very

detailed but it is not in the same format, and it's difficult for staff to be able to hold one piece of paper to the other and say Bid 15 is this, this and this, Manatee is this, this and this. And it's difficult for us to be able to easily compare the two side by side. Staff is concerned about --

COMMISSIONER DEASON: So let me be sure I understand. The confidential C-1 shows the payments that would be required to a bidder if that bidder had actually won and built the, their facility, there would be payments from FPL to that successful bidder; correct?

MR. HARRIS: That's my understanding, yes.

COMMISSIONER DEASON: Over the life of the contract.

MR. HARRIS: That's my understanding.

COMMISSIONER DEASON: And it's in terms of capacity and energy payments.

MR. HARRIS: That's correct.

COMMISSIONER DEASON: And then you want a self-build option to be put in the same format?

MR. HARRIS: Essentially, yes, so we can compare --

COMMISSIONER DEASON: As if they were paying themselves capacity and energy, the cost --

MR. HARRIS: That's correct. Yes.

COMMISSIONER DEASON: Is that something that can be done?

THE WITNESS: We can calculate the numbers -- I'm not

sure it makes a lot of sense -- or we'll allow a meaningful comparison with the self-build option and the outside proposals.

COMMISSIONER DEASON: But it's an exercise that you can do mathematically.

THE WITNESS: Yes, sir, I believe so.

CHAIRMAN JABER: That's Late-Filed Exhibit 18.

(Late-Filed Exhibit 18 identified.)

MR. HARRIS: Thank you, Chairman. I believe that was all, that was all the questions we had.

CHAIRMAN JABER: Commissioners?

COMMISSIONER PALECKI: I have just one question, Dr. Sim.

We've been -- you've been asked a lot of questions concerning this 15 megawatts that was necessary to meet your reserve margin. And you understand what our concerns are with regard to the reserve margin, that we want to make sure we have a level of comfort with regard to reliability.

At the same time, we want to make sure that ratepayers are not paying some outlandish amount just because you wanted to make sure you reached 20 percent rather than 19.99.

The question I'm asking you is if we had informed the company before the entire process, before the entire bidding process that, that this 15 megawatts was excused, that there

was no need for you to reach the 20 percent reserve margin, that the 19.9 would be satisfactory for that year, and so you didn't include that at all in your considerations or in your bidding, can you envision that there may have been a more cost-effective outcome? Is there a possibility, possibility that there might have been some other options rather than what you arrived at?

THE WITNESS: Commissioner, I would say that there is a possibility, although I believe it would be a remote one. I believe where we would end up, because that differential would be so small, is the computer would have still considered the Martin and Manatee both in 2005 and it would have shown it to be the most cost-effective option. And I believe that's best shown by this, the late-filed exhibit we gave staff where we moved off Martin into 2006, essentially ignoring that 15 megawatts, and found out that that plan was actually somewhat more costly than building them both in the same year.

COMMISSIONER PALECKI: And the reason for your answer is primarily because of the savings involved in building the two plants rather than one plant?

THE WITNESS: No, sir, not quite. Because in either case we would be building both units.

COMMISSIONER PALECKI: Uh-huh.

THE WITNESS: By building the, the Martin Unit in 2005 rather than 2006 we pick up substantial fuel savings for

2005 that would not otherwise be realized. And what we've seen is that virtually overcomes the higher or, excuse me, the capital cost, the higher capital cost of building the unit in 2005 versus 2006 on a present value basis. So it's almost a wash there.

COMMISSIONER PALECKI: Thank you.

CHAIRMAN JABER: Commissioner Deason?

COMMISSIONER DEASON: Madam Chair, yeah, I have a few questions.

I have questions on Exhibit 16, and this is your late-filed deposition exhibit. I think staff asked you some questions about it, and I'm just wanting to try to understand.

You calculated the -- first of all, are these costs that appear in Column 14 or the various pages, when you use the terminology "net present value cumulative total cost," is that in terms of revenue requirements or what is that?

THE WITNESS: Yes, sir.

COMMISSIONER DEASON: So we are talking about the cumulative cost in terms of revenue requirements on a net present value basis?

THE WITNESS: That's correct.

COMMISSIONER DEASON: Okay. I'm looking on Page 2 of 4, and as is indicated at the top of the page, this is the All-FPL plan, both the Manatee and Martin units being constructed in 2005, which is your proposal before us now.

Can you describe to me what Column 3 represents.

THE WITNESS: Yes. Column 3 represents the annual revenue requirements from the Manatee and Martin Unit being built.

COMMISSIONER DEASON: Now this is -- when you say generation capital, this is, these are the capital dollars invested and this is the revenue requirement associated with that investment in terms of return and depreciation, or what does it represent?

THE WITNESS: Yes, sir. Total revenue requirement calculation. And it includes both the Manatee and Martin Unit coming in in 2005 and in subsequent years the filler units that would be built to maintain a 20 percent reserve margin.

COMMISSIONER DEASON: Okay. Explain to me the filler units then. What do they enter into this calculation?

THE WITNESS: In this case, Commissioner, in 2007 you'll see the number in Column 3 jump substantially from 191 to 308. We are adding a filler unit to meet the increased load forecast and to maintain a 20 percent reserve margin. So another unit comparable in size to the Manatee Unit, 1,107 megawatts, is being added in the year 2007. And that occurs at various points throughout the years covered here.

COMMISSIONER DEASON: And, of course, the purpose of this analogy is to try to determine incremental costs between the All-FPL plan and the staff's suggested FPL split plan.

These filler plants or units that you would be adding, do they vary between these two different plans?

THE WITNESS: No, sir, they would be identical in both plans.

COMMISSIONER DEASON: Okay. So that's really not a reason then for differential in cost?

THE WITNESS: No, sir. It has no impact.

COMMISSIONER DEASON: Okay. Okay. Let's look at Column 6, transmission integration. Could you explain that, please?

THE WITNESS: Yes. Those are the costs that were calculated for the various expansion plans in which we provided to the transmission integration folks in the first case a plan that consisted of both FPL's self-build options being built in 2005, and in the second one an estimate of what the cost would be if we delayed the Martin Unit one year.

COMMISSIONER DEASON: Now for the year 2005 in Column 6 on Page 4, which is the differential cost analysis, there's a zero there. Can you explain why that's zero?

THE WITNESS: I think it's showing a slightly lower cost, but it's not -- it's actually something different than zero. It was showing a --

COMMISSIONER DEASON: It's rounded to zero.

THE WITNESS: Yes, sir. That's correct.

COMMISSIONER DEASON: But now I thought earlier that

we had had some indication that there was transmission costs of some $24 million if the unit is delayed, that is if the Martin Unit is delayed.

THE WITNESS: Yes, sir. $24 million cumulative present value revenue requirements. If we were to take this page 4 of 4 and zero out every column other than Column 6, when you came over to Column 14, that cumulative total cost value would come to $24 million.

COMMISSIONER DEASON: Well, let's look at that for a moment then. I'm looking at Page 4 of 4, Column 6. And if we just ignored everything else except for that column, you're indicating to me that the cumulative effect would be $24 million?

THE WITNESS: On a present value basis, yes, sir.

COMMISSIONER DEASON: On a present value basis. So you would have to apply the present value factors to do that? Okay.

THE WITNESS: Yes, sir.

COMMISSIONER DEASON: So that is a consistent calculation then with Exhibit 9? It's the same number, it's just --

THE WITNESS: Yes, sir.

COMMISSIONER DEASON: Okay. So if I went through the exercise of applying the discount factor in Column 2 to the amounts in Column 6 and added all of that together, I would

reach $24 million or approximately $24 million.

THE WITNESS: Yes.

COMMISSIONER DEASON: Okay. And then Column 7, the system net fuel, that shows that for the year 2005 that there would -- I'm looking here on Page 4 of 4 -- that there is a differential of $77 million, which means that the split plan increases fuel costs $77 million for that year, and that on a present value basis -- well, then it would just be added up with other items for that year. But is $77 million in nominal dollars?

THE WITNESS: That's correct.

COMMISSIONER DEASON: Okay.

THE WITNESS: And when present valued, it equals the $55 million in net present value dollars that you saw on Exhibit 9.

COMMISSIONER DEASON: Okay. So that is also consistent with Exhibit 9 then?

THE WITNESS: Yes, sir.

COMMISSIONER DEASON: Okay. Now where in your Exhibit 16 is captured or is it captured the $16 million of the differential cost of building Manatee alone? I mean, here again, I'm taking the $16 million from Exhibit 9, and this is the added cost of building Manatee Unit 3 alone. Would it be, would it be, would it be included in the numbers in Column 3 in the differentials between these or where would it appear?

THE WITNESS: No, sir. It doesn't show up on this exhibit.

COMMISSIONER DEASON: It doesn't show up at all. Okay. Why does it not show up?

THE WITNESS: The assumption we made throughout our analyses is that the $16 million for -- I'll call it $15 to $16 million because it varied slightly between whether you build Martin only or Manatee only -- it shows up only if you build one unit. And if you only separate them by a year, you do not have that, that additional cost.

COMMISSIONER DEASON: Okay. And that goes back to your explanation that Exhibit 9 is, it shows calculations assuming that the Martin Unit is not built at all.

THE WITNESS: Yes, sir. That's my understanding of Exhibit 9.

CHAIRMAN JABER: And may I interrupt here for just a minute, Commissioner Deason?

COMMISSIONER DEASON: Sure.

CHAIRMAN JABER: It seems to me that that might have been an important consideration from the beginning of the case. I'm trying to understand why that information was not provided in the direct case of the company. Can you -- did it not occur to the consultants that that might be an important figure for this Commission to consider?

THE WITNESS: Madam Chairman, at the time we did the

evaluation, we went to our Power Generation Division and we asked them: If we build only one unit, what's the additional cost; and if we defer one of the units, what's the additional cost?

The answer we got back at the time is it's about $15 or $16 million if you only build one unit. But if you delay them, all you're picking up is really escalation on the capital of what you would have built it for in 2005.

The company may have rethought that at this point. But the inputs that we used consistently throughout the analysis were that if you defer a unit one year, you're only picking up escalation on the capital.

CHAIRMAN JABER: Thank you, Dr. Sim.

COMMISSIONER DEASON: Okay. Now back to Exhibit 16. Anywhere in this analysis did you make the assumption about impacts of your revenue sharing plan and what costs would or would not be potentially passed through to customers?

THE WITNESS: No, sir. We assumed that there was no revenue sharing plan in place.

COMMISSIONER DEASON: Now if you had made that assumption, would the cumulative savings of $18 million shown on Page 4 of 4 of Column 14, would that increase or what would be the effect?

THE WITNESS: Let me make sure I understand the premise of the question, Commissioner.

By revenue sharing plan, we're talking about the discussion on Exhibit 9 in regard to the fact that certain costs would not be picked up until 2006?

COMMISSIONER DEASON: Yes.

THE WITNESS: I believe in that case the differential would change, yes.

COMMISSIONER DEASON: Would it -- would the differential change in the, to the extent that it would increase savings or would it decrease the savings indicated?

THE WITNESS: Between the two plans?

COMMISSIONER DEASON: Yes. I'm looking at, looking at the $18 million, which is found in Column 14, Page 4 of 4. Would that number be greater or less?

THE WITNESS: The number would be greater.

COMMISSIONER DEASON: Still staying on Page 4 of 4 and back to Column 3, and I'm looking at the years starting in 2006. We see a series of positive numbers which gradually decline with time, with the exception of the very last entry in 2030. What is happening here that -- what, what do these numbers represent and why is there a slow decline in their, in their nominal value?

THE WITNESS: It has to do with the fact, Commissioner, that in the split plan we are building one unit one year later, so there's one year escalation on that number. And so the revenue requirement factors that enter in are

starting at a slightly higher point for the Martin Unit in 2006 than they would have started in 2005.

COMMISSIONER DEASON: And then as the units depreciate, that nominal amount declines?

THE WITNESS: Yes, sir.

COMMISSIONER DEASON: Okay. And I have a question as to why this analysis on Exhibit 16 -- why does -- why do you begin your calculations with the year 2001 when the first year where there are actually differential costs do not start until the year 2005?

THE WITNESS: Commissioner, it was a carry-over from the initial RFP work that we, in which we did the evaluation in 2001. And we decided that in the supplemental RFP, in order to make any comparisons that might be made back to the initial RFP work, we would continue to hold the base year at 2001 and discount everything back to that year.

COMMISSIONER DEASON: Okay. Let me ask you this question. If you had started your analysis in 2005 and began your discount factor there, one in 2005, would it have a material effect upon your conclusion that there's $18 million in savings?

THE WITNESS: Yes. It would have increased the differential.

COMMISSIONER DEASON: The 18 would increase to a higher number?

THE WITNESS: Yes. Because you'd be discounting back over fewer years.

COMMISSIONER DEASON: Okay. That's all the questions, Madam Chairman.

CHAIRMAN JABER: Commissioners, any other questions? Redirect.

REDIRECT EXAMINATION

BY MR. GUYTON:

Q Dr. Sim, you were asked yesterday if it was appropriate for you to go outside the RFP for an additional 15 megawatts, and you responded several times that you did not believe that was appropriate. Would you explain to the Commission why you did not believe that was appropriate?

A Yes, for a couple of reasons. We did not want to go outside of the RFP because in regard to securing, say, another purchase that had not been bid to us or in trying to pick up additional DSM, because we didn't feel that would be fair for the bidders. The way we portrayed it is we would do an analysis and it would be based on those bids and those bids only that came into us, plus the self-build options we had. To go outside of that, in my view, would have been changing the rules of the game after we had announced them.

And, in addition, as we have seen in the late-filed exhibit that we just discussed, Commissioners, simply moving the Martin Unit back to 2006 results in $18 million higher

cost. If we had gone outside for a power purchase or had done additional DSM, we -- there's no benefit in moving the unit. We've seen it results in a net cost of $18 million. And the cost of the purchase or the cost of the DSM would simply be tacked on top of the $18 million of higher costs that you would already incur. So, therefore, we would just aggravate the situation.

But, again, our primary reason is we have stated the rules in one way, we wanted to be fair to the bidders and play by those rules throughout.

Q You were asked yesterday about the grouping of proposals and you were shown Mr. Silva's exhibit where he had six groups.

Would you explain to the Commission why and how the proposals were grouped?

A Yes. The grouping of the proposals was done, for lack of a better term let me call it blind. We did not group the proposals. We entered into a computer model two self-build options and 31 outside proposals that were labeled by numbers. For example, Proposal 1, Proposal 2, et cetera. We gave the models certain constraints such as the reserve margin constraints, and we asked it to find the most economical combination of those options that met those constraints. And it sorted through, came up with all combinations that met the constraints, and simply provided to us the most cost-effective

solutions depending upon the groupings that we put in there.

And as we have indicated, we gave the, each one of the 31 outside proposals numerous turns at bat in different circumstances where they could have been combined with numerous other outside proposals and the FPL options.

Q You were asked a number of times yesterday about removing the equity, equity penalty cost from your analysis, and you stated on a number of occasions that you didn't think that would be proper or appropriate. Would you explain to the Commission why?

A I'll explain it from an analyst's point of view. I'm certainly not a financial expert and Dr. Avera and Mr. Dewhurst can go into the financial side of this.

But from an analytical point of view, we started with an adjusted capital structure of 55 percent equity/45 percent debt and we structured the self-build options so that they would be built or financed at a comparable 55/45 percent ratio.

The outside proposals coming in with the imputed debt would have left us in a situation where we would be at a different capital structure than where we would be if we went with the self-build options. The self-build options would leave us a 55/45, which is where we started the analysis.

For simplicity's sake, let me say that -- let's take an example where the outside proposals might have left us at a 50/50. So we're at a, we're at a different financial

structure. And what we are attempting to do is make sure that the company ends up with the same capital structure regardless of whether we go Option A, the self-build, or go Option B, which is purchase power. So we're trying to get an apples-to-apples comparison there.

Q You were asked during cross-examination yesterday if you had ever participated in an RFP process with weights. Do you recall that?

A Yes.

Q How well did having weights work in that prior RFP?

A My recollection is it was basically a waste of time. It did not remove the subjectivity in it. What it did was to -- basically we ended out at the same point we would have ended out without the weights. We simply had more people involved providing their subjective opinions on various aspects of the bids that came in at that time. And it lended itself to creating difficulty in, when circumstances would come up, that we did not or could not have foreseen at the time we established the weights.

Q Having been through two different types of analyses now, Dr. Sim, which approach do you think is better as to an RFP; one that has assigned, preassigned values of weights or one that does not?

A I don't --

MR. MOYLE: I'd object to --

THE WITNESS: There's no question in my mind to --

CHAIRMAN JABER: Hang on Mr. -- Dr. Sim. Sorry. Mr. Moyle?

MR. MOYLE: I would object to the question in terms of it being unclear with respect to "better." Better in what respect? I think it's ambiguous.

CHAIRMAN JABER: Mr. Guyton, the objection is to form. Why don't you just rephrase your question?

BY MR. GUYTON:

Q Dr. Sim, as an analyst, having been through two different types of RFP processes, one that had weights and one that did not, from your perspective which approach yields the better result?

A I think you get to a better result and you get to that result faster if you don't preassign weights. It gives you the flexibility you need to evaluate nonprice factors of bids of which the number and the type you cannot accurately predict ahead of time. You need to see what the bids are and what the language in the bids are.

Numerous outside proposals we received, in addition to filling out the, let me say, 20 pages of forms that we requested, we received literally volumes of explanatory material stating that the bid should be viewed in a particular way.

There's no way we could have predicted all of that

ahead of time as to what the bidders were suggesting or stating as constraints on their bid. Therefore, the flexibility, in my view, is certainly advantageous. It gets you a better answer and it gets you there quicker.

Q Dr. Sim, Mr. McGlothlin asked you a question yesterday with the premise, all things being equal, would lower variable O&M result in lower revenue requirements? Do you recall that?

A Yes, sir.

Q Would all of the things be equal?

A Given the premise of the question, I would say, no, things aren't equal. If an entity chose to take their total bucket of O&M dollars and put a relatively small amount in the variable O&M column, it would affect the dispatch and the production costing somewhat, but it also means that the fixed costs are higher than they might otherwise would have been. And depending upon how the unit would be dispatched in any given year, you might end out the same place, you might end out better off, you might end out worse off than if you had structured the difference between fixed, the, the total O&M bucket differently between variable and fixed.

Q When modeling variable O&M for the bids, did you change the variable O&M for any of the bidders from what they bid?

A No. We took the variable O&M exactly as they were

presented to us in the proposals and in the self-build options and modeled them that way.

Q When modeling the variable O&M from Florida Power & Light's PGD estimates, did you change variable O&M in any fashion from what PGD gave you?

A Other than to escalate them from 2001 dollars or 2002 dollars up to the 2005 dollars, no, we did not.

Q Dr. Sim, would you explain to the Commission why FPL did not use POWERSYM instead of EGEAS in analyzing resource options?

A We simply didn't feel it was appropriate. After reviewing the bids and looking at the significant cost differential on the one hand and then looking at the bids and seeing where the real differences were, they were not in heat rates. These were all the same type of units. They were all -- heat rates fell right on top of each other. And the difference that we saw in the bids was in the capacity and fixed cost, and in the, in large part in the integration costs that, when they were combined in different expansion plans. That's where the difference fell.

We saw no way that any use of a second model to look at the production cost, which we viewed as a very small piece of the calculation, was going to change the results. So in our view it wasn't appropriate.

CHAIRMAN JABER: You were part of the decision to use

EGEAS instead of POWERSYM?

THE WITNESS: Yes.

CHAIRMAN JABER: Is that different from what you said yesterday?

THE WITNESS: I don't believe so.

CHAIRMAN JABER: Okay.

BY MR. GUYTON:

Q Does POWERSYM have an optimization function similar to what EGEAS does?

A No. EGEAS was created to do exactly the work that it was put to the test here or used in. The Electric Power Research Institute with dozens of utilities created and refined this model over the years to make exactly the resource decision type calculations that we did in this RFP.

Q And how long has Florida Power & Light Company been using the EGEAS model for these type decisions?

A Approximately a decade.

Q The results previously have been presented to and relied upon by the Commission?

A Yes.

Q In response to a question -- let me -- Mr. McGlothlin asked you a question about the likelihood of perhaps being able to find $2 million in a production cost swing if one used POWERSYM instead of EGEAS, and you suggested in your response that that suggested a false perception.

Would you explain to the Commission what you meant by false perception?

A Yes. As I recall the conversation, it was along the lines of if we were to use a more detailed production costing model, could you get different numbers?

And I think I tried to make a couple of points. Number one, in my view you're never going to find anywhere near the amount of money that would be needed to change the outcome of these calculations. And, number two, I think for the calculation that we're doing here, the more detailed model you use, you're fooling yourself if you're picking up additional accuracy as you go out over 25- or 30-year forecasts. You simply have to think back to how accurate the input data is to begin with. And as you try to squeeze more and more precision out of it, especially over long-term forecasts, you may think you're getting more precision. In reality, I don't believe you are.

Q Mr. McGlothlin asked you about the use of the composite heat rate in the greenfield units. Do you recall that line of cross-examination?

A Yes, sir.

Q Were the greenfield units that were used as filler units, were they used in just the FPL expansion plans or were they used in all the expansion plans?

A They were used in every expansion plan calculation

that we did; the exact same filler units.

Q You were asked today if -- what the mathematical computation would be of your need for additional capacity if one substituted the load forecast out of the 2001 ten-year site plan for the load forecast that was actually used in the supplemental RFP. Do you recall that?

A Yes, sir.

Q Is that an appropriate calculation?

A No, I don't think so. I mean, it's using outdated information where what we used in the calculation was the latest forecast that we had. Therefore, those are the ones that were appropriate to use in the calculation.

Q Staff has asked you for a late-filed exhibit in which you would provide a comparison of costs for the self-build option in a -- to a -- well, let me state it this way because I'm not sure I can accurately characterize that.

Staff has asked you for a late-filed exhibit comparing costs. Do you recall that?

A Yes.

Q Is such a comparison that staff has requested a meaningful comparison?

A No, for a couple of reasons.

Number one, you're trying to shoehorn a self-build option's cost structure into -- that is in the form of declining revenue requirements into a purchase power format,

which traditionally -- and in this RFP we saw were either constant or escalating capacity payments. So, therefore, you're really comparing two different things.

More importantly, even if I were to take two outside proposals on the forms they provided to us, all it would tell me were relative cost of those two proposals, and it wouldn't tell me the costs as they impacted the system. It wouldn't tell me what they were combined with, it couldn't tell me transmission integration costs, for example, it couldn't tell me system fuel savings as they would be combined with other proposals, et cetera. And I think the same problem exists with the, the hearing filed exhibit, I'll call it, where the FPL units are, have been asked to be put into that, that same type format.

It will only give you a small part of the picture. And any comparison that you would draw, to my opinion, would be meaningless without taking it through the entire evaluation, which is what we did in the RFP.

Q You were -- you've been asked a number of times if the Martin Unit 8 was needed to meet reserve margin in 2005 on FPL's system.

Is Martin Unit 8 needed to meet the reserve margin on FPL's system in 2006?

A The Martin Unit is being added to meet the capacity needs for both 2005 and 2006. It is being driven to be put

into 2005 because the computer model told us that was the least expensive thing to do; not to delay it a year, as we have shown staff's late-filed exhibit.

So to state that it is being put in place to meet the 2005 need only is incorrect. It's being built in part to meet that 2005 need, but to my way of thinking mostly to meet the 2006 need. It just benefits customers to move it forward one year into 2005 .

CHAIRMAN JABER: Mr. Guyton, may I interrupt for just a second?

MR. GUYTON: Yes, ma'am.

CHAIRMAN JABER: Dr. Sim, going back to what you believe would be a problem with staff's late-filed exhibit, as I understand your response, and I appreciate that clarification, it helps me with the exhibit. As I understand your response, it's apples to oranges because you don't have those increasing capacity payments with the self-build option.

THE WITNESS: In part that's, that's one of the problems with it, yes.

CHAIRMAN JABER: Well, by analogy -- and, therefore, that should be removed from the consideration because that's just not an issue when you exercise the self-build option?

THE WITNESS: I'm sorry. I didn't understand the question.

CHAIRMAN JABER: I think the point you are trying to

make is that's not, those increasing payments are not at issue when you have the self-build option. So to require FPL to calculate out what those payments would be is really irrelevant.

THE WITNESS: That's correct.

CHAIRMAN JABER: And, therefore, it shouldn't be a consideration in determining the self-build option.

THE WITNESS: That's correct.

CHAIRMAN JABER: By analogy then isn't it appropriate to remove the equity penalty from consideration of which option should be considered?

THE WITNESS: No, I don't believe so.

CHAIRMAN JABER: Then I don't understand. You need to walk me through that.

THE WITNESS: Well, let me try, Madam Chairman.

The problem I saw in the, in what I'll call the fairly simple comparison that staff has asked for is they want to take the existing outside proposal C-1 forms that already exist where what they'll see are costs, let's take capacity costs in dollars per KW per month that may start at, make up a number, $7 per KW per month for the first year and will escalate slightly over time throughout.

For us to calculate that cost on those forms, we're going to have to take the declining revenue requirement stream, convert it into dollars per KW per month to match the format,

and what you'll see is a declining stream.

So any year I look at, I may see, going down several years, $7.50 per KW per month what the bidder wants to be paid, and I will see a number that may be higher and may be lower for that particular year for the declining revenue requirements. It -- by itself it wouldn't tell me anything that I could make a meaningful decision on. And that was part of my objection as to the meaning, how meaningful that the comparison would be that staff has requested.

BY MR. GUYTON:

Q Dr. Sim, what is Florida Power & Light Company's incremental capacity need in 2006 over and above 2005?

A An additional 600 megawatts.

Q Okay. You were asked about the $16 million, and that is reflected on your -- it's not reflected on your late-filed deposition Exhibit 16 but was reflected on Exhibit 9. Do you recall that?

A Yes, sir.

Q Okay. Is that $16 million reflected in your direct testimony exhibits in this case?

A The $16 million -- the answer is yes. The $16 million is reflected in all expansion plans in which we build only one of the units, with a slight clarification. Again, it was $15 million or $16 million, depending upon which of the two units did not get built.

CHAIRMAN JABER: This is a very important point, Dr. Sim, that will help me in determining whether the exhibit comes into evidence or not. So can you tell me exactly where in your direct testimony that $16 million, $15 or $16 million is discussed?

THE WITNESS: Yes. If you would look, please, in my direct testimony on Document Number SRS-8 at the back of the book, you'll see a spreadsheet. And as you work from the right-hand side, go over two columns to a column entitled, Adjustment For One FPL Unit Only. You'll see for every plan in which there's only FPL unit, either a $15 or $16 million adder to it, to the cost.

CHAIRMAN JABER: Thank you.

BY MR. GUYTON:

Q And, Dr. Sim, if you would turn to Page 35 of your prefiled direct testimony. Is that one unit adjustment that you discussed, just discussed discussed at Page 35 of your direct testimony?

A Yes, it is.

MR. GUYTON: All right. That's all that I have, Madam Chairman?

CHAIRMAN JABER: Thank you, Mr. Guyton.

COMMISSIONER DEASON: Madam Chairman, I have one quick question.

CHAIRMAN JABER: Yes, Commissioner Deason.

COMMISSIONER DEASON: It's just to refresh my memory because I believe I asked this question to you earlier.

Looking on Exhibit 9 in reference, again, to the $16 million, which is the added cost of building Manatee Unit 3 alone, I asked you if that was somehow reflected in Exhibit 16, and I believe you said no. Did I understand you correctly?

THE WITNESS: Yes, sir, you did.

COMMISSIONER DEASON: Okay. And why is it not in Exhibit 16?

THE WITNESS: Because in Exhibit 16 we compare two different plans. In the first plan, Commissioner, we have Martin and Manatee coming in in 2005. In the second plan we have Manatee in 2005 and Martin built but delayed one year. So both units are built in both plans. And the $16 million or $15 million applies in our analysis only if one unit is built.

COMMISSIONER DEASON: You refreshed my memory. Thank you.

THE WITNESS: Yes, sir.

CHAIRMAN JABER: We have exhibits -- let's see. For FPL, Exhibit 12.

MR. GUYTON: We would move Exhibit 12 as well as Exhibit 4, which is the confidential appendices to the need case that Dr. Sim is solely sponsoring.

CHAIRMAN JABER: Without objection, Exhibits 4 and 12 are admitted into the record.

(Exhibits 4 and 12 admitted into the record.)

CHAIRMAN JABER: CPV, I've got Exhibits 13, 14 and 15 are yours. Exhibit 13 are various E-mails from FPL. 14 is the February 11th, 2002, letter from Mr. Caldwell to, to me. Exhibit 15 is an E-mail with an attachment from Sam Waters to Kathy Scott.

MR. MOYLE: Could we have those admitted into the record, please?

MR. GUYTON: Madam Chairman, we would just simply note for the record that Exhibit 14 is clearly hearsay and cannot be used in and of itself to support a finding of fact, and we want to preserve that for purposes of the record.

COMMISSIONER JABER: Mr. Moyle?

MR. MOYLE: Yeah. I mean, it's a letter. It speaks for itself.

CHAIRMAN JABER: All right. Exhibits 13, 14 and 15 are admitted into the record, with the noted objection, Mr. Guyton, to Exhibit 14.

(Exhibits 13, 14 and 15 admitted into the record.)

CHAIRMAN JABER: Staff, Exhibit 16 is the late-filed deposition Exhibit Number 3.

MR. HARRIS: Yes.

CHAIRMAN JABER: Without objection, that will be admitted into the record.

(Exhibit 16 admitted into the record.)

CHAIRMAN JABER: On Exhibit 17, I think I'd like to go ahead and separate out FPL's response to staff's Interrogatory Number 35. We'll make that Exhibit 19 and hold onto its admission.

(Exhibit 19 marked for identification.)

CHAIRMAN JABER: That leaves for staff Exhibit 17 the responses to interrogatories 5, 6 and 7, and without objection Exhibit 17 will be admitted into the record.

(Exhibit 17 admitted into the record.)

CHAIRMAN JABER: Exhibit 18 is a late-filed exhibit.

I want to go back to Exhibit 9. Mr. Guyton, I've heard enough with respect to Exhibit 9. And, Mr., Moyle, Mr. McGlothlin, I'm assuming you still have an outstanding objection to the admission of Exhibit 9?

MR. McGLOTHLIN: Yes.

CHAIRMAN JABER: Here's my ruling. Exhibit 9 will not be admitted into the record. As it relates to some of the information that's contained in Exhibit 9, it's contained elsewhere in the record, so Exhibit 9 will not be admitted into the record. Thank you, Dr. Sim.

THE WITNESS: Thank you.

MR. HARRIS: Madam Chairman, did we move 18 into the record?

CHAIRMAN JABER: Not yet. That's a late-filed exhibit.

Our next witness is -- is it Mr. Green or Dr. Green?

MR. HILL: Dr. Green. We'd call Dr. Leonardo Green. And, Madam Chairman, Dr. Green has not been sworn.

CHAIRMAN JABER: Dr. Green, would you please raise your right hand?

LEONARDO GREEN

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

DIRECT EXAMINATION

BY MR. HILL:

Q Please state your name.

A My name is Leonardo Green.

Q By whom are you employed and in what capacity?

A I'm employed by Florida Power & Light. I'm the Manager of Load Forecasting in the, in the Resource Assessment and Planning Business Unit.

Q And did you have occasion to prefile direct testimony in this matter consisting of ten typewritten pages?

A Yes, I did.

Q And have you also prepared an errata sheet for that testimony?

A Yes, I did.

MR. HILL: Madam Chairman, the errata sheet is very simple. Could he simply note the change for the record?

CHAIRMAN JABER: Sure.

MR. HILL: Okay.

BY MR. HILL:

Q Dr. Green, please note the change from your errata sheet.

A On Page 3, Line 4, I'd like to add that "Dr. Green cosponsors Appendix C."

Q Now, Dr. Green, if I were to ask you the questions contained in your prefiled testimony, would your answers be the same as corrected by your errata?

A Yes.

MR. HILL: We would ask that the prefiled direct testimony of the witness be inserted into the record as read.

CHAIRMAN JABER: The prefiled direct testimony of Leonardo E. Green shall be inserted into the record as though read.

(REPORTER'S NOTE: For convenience of the record, the prefiled direct testimony of witness Leonardo E. Green was inserted into the record at Page 500.)

BY MR. HILL:

Q Dr. Green, did you also have occasion to prefile exhibits consisting of documents LEG-1 through LEG-8?

A Yes.

Q And is the information contained in the exhibits true and correct to the best of your knowledge and belief?

A Yes, they are.

Q We would ask that the exhibits to Dr. Green's prefiled testimony be identified.

CHAIRMAN JABER: Hearing Exhibit 20 is identified as LEG-1 through LEG-8.

(Exhibit 20 marked for identification.)

BY MR. HILL:

Q And, Dr. Green, do you mean sponsor portions of the Need Study?

A Yes, I do.

Q Which sections, please?

A I'm sponsoring the load forecast portion of Section V of the Need Study and Appendix G of the Need Study.

Q And per your errata, sir? Just note cosponsoring Appendix C, also.

A Cosponsoring Appendix C.

Q Thank you. Please summarize your testimony.

A Yes.

Q Wait. I may have one more question. Is the information contained in the Need Study to which you sponsored true and correct to the best of your knowledge and belief?

A Yes, it is.

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

FLORIDA POWER & LIGHT COMPANY

DIRECT TESTIMONY OF LEONARDO E. GREEN

DOCKET NOS. 020262-EI, 020263-EI

JULY 16, 2002

Q. Please state your name and business address.

A. My name is Leonardo E. Green, and my business address is 9250 West Flagler Street, Miami, Florida 33174.

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

A. I am employed by Florida Power & Light Company (FPL) as the Load Forecast Manager of the Resource Assessment & Planning Business Unit.

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

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

Q. Please describe your education and professional experience.

A. I received a PhD in Economics from the University of Missouri-Columbia, in 1983. I joined FPL in April of 1986 and in July of 1991, I became a Manager of Load Forecasting within the Resource Assessment and Planning Business Unit. I am responsible for coordinating the entire economics and load

forecasting effort for FPL. Prior to working for FPL, I worked for Seminole Electric Cooperative as the Load Forecasting Supervisor in the Rates and Corporate Planning Department. I have held several Assistant Professorships of Economics and Statistics as well as research and teaching positions with the University of Missouri, Florida International University, NOVA University, and the University of South Florida.

Q. What is the purpose of your testimony?

My testimony describes FPL's load forecasting process, the underlying methodologies and assumptions and the forecasts used in the Supplemental Request for Proposals (Supplemental RFP) analyses.

Q. Are you sponsoring an exhibit in this case?

A. Yes. It consists of the following documents:

Document LEG-1: FPL, 2001 MIX OF REVENUE CLASSES

Document LEG-2: NET ENERGY FOR LOAD

Document LEG-3: SUMMER PEAK

Document LEG-4: WINTER PEAK

Document LEG-5: TOTAL CUSTOMERS

Document LEG-6: NET ENERGY FOR LOAD PER CUSTOMER

Document LEG-7: SUMMER PEAK PER CUSTOMER

Document LEG-8: WINTER PEAK PER CUSTOMER

Q. Are you sponsoring any portion of the Need Study document and appendices?

A. Yes. I am sponsoring the load forecast portion of Section V of the Need Study document and Appendix G of the Need Study. Dr. Green co-sponsors Appendix C.

I. Description of FPL's Existing Customer Base

Q. Please describe FPL's existing service territory.

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

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

A. FPL currently serves more than 4.0 million customers and a population of more than 7.7 million people.

Q. Of the approximately 4 million customers served by FPL, what is the mix of residential, commercial and industrial customers?

A. FPL's customer mix, shown on Document LEG-1, is approximately 89% residential, 11% commercial, and less than one half of one percent in the industrial and other categories. As a percentage of sales, residential customers represent about 52% of sales, commercial customers represent 42%, and

industrial customers represent approximately 4% of total sales. The remainder of sales comes from other consumers.

Q. What were FPL's actual peaks and net energy for load during 2001?

A. FPL experienced a record summer peak of 18,754 MW in 2001, an increase of 5.3% from the 2000 summer peak, as shown on Document LEG-3. The winter peak for 2000/2001 was 18,199 MW, a 6.7% increase from the previous year, as shown on Document LEG-4. Net Energy for Load (NEL) in 2001 was 98,404 GWh, an increase of 2.5% from the 2000 NEL, as shown on Document LEG-2.

II. FPL's Load Forecasting Process and Results

Q. Please describe FPL's process to forecast the level of energy sales.

A. FPL develops econometric models to explain and predict the level of energy sales. Explanatory factors, such as the weather, the price of electricity, the economic conditions in Florida, the number of customers and seasonal factors, are used to develop the forecast of energy sales. An econometric model is a numerical representation, obtained through statistical estimation techniques, of the degree of relationship between the level of energy sales and the explanatory factors. A change in any of the explanatory factors will result in a corresponding change in the level of energy sales. On a historical basis,

econometric models have proven to be highly effective in explaining changes in the level of energy sales.

Predicting the level of sales in a future year first requires assumptions regarding the explanatory factors. These assumptions are obtained from several sources. For example, the future number of customers is based on population projections produced by the University of Florida's Bureau of Economic and Business Research (BEBR). The projected economic conditions are secured from the economic forecasting firm Data Resources Incorporated–Wharton Econometric Associates (DRI-WEFA). The weather factors are obtained from the National Oceanographic and Atmospheric Administration (NOAA). The price of electricity reflects the Commission's approved base rates and adjustment clauses. Seasonal factors in the consumption of electricity are derived from the weather seasons and the population seasonal pattern. Substantial analysis is performed in order to ensure that the assumptions regarding the explanatory variables are reasonable. This ensures that the forecast of energy sales is both realistic and rational.

The final end-use energy demand of electricity or billed energy sales is NEL-adjusted for line losses and for billing cycle. The billing cycle adjustment takes into account the difference between when a customer consumes electricity and when the meter is read.

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

A. The growth in use of electricity comes from the overall growth in per capita use of electricity by all customers, shown on Document LEG-6, and the growth in the number of new customers, shown on Document LEG-5. The product of per capita use multiplied by the number of customers yields the NEL for a given period. The per capita use of electricity and the increased numbers of new customers both are linked directly to the performance of the local and national economy. When the economy is booming, use of electricity increases in all sectors: residential, commercial, industrial and others. A strong economy creates new jobs that attract new customers. New households develop, including those of retirees from other states. However, the reverse also holds. If the economy is performing poorly, customers with reduced incomes are more apprehensive as to expenditures and tend to restrict their consumption of goods and services. Electricity demand and sales slacken when income falls. Job contractions reduce the number of new customers coming to Florida seeking employment opportunities. New household formations are postponed.

FPL relies on the outlook for the local and national economy produced by DRI-WEFA and the population growth forecast developed by the University of Florida.

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

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

The summer peak forecast is developed using an econometric model. The model is a per customer model that includes: the total number of FPL summer customers, the price of electricity, real Florida income as an economic driver, and maximum peak day temperature as a weather variable. The summer peak use per customer is shown on Document LEG-7. The model is estimated using an autoregressive term.

Like the system Summer Peak model, the Winter Peak model is also an econometric model. The Winter Peak model is a per customer model that consists of three weather-related variables: (1) the minimum temperature on the peak day; (2) a weather term which is a product of heating saturation and minimum winter day temperature; and (3) Heating Degree Hours from the prior day until 9:00 a.m. of the peak day. In addition, the model also has an economic term, Real Florida Income. An indicator variable, which is used to capture the effects of larger homes being built, is multiplied by the minimum temperature. The winter peak use per customer is shown on Document LEG-8.

Monthly peaks are forecast to provide information for the scheduling of maintenance for power plants and fuel budgeting. This forecasting process is basically the same as for the monthly NEL forecast and consists of the following actions:

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

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

A. FPL's need for resources, i.e. the amount of resources needed, is driven exclusively by the peak demand forecast because FPL's needs are currently determined by a reserve margin criterion. The sales forecast may have some influence on the type of resource needed.

Q. Is FPL's peak forecast, and its need for power, reduced by a short-term economic forecast that includes recovery from a recession?

A. No, not to any great degree. While an economic downturn may temporarily slow customer growth and result in a permanent loss of some growth, it does

not permanently reduce growth rates. FPL will grow again at something closer to its historical rates now that the recession has passed. Unlike sales, customer usage on the day of the peak is barely influenced by other economic factors such as per capita income or unemployment rates.

For example, Document LEG-6, shows in the recession between 1990 and 1992, energy use per customer grew at a negative rate of 0.83% annually. At the same time, summer peak demand per customer grew at a positive rate of 0.67% annually as shown in Document LEG-7. Further, in 2001 the summer peak forecast underestimated the peak forecast by 604 MW (+3.3%) while energy sales were over-estimated by 1.3%.

Q. How does FPL's projected rate of growth in peak demand compare to its historical growth?

A. They are very similar. Using summer peak as the example and shown in Document LEG-3, FPL's peak demand grew from 14,661 MW in 1992 to 18,754 MW in 2001, a 2.8% compound annual growth rate. For the forward-looking period, FPL is projecting a total peak demand of 22,687 MW by summer of 2010, which is a 2.1% compound annual growth rate. In absolute terms, the annual growth in summer peak between 1990 and 2001 was 444 MW while the projected growth between 2002 and 2011 is 435 MW annually. Both periods' growths are very similar.

Looking more specifically at the growth in peak demand for the period resources are needed, FPL projects a peak demand unadjusted for incremental conservation or load management of 21,186 MW in 2006, which is a 2.3% growth rate, slightly below FPL's historical experience since 1992. So while FPL is not projecting peak demand growth as high as it experienced during the booming 1990's, FPL is projecting significant peak demand growth.

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

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

Q. Please summarize your testimony.

A. The projected level of demand and energy is in line with the observed levels of growth experienced in FPL's system. In developing this forecast, FPL relied on information from dependable sources, and the models employed to generate this forecast met the most stringent statistical tests used to evaluate the suitability of forecasting models. FPL's forecast of demand and energy is well founded and reasonable.

Q. Does this conclude your testimony?

A. Yes, it does.

Errata Sheet
Direct Testimony of Leonardo Green
Docket Nos. 020262-EI and 020263-EI

Page, Line	Correction
3, line 4	Add that Dr. Green Co-sponsors Appendix C.

BY MR. HILL:

Q Could you please summarize your testimony?

A Madam Chairman, the purpose of my testimony is to present FPL's load forecasting process, what are the underlying assumptions and how is it we arrived at the projected level of peaks that are used in a need determination.

FPL has a service area; it's just over 27,000 square miles. We have a growing population base of just over 4 million customers. In reality, that's 7.7 million people that we're serving. And we have a very unique mix of customers. We have -- 89 percent of our customers are residential, about ten percent are commercial and less than one percent the rest.

The way we arrived at the projection for FPL load is a very straightforward and objective process. We developed an econometric model; that is we tried to quantify a dependent variable, which is load, with some primary drivers like the economy, weather, price of electricity, et cetera. Once we have developed that relationship, which is straightforward and can be replicated by anyone, we secure from reputable sources information regarding the economy, what the price of electricity is going to be, what the weather is going to be, and we feed that into the model and we arrive at what load is going to be in any given year.

For example, to obtain assumptions regarding the

economy, we have been relying on DRI and Standard & Poor's. With regard to the weather, we use the NOAA, the National Oceanographic and Atmospheric Administration data. The price of electricity is just the Commission-approved base rates plus the fuel clauses. And the customer growth comes from the University of Florida; the projections of population are given to us by the University of Florida.

So we take all of these objective assumptions and we feed them into our model and that's how we arrive at what the summer peak is going to be.

I guess the best way to evaluate whether a forecast makes sense or not is to compare what has happened in the recent past with what we're projecting in the, for the future. And what we have arrived at is in the last ten years our summer peak has grown at the rate of 444 megawatts per year. We're projecting that for the next ten years it's going to grow at 435 megawatts.

Similarly, the winter peak has grown at the same amount, 444 megawatts per year, and we're projecting a growth of 459 megawatts per year.

Given the similarity between what has recently happened and what we're seeing for the future, we believe that this is a good forecast and it should be used in this analysis of need determination.

And I'd just like to remind the Commission that the

summer peak is the one that drives the need for capacity. That ends my summary.

MR. HILL: Tender the witness for cross-examination.

CHAIRMAN JABER: Thank you. Mr. Moyle?

CROSS EXAMINATION

BY MR. MOYLE:

Q Mr. Green, I have a few questions for you related to your, your testimony.

Do you run the models that are the basis for your testimony?

A They're run under my supervision. I'm very much involved with how these numbers are arrived at.

Q But you don't actually run them?

A No.

Q Okay. Who does?

A I have several people working under my direction; one of which is Ms. Anita Sherman, another one is Mr. Harvey Salia (phonetic).

Q Okay. Do I understand correctly that the models that you run in the forecast are then used to put together like your ten-year site plan and how much power Florida Power & Light is going to need in the future?

A That's correct.

Q Okay. I had a question about your forecast of sales. Why are forecast sales used?

A When I provide the forecast, I provide a complete set of numbers, including energy and peaks. The reason why the number was provided is this is the same forecast that's used for fuel cost recovery purposes, and they might use one component that might not be used in the need determination, but the forecast needs to tie. I would not produce a forecast for one purpose and another forecast for another purpose. I try to have the same set of numbers for all purposes in the company.

Q You talk about the economic forecast and you use that. What does the -- do you know, if you know, what does the projections indicate with respect to FPL's economic growth for the year 2005?

A What do you mean by "FPL's economic growth"?

Q I'm sorry. Florida's economic growth.

A The latest forecast is that we will continue to grow at a slow rate. You want more information?

Q Yes. What's the percentage that you forecast through 2005?

A I don't have it with me here. I think it's the -- there's several factors when you're looking at the economic projection: Per capita income, gross debt product, personal income. They're all very related, and I would, I would think that they're around 2.5 to 3 percent for the State of Florida.

Q 2.5 to 3?

A Approximately.

Q Okay. The -- do you know -- I've been just following the news reports and what not. Did your model presume that we were coming out of a recession and that we would have recovery?

A That's the assumption, that's correct, that we will be coming out of a recession this year and then we'll return to some kind of a normal growth for the next few years.

Q Okay. And if I understood your testimony correctly, when the economy is down, then there's a reduced, slightly reduced demand for electricity; correct?

A That's correct.

Q Okay. So you didn't run the model with respect to whether we may be going into what they call a double dip recession; is that correct?

A No. But we looked at it extensively, and we don't believe that for Florida we will have a double dip recession.

Q Okay. And is that your belief or did you rely on somebody else for that?

A That is my belief and that is DRI's belief. DRI does not expect that we're going to have a double dip either for Florida or for the U.S. as a whole.

Q If we did have a double dip, then that would reduce the, the need in your forecast somewhat, would it not?

A If we had a double dip, it would reduce the need somewhat, yes.

Q Do you know if it would reduce it by 15 megawatts?

A It would.

Q On Page 10 of your testimony, Line 2, you state, "FPL projects a peak demand unadjusted for incremental conservation or load management of 21,186 megawatts in 2006." And the question I wanted to ask you is why don't you adjust for incremental conservation or load management?

A That is done at a later step, and that is what Dr. Sim does when he calculates the reserve margins.

My, my outlook is if nothing new is done, what is the total demand of electricity going to be in FPL's service territory? I don't take into consideration what new consideration programs are going to enter or what new load management programs will enter. My job is to say what the amount of electricity is going to be.

Q Okay. Do you know if you did take this number and adjust it for incremental conservation, whether your megawatt number would be reduced by more than 15 megawatts?

A I don't know. I don't know what's the level of conservation.

Q Okay. The same question with respect to load management, you don't --

A I don't know how much is that.

Q Okay. On Page 10 there at Line 17 you indicate that the models employed to generate this forecast meet the most stringent statistical tests used to evaluate the suitability of

forecasting models. What are those stringent statistical tests you're referring to?

A There are several tests that you use to evaluate a model, one of which is the R square (phonetic), which is how well has the variation in load been explained. These models do a good job of explaining approximately 94 percent of the variability in load.

Another statistical test that is used is the T (phonetic) statistics, that is is there a relationship between the variables that I'm using in the model and the variable I'm trying to explain, which is load. The variables that I've been using are the economy, price of electricity, weather and customer growth. And we have found that, yes, there is a significant relationship.

And, finally, the other statistical test that we look at is the error term (phonetic), how does the error term perform? Is it distributed normally, is it a constant variance over time, is there any presence of multicolinearity in your variables? All of that is examined. Once that is taken care of, then we say we have a good model.

Q Okay. So would I be correct then in assuming that the tests you use are unique to your model and couldn't be used on, on other models?

A All statistical models should perform those tests.

Q Okay. Do you know if the EGEAS model performed those

tests?

A That is a different type of model. This is a statistical, specifically multiple regression technique. The EGEAS model, as I understand it, is an optimization model, which is completely different from what I do.

Q It might be apples to oranges, I guess; right?

A Very much so.

Q Okay. I talked a little bit about the economy and the double dip recession that hopefully we will not have but some people think we may. Let me just ask a couple more questions and I think we'll be done. But with respect -- you indicated another key input is weather; is that right?

A That's correct.

Q How historically have you done with respect to predicting the weather? I mean, you always hear the weatherman being 50 percent right or right half the time. How, how have you done in terms of predicting the weather for your, for your growth?

A I have not tried to predict the weather. We have used whatever NOAA is suggesting that the average should be. Historically we have been above and below that average that NOAA suggests that we do.

I would say that in the last ten years it has been hotter than normal. In that case, I would say that on the weather side we have underforecasted what it should be.

Q Okay. Have you made an adjustment in the model, given that, that trend?

A I have not adjusted the model for weather. I used the same averages that NOAA provides us.

Q Okay. Thank you for your time. I appreciate it.

CROSS EXAMINATION

BY MR. McGLOTHLIN:

Q Dr. Green, I'm Joe McGlothlin. I represent Florida PACE. I have several questions about your testimony. Let me refer you to Page 6 of your direct testimony. Beginning at Line 9 you say, "A strong economy creates new jobs that attract new customers. New households develop, including those of retirees from other states. However, the reverse also holds. If the economy is performing poorly, customers with reduced incomes are more apprehensive as to expenditures and tend to restrict their consumption of goods and services. Electricity demand and sales slacken when income falls. Job contractions reduce the number of new customers coming to Florida seeking employment opportunities. New household formations are postponed."

So you recognized in your testimony that economic conditions are a strong factor in your assessment of future growth of demand on FPL's system.

A The economy is very important. Right.

Q And in your testimony and I think in your summary you

say that, among other things, FPL relies on predictions or analyses by DRI; is that correct?

A That's correct.

Q When was your testimony prepared?

A My testimony was prepared sometime this year, approximately maybe June or before -- early this year. I don't remember exactly; maybe May/June time frame.

Q And of what vintage was the information from DRI that you had when you prepared the testimony?

A September 2001.

Q Have -- does FPL on a regular basis receive information from DRI?

A We do on a regular basis.

Q How regularly, how frequently?

A Monthly.

Q I'll refer you to Pages 7 and 8. I'm sorry. Pages 8 and 9. Beginning at the bottom of Page 8 you say, "While an economic downturn may temporarily slow customer growth and result in a permanent loss of some growth, it does not permanently reduce growth rates. FPL will grow again at something close to its historical rates now that the recession has passed."

At what point in time were you referring when you made the statement "now that the recession has passed"?

A Let me explain a few things here, if I may.

Last year up to 9/11 when the nation was experiencing a serious slowdown, Florida economy was booming. Through August of last year when the U.S. economy generated 250,000 jobs, Florida -- I'm sorry. The Florida economy -- the U.S. economy generating 750,000 jobs. The Florida economy had created 250,000, meaning to say that one out of every three jobs that were created in the nation were being created in Florida, to give you an idea of the strength of the Florida economy.

Come 9/11 there was a very pessimistic outlook. However, as of July of this year when the nation has lost approximately 2 million jobs, Florida is experiencing positive job growths in spite of the fact that we thought that it would be gloom and doom for the rest of this year.

Q Yes, sir. My question was at what point in time were you referring when you said "now that the recession has passed"?

A When I was preparing this, this document.

Q All right. I have a document I wish to hand out. I don't believe I'm going to ask that it be made an exhibit, but I would like to pose a question based on it. Dr. Green, I'll just ask you to take a moment and familiarize yourself with it.

Dr. Green, I've provided to you a copy of an article appearing on Yahoo! Finance. The caption says, "CEOs see slower economic growth ahead." And I'll offer this as one of

the many examples we've seen in press coverage regarding what business leaders and some knowledgeable people see for the future.

Does this correspond with DRI's assessment that you receive periodically?

A This is what DRI is also saying. They're expecting slower growth in the economy, and our forecast is based on this assumption of a slow economic growth.

If, if the economy was performing the way it did in the '90s, my forecast would have been even higher than what it is.

Q Based upon the fact that sources including DRI more recently than at the time you compiled your testimony continue to see slower growth, do you have, do you believe that should lead you to revise your forecast that you presented today in any way?

A I think we went with a conservative forecast. There are so many arguments out there. Let me give you one that's gaining popularity out there. And I'm not sure I buy into this idea yet, but it's gaining a lot of popularity.

Come 9/11, okay, we were forecasting that the U.S. economy was going south. A lot of things happened. The government lowered interest rates by 175 basis points. Government expenditures shot up. There are quite a few economists out there that are saying that because of those

indirect effects, maybe the U.S. economy is doing even better than it would have had 9/11 not happened just because of the fiscal and monetary policy and government spending that has happened.

We have taken all of that into consideration. As I said, I think that my forecast is a conservative one. I think we have these assumptions built into our forecast.

Q All right, sir. Again at Page 9 you say, "FPL will grow again at something closer to its historical rates now that the recession has passed." Suggesting that while the downturn affected the growth of FPL's business for a while, do you expect that will turn around and that things will ramp back up to the historical trend; is that correct?

A That's correct.

Q And later you say that you've projected a 2.1 compound annual growth rate; is that correct?

A Yes.

Q I want to refer you to your document number LEG-3, Page 1 of 1, which is the forecast of summer peak.

A Yes, sir.

Q And looking at the lower part of the page, the forecast for years 2002 and 2011, the percent growth is on the right-hand column, is it not?

A That's correct.

Q And these are the ones that average 2.1 percent per

year?

A That's correct.

Q But isn't it true that this projection is somewhat front-end loaded in that the growth projections for 2003 and 2004 are, are higher than the overall average of 2.1 percent?

A The reason why 2003 shows a substantial jump is because the price of electricity for 2003 is lower than the price of electricity for 2002. We had a rate reduction in 2002; however, we believe that the full impact of a price reduction takes approximately three months. So we will usually peak in July or August, so the full impact of that price reduction has not been seen yet on our system. Next year when our customers see a much lower price of electricity, we'll give that growth rate.

In addition to the front, loading the front end as how you mentioned, we believe that our customer growth will begin to taper off some. We're getting much better growth now than what we expect to get around 2010 or 2011. So all of that put together is what is, in addition to the economy, the bigger customer growth right now, the lower price of electricity is great, in greater growth right now.

Q Would the lower price of electricity cause such a one-year blip as appears in 2003 relative to the other years?

A Not -- this is not only price of electricity. It's a combination of several factors. But, yeah, we have a concept

that we call price elasticity. On peaks we have a price elasticity of .18. So if we lower price by 7 percent, let's say, I have a price elasticity of .18, you're going to get approximately one and half percent growth just due to the effect of price. Allowing to that customer growth, and probably the economy coming back 2003 stronger than it is right now, I think that number makes sense.

Q In addition to the 3.3 percent that appears in 2003, you're projecting 2.3, 2.4, 2.3 for the years following, do you not?

A That's correct.

Q And would you agree that those figures, when applied to project the summer peak load, result in an indicated need that is greater than one would see if you applied the 2.1 percent average compound growth throughout the entire period?

A I'd have to check that because what's going on here is the base is getting bigger. As the base gets bigger, you have to be very careful when you talk of percentages because a small percentage might correspond to even a larger growth in absolute value. I'd have to -- I would have to check that manually to see. But I think, I think that the 2.1 should be the average of the entire year, but I would like to check it mathematically.

MR. MOYLE: Madam Chair, while they're taking a

minute, I just want to bring to your attention -- Mr. Guyton and I talked, I think we've previously indicated, about trying to reach a stipulation about my need to ask questions of every witness as to whether they knew of a settlement agreement or not.

CHAIRMAN JABER: Yes, Mr. Moyle.

MR. MOYLE: And my understanding is that Mr. Guyton and I have agreed that I do not have to ask that question of all of the witnesses because the answer would be they do not know, with one exception.

And so given what I -- with that, my understanding, I've forgone asking those questions. If that's not accurate, then I'd like to just preserve the record and ask the questions. But I think we're trying to save time with that kind of agreement.

CHAIRMAN JABER: What's the exception? You said with one --

MR. MOYLE: One witness. There's one witness that may know the answer and I'm going to ask that witness.

CHAIRMAN JABER: Thank you, Mr. Moyle. Mr. Guyton, is that correct?

MR. GUYTON: With, with that correction at the end, that the witness may know, yes.

CHAIRMAN JABER: Thank you.

BY MR. McGLOTHLIN:

Q Dr. Green, on the subject of the difference one would see if one applied the 2.1 percent compound annual through the period, it's our belief that that would translate into a summer peak for 2005 that is lower by about 400 megawatts than the 20,719 megawatts. Does that appear to you to be a reasonable estimate of the application of the 2.1 percent?

A I cannot buy into applying that. For those years we're projecting 3.3, 2.3, 2.4 and 2.3. So if I applied 2.1, I am going to arrive at a much lower number as, as how you have done.

Q You agree that the number would be lower, but you don't agree with the application of the number?

A I do not agree with the application.

MR. McGLOTHLIN: That's all the questions we have.

MR. PERRY: No questions.

CROSS EXAMINATION

BY MR. TWOMEY:

Q Good morning, Dr. Green.

A Good morning.

Q In your opening statement or your summary of your testimony you said that your forecast methodology was very objective; correct?

A That's right.

Q Okay. Let me ask you if you use the same data sources and the same forecast methodologies in producing your

peak load forecasts in both your 2001 and 2002 ten-year site plans?

A The assumptions were slightly different between both forecasts. But the modeling, the model itself with minor updates because of one year more of data should be the same. However, the assumptions that went into 2001 and 2002 were slightly different.

Q And who creates the assumptions?

A Those are the assumptions that I get from DRI, from NOAA, from the University of Florida and the Commission-approved rates.

Q Okay. You do, however, on occasion insert handwritten or somewhat subjectively unique load drivers in your forecast, do you not?

A Yes.

Q For example, in -- you don't -- do you have Appendices A through D?

A I should have one. May I borrow one from you?

MR. HILL: Yeah. Of course.

THE WITNESS: Thank you.

BY MR. TWOMEY:

Q If you would turn to Page D-36, Dr. Green. And this particular site plan is your 2001 addition; correct?

A This site plan for the need determination, is that 2002?

Q No. I'm sorry. The one I'm asking you to look at is your 2001 ten-year site plan; correct?

MR. HILL: Mr. Twomey, I'm sorry. Could I have again the reference where you are?

MR. TWOMEY: Yes. Let me make sure I'm right here. The -- I've asked him to look at Page D-36 in Appendix D, and I'm asking him is this not a page out of the 2001 ten-year site plan.

THE WITNESS: This is 2001.

BY MR. TWOMEY:

Q Right. That's reflected on Page D-1; right?

A That's right.

Q Okay. And on, on Page D-36, however, I wanted to ask you with reference to the bottom paragraph, the last paragraph on that page that talks about the rise of the telecommunications industry. Okay? And essentially that says, does it not -- let me read the -- or if you'd read down at the bottom where it starts with, "For example." Page D-36 where it says, "For example."

A I'm sorry, I'm on D-37. D-36.

"For example, FPL's 2000 forecast includes an estimate that in three years the new load attributed to telecom facilities would reached as much as 570 megawatts."

Q Okay. And it goes on. It says, "This additional load in its entirety was treated as a line item adjustment and

was added to FPL's 2000 energy and peak forecast." Correct?

A That's correct.

Q Okay. So that was, that would be an example, would it not, of something that you thought was, warranted a line item adjustment and it was made; correct?

A That's correct.

Q Okay. Now let me ask you this. The -- did that telecommunications load and energy come to pass?

A No, it did not.

Q Because things kind of --

A The telecom industry went south.

Q Went south. Right. Now is that -- did you, did you line out that adjustment?

A Let me --

Q Have you since lined out the adjustment? Pardon me for interrupting.

A For the new forecast we did not include 570 megawatts of telecom load. That's correct.

Q But did you -- but my question is if there's a difference, did you take out the 570 that you put in in the year 2000?

A Let me explain the rationale that I used, please, in 2002.

In the summer of 2001 our forecast was approximately 600 megawatts higher than what we forecasted. What we did then

in the, when putting together this forecast is, yes, I have to adjust, each year I have to adjust my forecast from my most recent actual value, what actually happened in 2001.

So I start out with 600 megawatts higher than my prior year because I missed it by 600 megawatts. However, when I was putting together this forecast, I did not expect to obtain this 570 megawatts. So instead of adjusting up my forecast by 600 megawatts, the net effect was to adjust it up by only 300 megawatts once I removed a substantial portion of the telecom load from my 2002 forecast.

So, yes, I removed almost -- I think I remained with about between 60 to 90 megawatts of telecom load in this forecast. I reduced it. But the net effect, the net effect of all of this is a higher forecast by about 300 megawatts just because of what happened in 2001.

Q Okay. And so I can be sure I understand that, it's your testimony that you each year adjust your next year's forecast by the amount that you know you missed in the previous site year plan; is that correct?

A I -- it's a little more detailed than that.

If I had missed by 600 megawatts and the temperature was 100 degrees, I would not have adjusted because it was due to abnormally hot weather. However, after I look at the economy, I look at the weather, I look at prices and everything was in line, that suggests that I need to make an adjustment to

my forecast. And that's what's happened in 2001, just that I needed an adjustment to my forecast.

Q Yes, sir. But to the extent that you do those things, those are, those are somewhat objective, although they use your professional expertise in determining how to, to employ them; is that correct?

A It's very objective because when I have one more year of data, I resubmit my model now including 2001. So my model would have changed because I now have a 2001 value that's much higher that was in 2000.

The statistical model will pick that up automatically what happened in the system. And if you -- the forecast that the model will give without me having to do anything to it just because it was actualized to that 2001 number will give you a higher forecast approximately by 600 megawatts.

Q Okay. Now I want to try and understand something more clearly that you testified to in response to Mr. McGlothlin. Tell me if this is not correct.

I think I heard you tell Mr. McGlothlin that your prefiled direct testimony was prepared in May or June of this year; is that correct?

A The testimony, this document, yes. My forecast was put together, however, in late September of last year.

Q The forecast contained within your, in your exhibits?

A That's correct.

Q Okay. And, and you told Mr. McGlothlin, I believe, and tell me if this is correct, if I heard correctly, that you used DRI data from September 2001 in your forecast, notwithstanding the fact that you received DRI data monthly?

A That's correct.

Q Okay. And let me ask you this, the, the DRI data that is described as being September, did that data submission reflect activities prior to or subsequent to 9/11?

A Subsequent to 9/11.

Q Subsequent to. Okay. Would you look at your -- have you, have you -- on that, the September 2001 DRI data, have you looked at that data and compared it to what you would have seen in the, in the most recent DRI data?

A That's right. I do that on a regular basis.

Q And how, how do the two compare in terms of forecasting?

A The numbers that I used in my forecast are more conservative than what's happening right now.

Q Now your 2002 ten-year site plan was, was filed in April of this year.

A That's correct.

Q What, what, what vintage DRI data would you use in preparation of the site plan?

A I would use the same set of information of late September 2001.

Q Okay. That's been your, that's been your practice to use that much of a delayed vintage in preparing your site plans?

A That's right.

Q Would you look at your Exhibit LEG-3, Dr. Green?

A Yes.

Q Mr. McGlothlin asked you a number of questions on this, and I just have a question aside from what he spoke to in terms of the 2.1 percent compound average growth rate.

If you know, why does, why is the absolute growth figure for the year 2005 larger than it is for the prior and subsequent year?

A I would suggest it's a combination of several factors. I would have to look at the exact, the exact assumptions that were used from the DRI: What's the real price of electricity during that year, what's the inflation that year? So it's a combination of all of those that produce that 493 growth in 2005.

Q Okay. But whatever the collective reasons, they result in a little spike or a little blip there in that 2005 year; right?

A Yes.

Q Okay. Let's turn to the next page, which is LEG-4, please.

A Yes.

Q Now this shows -- this exhibit purports to show the winter peak. And the same spike or blip occurs in the year 2005; correct?

A That's correct.

MR. TWOMEY: One second, Madam Chairman.

BY MR. TWOMEY:

Q Sir, do you have a pencil?

A Yes, I do.

Q Pen? Would you, would you take the figure in absolute growth just for the winter -- this just struck me -- for 2005 and subtract from it the figure, the prior year, 2004?

A That is take 20,480 and subtract --

Q No. I'm sorry. The absolute growth.

A Oh, 441 minus 426?

Q Yes, sir. What does that give you?

A 15 megawatts.

Q Okay. And on LEG-5, the same, the same -- now that purports to show -- what does that show, Dr. Green? That's total customers. There's -- that's total customer growth per year?

A Right.

Q Okay. And for whatever the reasons in the, the econometric model that you used, the customer growth in that year is greater than the prior and subsequent year; correct?

A That's correct. And there's a reason for that.

Q Okay.

A The University of Florida provides five-year intervals. Okay. So they'll give us 2000, 2005, 2010, and we simply do a linear interpolation between years to try and smoothen it as much as possible. Most likely what they have done is adjusted 2005 up because I think these might include pre, post-census data. So each year they provide you an update, a five-year interval update.

So most likely what this, what's happening here is that the University of Florida number might have jumped slightly in the year 2005.

Q They do that every five years?

A They do that every year, but they only give you five-year intervals. They won't give you an annual projection. They'll give you five-year intervals.

Q Okay. Let me ask you this, if you know. Typically on your system how many, how many households can be served at peak by 15 megawatts?

A Approximately 3,000 households.

Q 3,000?

A Uh-huh.

Q Okay. Now this is -- if you go to page, your exhibit LEG-6, and I'll be about finished.

I understand -- this, this exhibit shows net energy for load per customer; correct?

A That's correct.

Q Now I understand, Dr. Green, that there's a difference, different drivers, if you will, between what results in an increase in your peak load versus the factors that affect your energy sales; right?

A It's complete -- two different animals.

Q But why, why for the year 2005, if you know, on this exhibit do you show a lower load or sales per customer than you have for the prior and subsequent year when all the rest of the exhibits show increased peak demand?

A This is net energy for load per customer.

Q Right.

A Okay. We have a long-term model and a short-term model. The short-term model goes out five years. What we do is for the -- we make a transition from the short-term to the long-term five years out. So all, all this is showing here is that in this energy for load we're showing lower growth rate from the year 2007 onward.

Q Yes. But does that explain the question I just asked you about why 2005 is lower than, than it is for 2004 or either 2006 is where they fall off? See there's -- whereas, the rest of the, rest of your exhibits that we just discussed previously show a slight peak or spike going from 2004, 2006, this document, if I'm reading it correctly, shows a valley; is that correct?

A What you're saying is that from 2004 to 2005 that the net energy for load fell slightly, the growth?

Q Yes. Yes. And then it goes back up in 2006; correct?

A That's possible. That's a, that's a very small change. However, I need to clarify something. This is net energy.

CHAIRMAN JABER: Dr. Green, I'm going to let you explain. But the question is very specific: Do you know why the number decreases from 2004 to 2005?

THE WITNESS: I would have to check my numbers. I do not know offhand.

MR. TWOMEY: That's all I have, Madam Chairman.

CHAIRMAN JABER: Thank you, Mr. Twomey.

MR. HARRIS: Commissioners, we just have a few questions.

CHAIRMAN JABER: Go ahead.

CROSS EXAMINATION

BY MR. HARRIS:

Q Dr. Green, we're going to hand you a document that's been marked as Exhibit 19 for hearing. I believe a copy has already been passed out as part of the packet earlier.

CHAIRMAN JABER: Exhibit 19, this is FPL's response to staff Interrogatory Number 35.

MR. HARRIS: That's correct, Chairman.

BY MR. HARRIS:

Q Are you familiar with this document at all, Dr. Green?

A Yes, I am.

Q Okay. To the extent that you know, are you familiar at all with the FMPA contract listed in this document?

A Very general knowledge.

Q Do you -- are you aware of what the capacity of the sale is in this contract?

A The way I incorporate this in my forecast -- I could tell you about how I incorporate it in my forecast.

Q Okay. If you could do that for me basically.

A My understanding is that FPL, due to a settlement, and I don't know what's the reason of the settlement, we agreed to sell FMPA 75 megawatts of capacity, and I understand that the rate at which we're selling the price associated with this sale is somewhat favorable to FMPA.

And I assume that given that the price is so good that they're going to be taking this 75 megawatts 24 hours a day through the extension of their contract.

Q For purposes of your forecast or for purposes of the ten-year site plan, would this sale be a decrease in capacity or an increase in load forecast?

A This is a line item adjustment where I increase my forecast by 75 megawatts.

Q So it would be an increase to your forecast?
A Right.
Q Do you have any general knowledge of when this contract was negotiated and signed?
A I don't remember exactly. I know it was in my 2001 plan and it's in my 2002 plan.
MR. HARRIS: That's all the questions I have. Thank you.
CHAIRMAN JABER: Commissioners? Redirect.
MR. HILL: Very briefly.

REDIRECT EXAMINATION

BY MR. HILL:
Q You were asked a question by Mr. Twomey at the end there concerning your exhibit. I believe it was 7, was that the -- or I believe it was Number 6 on the net energy for load per customer.
A That's right.
Q And he asked you whether you knew why there was a change in Column 3 for absolute growth for year 2004 to 2005.
Did you have a further explanation that you wish to offer to the Commission?
A Yes. Statistically 429 and 422, there's no difference. The models are not that accurate that you can distinguish between 429 and 422. They're -- for all practical purposes, if I'm going to sell 27,000 megawatts, a difference

of 7 megawatts is asking too much of the model to, to add in the fire. However, what I wanted to clarify was that here we're talking of net energy for load. Net energy for load has no play whatsoever in a need determination. A need determination is based solely on peak demand forecast. Net energy for load has no play in the need determination.

Q And on that point, the peak, the peak determination that this proceeding is to be concerned with is the summer peak; is that right?

A Is the summer peak.

MR. HILL: No further questions.

CHAIRMAN JABER: Thank you, Mr. Hill.

We've got exhibits. Thank you, Dr. Green.

THE WITNESS: Thank you.

CHAIRMAN JABER: Exhibit 19, staff. Without objection, Exhibit 19 is admitted into the record.

(Exhibit 19 admitted into the record.)

CHAIRMAN JABER: FPL Exhibit 20 is LEG-1 through LEG-8. Without objection, Exhibit 20 is admitted into the record.

(Exhibit 20 admitted into the record.)

CHAIRMAN JABER: We're going to break here for lunch. We'll come back at 1:00.

(Transcript continues in sequence with Volume 5.)

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

I, LINDA BOLES, RPR, Official Commission Reporter, do hereby certify that the foregoing proceeding was heard at the time and place herein stated.

IT IS FURTHER CERTIFIED that I stenographically reported the said proceedings; that the same has been transcribed under my direct supervision; and that this transcript constitutes a true transcription of my notes of said proceedings.

I FURTHER CERTIFY that I am not a relative, employee, attorney or counsel of any of the parties, nor am I a relative or employee of any of the parties' attorneys or counsel connected with the action, nor am I financially interested in the action.

DATED THIS 4th DAY OF OCTOBER, 2002.

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