BEFORE THE
FLORIDA PUBLIC SERVICE COMMISSION

In the Matter of:

DOCKET NO. 090505-EI

REVIEW OF REPLACEMENT FUEL COSTS ASSOCIATED WITH THE FEBRUARY 26, 2008, OUTAGE ON FLORIDA POWER & LIGHT'S ELECTRICAL SYSTEM.

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VOLUME 1

Pages 1 through 203

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PROCEEDINGS: HEARING

COMMISSIONERS PARTICIPATING: COMMISSIONER LISA POLAK EDGAR
COMMISSIONER NATHAN A. SKOP
COMMISSIONER DAVID E. KLEMENT
COMMISSIONER BEN A. "STEVE" STEVENS III

DATE: Wednesday, March 17, 2010

TIME: Commenced at 9:30 a.m.

PLACE: Betty Easley Conference Center
Room 148
4075 Esplanade Way
Tallahassee, Florida

REPORTED BY: LINDA BOLES, RPR, CRR
JANE FAUROT, RPR
Official FPSC Reporter
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APPEARANCES:

JOHN T. BUTLER, ESQUIRE, R. WADE LITCHFIELD, ESQUIRE, and MITCHELL S. ROSS, ESQUIRE, Florida Power & Light Company, 700 Universe Boulevard, Juno Beach, Florida 33408-0420, appearing on behalf of Florida Power & Light Company.

VICKI GORDON KAUFMAN, ESQUIRE, Keefe Law Firm, 118 North Gadsden Street, Tallahassee, Florida 32301, appearing on behalf of the Florida Industrial Power Users Group.

CECILIA BRADLEY, ESQUIRE, Office of Attorney General, The Capitol - PL01, Tallahassee, Florida 32399-1050, appearing on behalf of the Citizens of the State of Florida.

CHARLES J. BECK, ESQUIRE, JOSEPH A. McGLOTHLIN, ESQUIRE, and J. R. KELLY, ESQUIRE, Office of Public Counsel, c/o The Florida Legislature, 111 West Madison Street, Room 812, Tallahassee, Florida 32399-1400, appearing on behalf of the Citizens of the State of Florida.

LISA BENNETT, ESQUIRE, and KEINO YOUNG, ESQUIRE, Florida Public Service Commission, 2540 Shumard Oak Boulevard, Tallahassee, Florida 32399-0850, appearing on behalf of the Florida Public Service Commission Staff.

APPEARANCES CONTINUED:

MARY ANNE HELTON, DEPUTY GENERAL COUNSEL, FPSC General Counsel's Office, 2540 Shumard Oak Boulevard, Tallahassee, Florida 32399-0850, appearing as advisor to the Commission.

I N D E X

EXHIBITS

NUMBER:		ID.	ADMTD.
1	Comprehensive Exhibit List	32	32
2	GJY-1	112	171
3	GJY-2	112	171
4	GJY-3	112	171
5	GJY-4	112	171
6	GJY-5	112	171
7	GJY-6	112	171
8	GJY-7	112	171
9	GJY-8	112	171
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26	Staff Exhibit 26	32	32
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34	Second Deposition of J.A. Stall	33	33
35	Deposition of Dr. Dismukes	34	34

P R O C E E D I N G S

COMMISSIONER SKOP: Good morning. I'd like to call this hearing to order. If staff could please read the notice.

MS. BENNETT: Pursuant to notice duly given, this day and date was set for the hearing in Docket Number 090505, review of replacement fuel costs associated with the February 26th, 2008, outage on FPL's electric system.

COMMISSIONER SKOP: Thank you. If we could now take appearances.

MR. BUTLER: Thank you, Mr. Chairman. John Butler appearing on behalf of Florida Power & Light Company. Also making an appearance for Mitchell Ross and Wade Litchfield.

COMMISSIONER SKOP: Good morning.

MR. BUTLER: Good morning.

MR. BECK: Good morning, Commissioner. I'd like to make an appearance for myself, Charlie Beck, as well as J. R. Kelly and Joe McGlothlin, Office of the Public Counsel, appearing on behalf of the citizens of Florida.

COMMISSIONER SKOP: Good morning.

MS. KAUFMAN: Good morning, Commissioners. Vicki Gordon Kaufman. I'm with the law firm of Keefe,

Anchors, Gordon & Moyle, and I'm appearing on behalf of the Florida Industrial Power Users Group.

COMMISSIONER SKOP: Good morning. And is the Attorney General's Office making an appearance?

COMMISSIONER STEVENS: I think she's walking in the door.

COMMISSIONER SKOP: I believe, I believe she's coming in.

Well, we'll move on to staff and come back to the AG.

MS. BENNETT: On behalf of staff, Lisa Bennett and Keino Young.

COMMISSIONER SKOP: All right.

MS. HELTON: Mary Anne Helton, advisor to the Commission.

COMMISSIONER SKOP: And Ms. Bradley.

MS. BRADLEY: Cecilia Bradley, Office of the Attorney General, on behalf of the citizens of Florida.

COMMISSIONER SKOP: Good morning. At this point, staff, are there any preliminary matters that we need to address?

MS. BENNETT: Yes, we have a few. First I want to note that OPC has filed a request for official recognition of two orders from two other state commissions, Louisiana and Texas. Now would be the

appropriate time for the presiding officer to rule on that.

COMMISSIONER SKOP: Staff recommendation, Ms. Helton?

MS. HELTON: They seem to me to be appropriate matters for which the Commission can take official recognition, and I don't know of any objections by any of the parties.

COMMISSIONER SKOP: Any objections by the parties?

MR. BUTLER: No, FPL does not object.

COMMISSIONER SKOP: Hearing no objections, we'll take official recognition of the two orders from Louisiana and Texas respectively.

Any other preliminary matters, staff?

MS. BENNETT: Yes. There are no objections to the Comprehensive Exhibit List and there are no objections to the admission of staff's Exhibits 26 through 33. We will also have two additional exhibits to be entered into the record when it's -- after opening statements. We'll deal with that when the record is opened.

COMMISSIONER SKOP: Very well.

MS. BENNETT: And additionally, Commissioner Skop, the, at the Prehearing Conference, the parties

asked that each side be permitted a total of 30 minutes for opening statements and witness summaries with the time divided as each deemed, as each side deemed appropriate. This morning they gave us a time schedule allocating their 30 minutes per side, and I believe that Mike Staden has it and I think you each have a copy of that time on your dais.

COMMISSIONER SKOP: All right. And if the parties are prepared to address the allocation of time and how they're intending to use it, this would probably be the appropriate time.

MR. BUTLER: Thank you, Mr. Chairman. For FPL, and I apologize, I'm looking at my BlackBerry because I'm looking at the email I sent to the parties last night and this is the form I have it in, we are proposing ten minutes for opening statements. And then Mr. Stall's summaries being eight minutes total, four minutes for direct, four minutes for rebuttal; Mr. Yupp's summaries, three minutes total, two minutes for direct and one minute for rebuttal; Mr. Avera's summaries, six minutes total, three minutes for direct and three minutes for rebuttal; and Mr. Keith's summaries, one minute for direct and two minutes for rebuttal, a total of three minutes. And by my math, that adds up to 30 minutes total.

COMMISSIONER SKOP: Very well. Thank you.

Mr. Beck.

MR. BECK: Yes, Commissioner. We've asked to reserve ten minutes for an opening statement by the Office of Public Counsel, five minutes each for opening statements by the Attorney General and FIPUG, and then ten minutes for a witness summary by Dr. Dismukes.

COMMISSIONER SKOP: Okay. Very well. Thank you.

Staff, any additional preliminary matters?

MS. BENNETT: As I understand, Mr. Staden will be able to help us keep track of the time with the red, yellow and green lights.

COMMISSIONER SKOP: Okay. And as the counsel appearing before us are all seasoned veterans, so you know how this works. You've got the lights, and when the green light goes on, it's your turn to speak. When it turns yellow, you have 30 seconds left. And when the light turns red, you need to conclude and the microphone will be, I guess, turned off, but we're pretty liberal about that.

Commissioners, any additional comments before we get started with opening statements? Okay. Plan for the day -- we had a long day at work yesterday. We need to take a break per the request of one Commissioner at

approximately 10:00 a.m. for about 15 minutes. And it's my intent, if the Commission desires, to break for lunch probably from 12:00 to 1:00, 1:30ish depending on the will of my colleagues. As far as the hearing goes, hopefully we'll conclude within a day, probably go 'til 5:00. But, again, that will be at the discretion of the Commission, having a long day yesterday. But with that, any other matters that we need to address before we --

MS. BENNETT: No, Commissioner. There's no other matters.

COMMISSIONER SKOP: Okay. No outstanding motions or petitions?

MS. BENNETT: We have one confidentiality request. We believe the document has been returned, so there won't be any other outstanding motions.

COMMISSIONER SKOP: Okay. Very well. And I believe, Ms. Bradley, do you want to reiterate your standing objections?

MS. BRADLEY: Yes. I just want to make sure it's on the record that we have objections to late-filed exhibits unless there's an opportunity to cross and present testimony. And also we objected to the friendly cross reference in the original order.

COMMISSIONER SKOP: Okay. And, Ms. Helton, if you could please speak to that and advise the

Commission.

MS. HELTON: Yes, Mr. Chairman. Staff believes that the friendly cross language in the Prehearing Order is appropriate, and I believe that it's appropriate for the presiding officer to address any objections there may be to friendly cross at the appropriate time in the proceeding.

COMMISSIONER SKOP: Okay. Very well. And as far as the late-filed exhibits?

MS. HELTON: I'm sorry, Mr. Chairman. I'm still kind of struggling from last night. The late-filed exhibits, I think that if there are any, those should be addressed at the appropriate time as well when they are raised.

COMMISSIONER SKOP: Very well. With respect to late-filed exhibits, again, I recognize the objection of the Attorney General's Office, but we're going to deal with those on a case-by-case basis by ruling of the presiding officer. And if there is an objection to be raised, it will be a contemporaneous objection.

Okay. And with that, we'll proceed to opening statements. And, Mr. Butler, you're recognized.

MR. BUTLER: Thank you, Commissioner Skop. Good morning, Commissioners. As you are aware, the Prehearing Officer in the 2009 fuel adjustment docket

spun off the following issue to be addressed in this docket. With respect to the February 26th, 2008, outages should FPL or its customers be responsible for replacement power costs associated with the outages? FPL agreed with the parties to this docket that it would bear the cost of replacement power attributable to the February 26th, 2008, outage, what FPL refers to as the Flagami transmission event.

The Commission approved that settlement at its January 26th Agenda Conference, so only two issues remain for resolution in this docket. One, how should the replacement power costs attributable to the Flagami transmission event be measured and what is the amount of those costs? And, two, what is the appropriate method to credit customers for the replacement power cost determined pursuant to Issue 1?

FPL's evidence will show that the proper amount of replacement power cost to credit customers is $2,204,035. FPL's replacement power cost calculation is the fairest to all involved. It will ensure that customers are promptly credited for replacement power costs attributable to the Flagami transmission event, and it will avoid the disincentives to utility investment in energy efficient and environmentally beneficial generation alternatives that would result

from adopting the Intervenor's position.

This proceeding involves a fact pattern that appears to be unique among replacement power cost determinations before this Commission. Typically replacement power costs are incurred because an equipment or operational issue at a power plant has caused an outage at that plant. The replacement power cost determination is based on an evaluation of the utility's performance in operating and maintaining that plant. If the utility's operation or maintenance was not prudent, then it must refund to customers the additional fuel and purchased power costs, excuse me, it incurred because that plant was out of service. The focus is always on the utility's actions at the particular plant in question and on the additional costs associated with the plant being out of service.

Here, however, the evidence will show that FPL's Turkey Point Nuclear Units 3 and 4 were operated prudently and properly. They came offline automatically as the result of an undervoltage condition caused by the Flagami transmission event. This was exactly what the nuclear units were designed to do and it's what the Nuclear Regulatory Commission required them to do.

FPL returned the units to service as quickly and safely as possible. There is no evidence, excuse

me, that FPL was imprudent either in taking the units offline in response to the undervoltage condition or in bringing them back online thereafter. The nuclear units performed properly and as expected in response to an external event.

So how should the Commission measure replacement power costs when a prudently operated power plant with very low fuel cost such as a nuclear unit comes offline due to an external event? FPL's testimony shows that it would be unfair and would discourage investment in such technologies if the Commission were to base replacement power costs on a plant's very low fuel cost. Doing so would penalize the utility more heavily because the plant which came offline happened to have low fuel costs than would be the case if the same external event had caused a plant with higher fuel costs to come offline instead.

This sort of regulation by lottery should be avoided because it penalizes utilities for the very thing that should be encouraged, which is investing in generation that holds down the fuel costs which customers must pay.

FPL's proposal avoids this problem by basing the replacement power cost calculation on system average costs rather than the avoided fuel cost of the specific

plant that is out of service. This way if an external event forces a plant offline, the replacement power cost calculation will be the same regardless of what particular plant happened to be affected. Under FPL's approach, exposure to replacement power costs is independent of whether the affected plant's fuel costs are high or low, so there is no disincentive for investing in cost-saving efficient generation.

I'd emphasize again this is specifically what we're proposing for this circumstance where you have an external event that causes plants to come out of service not related to anything that is imprudent about the operation of the plants themselves.

You'll hear from Public Counsel and others throw around the term "windfall" in describing FPL's replacement power cost calculation. Let me assure you that the term doesn't fit. FPL has not recovered a penny more than its actual fuel costs incurred for the Flagami transmission event, and now FPL has agreed to give customers back more than $2 million of those fuel costs. Being out of pocket for more than $2 million in actual incurred fuel costs is certainly no windfall to FPL or its shareholders. Excuse me.

What Public Counsel and the other Intervenors ignore on the other hand are the enormous benefits that

FPL's customers have received from the operation of Turkey Point Units 3 and 4, both over time and specifically in 2008 when the Flagami transmission event occurred.

FPL's testimony will show that Turkey Point Units 3 and 4 have saved FPL's customers about $7.7 billion in fuel costs since 1990, and those units have actually been in service for approximately twice that long. Focusing specifically on 2008, FPL's testimony will show that Turkey Point Units 3 and 4 had a combined capacity factor of 93.41 in that year, which is almost 3.5 percentage points above the 2008 nuclear industry average.

This superior performance translates into about $25 million in 2008 fuel savings for FPL customers compared to industry average performance, in spite of the outages that were initiated by the Flagami transmission event. Simply put, FPL has proposed a reasonable, fair approach to calculating replacement power costs for the Flagami transmission event, one that will appropriately compensate customers for the consequences of that event, while not discouraging continued investment in environmentally friendly generation technologies that have low fuel costs. The enormous fuel cost savings that FPL's nuclear units

bring to its customers cannot be ignored in achieving a balanced position or a balanced solution. FPL's approach strikes a fair balance, while the Intervenors' opportunistic approach does not even strive for balance. The Commission should adopt FPL's balanced approach because it is in the longterm best interest of FPL's customers and the environmental goals of the State of Florida.

Before I conclude, let me turn briefly to Issue 2: How, how FPL should refund the credit that the Commission determines appropriate. FPL believes that the most straightforward approach is to flow the credit through the regular fuel adjustment true-up mechanism where it will serve to reduce customers' bills throughout 2011. If the Commission decides instead to use a one-time refund, then the refund should be applied to electric consumption that is billed in the month the refund takes place. The Commission approved this approach for FPL's last two refunds, and it is the fastest and best way to return the refund to customers. Thank you for the opportunity to address you this morning.

COMMISSIONER SKOP: Thank you, Mr. Butler.

We'll proceed now with opening statement from Public Counsel. Mr. Beck.

MR. BECK: Thank you, Commissioners, and good morning. The issue before you today is whether Florida Power & Light or its customers will pay for the additional replacement fuel and power costs associated with an outage that occurred on February 26th, 2008. You're going to hear testimony from four different Florida Power & Light witnesses, you're going to hear it many times because they're both on direct and rebuttal, and you'll hear testimony from our expert witness, Dr. David Dismukes. Now despite the disputes that you're going to hear in the testimony, there's really quite a few items on which there's no agreement between Florida Power & Light and our office and the other Intervenors.

First of all, there's no dispute about the cause of the outage. According to what is Exhibit 12, which is an attachment to Dr. Dismukes' testimony, and that's a $25 million settlement agreement which FP&L reached with the Federal Energy Regulatory Commission and the North American Electric Reliability Corporation, according to the facts that are set forth in that exhibit, on February 26th, 2008, a Florida Power & Light employee was sent to test a circuit switcher at the Flagami substation, which is located in Western Miami. Once there, he disabled both primary circuit protection

and breaker failure protection, which is considered a secondary level of protection. He didn't tell the load dispatcher that he had disabled the secondary level of protection as well as the primary protection and the load dispatcher didn't tell the system operator that any of the protection had been disabled. A fault occurred during the work which caused a 17- to 19-second arc, and that led to a three-phase fault on the 138 kilovolt system. This led to significant frequency swings which tripped transmission and generation around portions of the lower two-thirds of Florida, including significant lengthy outages at the two Turkey Point nuclear plants. Almost one million customers of Florida Power & Light and other electric utilities were without service for some period of time.

There's also no dispute about the amount of time that two nuclear reactors at Turkey Point were out of service. Unit Number 3 was out for approximately 158 hours and Unit Number 4 was out for approximately 107 hours. During that time, expensive replacement power had to be procured either by purchasing power or by running other units whose fuel costs were many, many times the cost of the fuel used in nuclear generation.

There's also very little dispute about the extra amount of fuel expense that was incurred as a

result of the outage. Dr. Dismukes will sponsor testimony showing the net extra expense was approximately $15.9 million using the outage times and data provided by Florida Power & Light. There's also an estimate that was produced by Florida Power & Light in response to a data request from staff. Florida Power & Light ran a computer simulation which did an hour-by-hour reconstruction of what actually happened compared to what would have happened had there been no outage. That simulation shows an extra replacement cost of approximately $14.5 million. You'll hear about that during the cross-examination of Florida Power & Light's Witness Yupp.

The primary difference between the two estimates is attributable to the use of ascension power levels during the restart of the two units in the computer simulation, while the estimate by Dr. Dismukes did not have that information available. Both estimates are close, $15.9 million versus $14.5 million, and we know the reasons for the differences between the two estimates.

Finally, there's another item of agreement between Florida Power & Light and Intervenors. Florida Power & Light, to its credit, entered into an agreement with Intervenors this past December to accept

responsibility for the replacement power costs, and the Commission approved that agreement in January.

With agreement on so much of the case, you might wonder why we're here. The reason we're here is that Florida Power & Light's notion of accepting responsibility for the cost of replacement power is vastly different than ours. Despite the fact that we know the cost of replacement power attributable to the actions of Florida Power & Light's engineer, and it's in the ball park of $15 million, Florida Power & Light will only accept responsibility for about $2 million and would leave customers holding the bag for about $13 million of extra cost.

There are two reasons for this. First, Florida Power & Light doesn't want to measure the cost of replacement power against the cost of running the nuclear units. They want you to measure the replacement power costs against average system cost, which in essence means that they want you to pretend that the nuclear plants didn't go down. Well, they did go down, each for over 100 hours, and the proper measure of extra cost should be compared to the fuel cost to run the nuclear plants.

The second reason for the vast difference in our ideas of what it means to be responsible for

replacement power costs is that Florida Power & Light only wants to be responsible for the first eight hours of the outage instead of the actual length of the outage, which included an outage of 158 hours at Turkey Point Unit 3 and 107 hours at Turkey Point Unit 4.

How does Florida Power & Light justify this? For one thing, they claim it would be unfair for them to be accountable for the nuclear plants going down when the cause of the outage is related to transmission; that holding them accountable for the actual consequences of the outage caused by the actions of their engineer would be a disincentive for them to invest in nuclear and renewable energy sources. The standard underlying utility regulation doesn't permit such a parsing and dicing of the utility's responsibility. Obviously a transmission event can lead to generation consequences in the form of higher replacement costs. When that occurs, the role of the regulator it to insulate customers from bearing unreasonable costs. Having accepted responsibility for the costs attributable to the Flagami episode, Florida Power & Light is now trying to carve out exceptions regarding their responsibility.

If the blackout, which was precipitated by the actions of their engineer, led to two nuclear plants going down and the necessity to procure expensive

replacement power, Florida Power & Light must accept responsibility for that.

They also contend that if they're required to be fully responsible for the replacement costs for fuel, it will create a disincentive to invest in nuclear and renewable energy sources. This is perhaps the most dangerous of FP&L's arguments because clearly they hope to avoid not only the disallowance in this case, but to create a precedent that will protect it in future proceedings.

The provision of nuclear energy and renewable energy generally require high levels of capital, and the lower cost of fuel helps to partially offset those higher capital costs. Nothing in this case affects the company's capital recovery for these investments or the profit level they earn on those investments. Florida Power & Light will earn the same profit on its investment in nuclear power if the Commission protects customers against the higher fuel costs and replacement power costs incurred as a result of the outage. Customers will continue to pay the company for their investment in the nuclear power. Protection of customers against high fuel and replacement power costs incurred because of the blackout doesn't involve one dollar of disallowing nuclear power costs.

The insulation that Florida Power & Light seeks is not designed to present -- or prevent a disincentive. With this argument, Florida Power & Light is trying to accomplish a paradigm shift. It wants to rewrite the fundamental ratemaking equation so as to incorporate an exception for specific generation technologies. But the Commission should see this effort for what it is. It's not a perceived disincentive. Instead, it's another garden variety attempt to shift the risk of mismanagement, which has always been on the company and which is well understood by investors, from the utility to its customers, and the Commission should reject this effort.

There's really but one question in front of the Commission. We know that there are damages of approximately $15 million, higher costs that have already been passed on to customers. Someone is going to be responsible for that. It is either going to be Florida Power & Light or it's going to be its customers. We hope you'll find that Florida Power & Light is the responsible party for those costs. Thank you.

COMMISSIONER SKOP: Thank you, Mr. Beck. I believe it's 10:00, but I'd like to move forward with getting the two opening statements from the AG and FIPUG, and I think that'll put us at 10:10 and we'll

take a break.

Ms. Bradley, you're recognized for opening statements.

MS. BRADLEY: Thank you. This is similar to a case that we did before some of our members were, Commissioners were on there, but Florida Power & Light had what we referred to as the drilled hole case. A person had been granted unescorted access and drilled a hole that caused some problems and outages. This, like that case, was a preventable event.

The citizens do not have control over the employees and the policies. It is Florida Power & Light that does. And this was clearly one of their employees that caused this event. They are the ones that have control over that, certainly not the citizens. So it's only fair that the people responsible are the ones that have to pay for this. It's not intended as a disincentive but as an encouragement to be very careful when we're dealing with our power, especially power that affects our nuclear plants. We have citizens that are concerned about nuclear. They have not accepted the fact that this is the, the new future for Florida. But our Legislature, our Cabinet officials are very pronuclear and see this as a tremendous opportunity for Florida.

But it's important that the citizens know that this is a safe power alternative for Florida. And in order that we ensure them of that, we have to strictly comply with the rules and make sure that policies are strictly enforced. And clearly this particular event was a preventable event.

It was referred to as an external event, but it wasn't. It was a Florida Power controlled event. The federal officials have looked at it and determined that they were responsible. There's no question about that. And this was not a minor problem. This was a catastrophic event. We had power outages in Central and South Florida and suddenly cities were without power for important things such as traffic lights. There were a number of accidents because suddenly the power goes out, the traffic lights go out and we have all these problems. And because this was a preventable event, it was something that could have been avoided. And because Florida Power & Light was responsible, they should be responsible for the, the cost of this.

There's been discussion and you'll hear in the testimony that, well, this was not any different from the regular shutdowns that they do. But it was different. It's kind of like saying that if you have a big event coming up and all of the sudden at the last

minute you have to run out and do replacement purchases, you're going to pay more probably. If you plan ahead of time, you have an opportunity to essentially shop around and find the best price you can. But because this was a sudden, unexpected event, they had to get what they could at that point as far as replacement costs, and that has increased the amount of money that the citizens have been charged for this.

Again, I would emphasize the fact that this was like the drilled hole case. I would ask that the refunds be done on a one-time event. And unfortunately with the drilled hole case we had an issue that came up at the last minute about how this was to be determined, and in order to get the citizens their money as quickly as possible we had to reach some compromises in that. But I would ask that you plan ahead of time and consider the fact that this can be determined over a longer period of time. We felt it was unfair at that time to just look at the short period of time that they, that we had to look at in determining that. And I think staff had also recommended that it be determined over a longer period of time so it would be fairer to the customers. So we would ask that you do a one-time as quickly as possible and determined according to the period of time. Thank you.

COMMISSIONER SKOP: Thank you, Ms. Bradley.

Ms. Kaufman, you're recognized for opening statements.

MS. KAUFMAN: Thank you, Commissioner. Good morning again, Commissioners. As I said earlier, I'm here on behalf of the Florida Industrial Power Users Group. I'm not going to reiterate what Mr. Beck and Ms. Bradley have already told you. FIPUG agrees with and we support the position of the Public Counsel in this case and the testimony and the position of their witness, Dr. Dismukes.

From our perspective, as we looked at this case from a high level, we think that the main thing to keep in mind here when you decide who should bear the responsibility for these costs is that the event, as FPL likes to call it, that happened at Flagami would not have occurred had it not been for the behavior of FPL employees. That means that the nuclear units would not have tripped offline on February 26th, 2008, had those employees acted appropriately. As a result of this behavior, the transmission fault led to the loss of 22 transmission lines, 4,300 megawatts of generation and 3,650 megawatts of customer load. You can find all that information in the FERC stipulation that Florida Power & Light entered into.

It seems to us that FPL is attempting to say that what Mr. Butler called the external event was something that happened that was totally beyond Florida Power & Light's control and it was unrelated to Florida Power & Light or its operations, but we know that that is not the case. And if you look at the FERC stipulation, you will see FPL paid a $25 million fine and agreed to undertake a number of reliability activities. We think that that agreement is significant and you should consider it when you decide how to deal with the replacement fuel costs that customers are facing here.

As I said, if the employee had, employees had not made the error, we wouldn't even be here today. The nuclear units would have continued to operate and they would have provided low cost fuel to FPL customers. And so in our view that means that FPL should be responsible for reimbursing the customers for the replacement fuel costs for the 158 hours that Turkey Point Unit 3 was off and the 107 hours that Turkey Point Unit 4 was off. To do otherwise would be, as I think others have said, place responsibility on the customers, not on the utility.

And Mr. Butler made some comments about the cost savings that these units have provided to

customers. And I think we all know and we agree that nuclear units have low fuel costs, and that's one of the reasons that the utilities come to you and ask you in determinations of need to approve these facilities. I would also point out to you, however, that Turkey Point Unit 3 and 4 have been in Florida Power & Light's rate base and have been paid for by customers, as well as customers have paid for a return on these plants for some time, and thus customers expect to receive low fuel costs from these plants and they expect to see these units operating appropriately.

So we support Dr. Dismukes' calculation and we think that you should require Florida Power & Light to reimburse the ratepayers for, it's approximately $15 to $16 million of actual replacement costs that were incurred, and we also support the one-time return, return of this money to the ratepayers. Thank you.

COMMISSIONER SKOP: Thank you, Ms. Kaufman. At this point we'll stand in recess and we'll reconvene at 10:30. Thank you.

(Recess taken.)

COMMISSIONER SKOP: Okay. We're going to go back on the record. And where we left off, we had finished with opening statements and are going to move forward with exhibits.

Staff?

MS. BENNETT: Yes, Commissioners. The Comprehensive Exhibit List all the parties have agreed to, we would ask that that Comprehensive Exhibit List be marked as Number 1 and moved into the record at this time.

COMMISSIONER SKOP: So moved.

(Exhibit Number 1 marked for identification and admitted into the record.)

MS. BENNETT: And then staff has Exhibits 26 through 33. We would ask -- and all of the parties have agreed to the admission of those into the record -- we would ask that these be moved into the record at this time.

COMMISSIONER SKOP: Okay. Any objection from the parties?

MR. BUTLER: No.

COMMISSIONER SKOP: Hearing none, so moved.

(Exhibit Numbers 26 through 33 marked for identification and admitted into the record.)

MS. BENNETT: And next we have Staff's Exhibit Number 34. It is the second deposition of Mr. Stall. We would ask that that be marked as Exhibit 34. The title is second deposition of J. A. Stall marked as Exhibit 34 and moved into the record at this time.

COMMISSIONER SKOP: Any objections to entering what has been marked as Exhibit 34 into the record?

MR. BUTLER: No objection.

COMMISSIONER SKOP: Hearing none, Exhibit 34 will be entered into the record.

(Exhibit Number 34 marked for identification and admitted into the record.)

COMMISSIONER SKOP: Staff.

MS. BENNETT: And then by agreement of all the parties, Florida Power and Light would like to admit the deposition of Doctor Dismukes into the record. I'll let Mr. Butler address that.

COMMISSIONER SKOP: Mr. Butler, you're recognized.

MR. BUTLER: Thank you, Commissioner Skop.

Yes. FPL would move the admission of Doctor Dismukes' deposition transcript into the record just sort of to complete the package. We have the deposition transcripts of the other witnesses who were deposed in the record as exhibits and think that it would be appropriate to do so likewise with respect to Doctor Dismukes.

COMMISSIONER SKOP: Okay. Any objection from the parties?

Ms. Kaufman, you're recognized.

MS. KAUFMAN: Commissioner Skop, I don't have any objection. But, Mr. Butler, will you be providing copies of the deposition?

MR. BUTLER: I have them here and I will hand them out at this point.

Staff, can we have somebody hand them out, please. And I'm sorry, I do not have cover pages on them. It would be 35. If you would like I can bring them back with cover pages later or we can just mark 35.

COMMISSIONER SKOP: Staff, what's your preference?

MS. BENNETT: I think we can just write Number 35 on top of the deposition transcript and be fine with it.

COMMISSIONER SKOP: Okay. Very well. Hearing no objection, Exhibit 35 will be admitted into the record.

MR. BUTLER: Thank you.

(Exhibit Number 35 marked for identification and admitted into the record.)

COMMISSIONER SKOP: Staff, any other exhibits that we need to take up at this time?

MS. BENNETT: No. All of the other exhibits are listed and will be entered into the record by the party as they present their testimony.

COMMISSIONER SKOP: Very well. At this point I'd like to swear in the witnesses.

FPL, do you have all of your witnesses available?

MR. ROSS: We do.

COMMISSIONER SKOP: The intervenors? Okay. If the witnesses could all stand, and I'll ask you to raise your right hand.

(Witnesses sworn collectively.)

COMMISSIONER SKOP: Thank you.

Staff, with respect to the order of witnesses --

MS. BENNETT: We suggest that they be taken up as they appear in the prehearing order, so I believe Mr. Stall would be up first for FPL.

COMMISSIONER SKOP: Very well.

Mr. Butler, do you want to call your first witness?

MR. BUTLER: Thank you, Commissioner Skop. And Mr. Ross will be handling the presentation of Mr. Stall.

MR. ROSS: Good morning, Mr. Chairman.

FPL calls Art Stall.

COMMISSIONER SKOP: Very well.

MR. ROSS: Mr. Chairman, while Mr. Stall is

taking the stand, we have copies of the errata sheet that was filed with respect to Mr. Stall's direct testimony, and I would request that those be passed out for the convenience of the parties and the Commissioners.

COMMISSIONER SKOP: Yes.

JOHN A. STALL

was called as a witness on behalf of FPL, and having been duly sworn, testified as follows:

DIRECT EXAMINATION

BY MR. ROSS:

Q. Please state your name and business address.

A. My name is John A. Stall, 700 Universe Boulevard, Juno Beach, Florida.

Q. And, Mr. Stall, have you prepared Direct Testimony in this proceeding totaling nine pages?

A. I have.

Q. And did you file errata to your Direct Testimony on March 2nd, 2010?

A. I did.

Q. Other than the changes noted in the errata sheet, do you have any other changes or corrections to your Direct Testimony?

A. No.

Q. If I asked you the questions contained in your

corrected Direct Testimony today, would your answers be the same?

A. Yes.

MR. ROSS: Mr. Chairman, I would request the Direct Testimony of Mr. Stall as amended by the errata be entered into the record as if read.

COMMISSIONER SKOP: Let it be done that the prefiled testimony of Mr. Stall will be entered into the record as though read.

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

FLORIDA POWER & LIGHT COMPANY

TESTIMONY OF J.A. STALL

DOCKET NO. 090505-EI

January 13, 2010

Q. Please state your name and address.

A. My name is J.A. (Art) Stall. My business address is 700 Universe Boulevard, Juno Beach, Florida 33408.

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

A. I am employed by FPL Group, Inc. as Vice President, Nuclear Transition.

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

A. I am responsible for the overall strategic direction for all of FPL's nuclear assets, consisting of four nuclear units in Florida – two at Turkey Point Nuclear Plant near Florida City, Florida, (1,386 MW) and two at St. Lucie Nuclear Plant, near Jensen Beach, Florida (1,677 MW). I also hold this same responsibility for the other FPL Group nuclear plants – one unit at Seabrook Station in Seabrook, New Hampshire (1,294 MW), one unit at Duane Arnold Energy Center in Palo, Iowa (600 MW), and two units at Point Beach Nuclear Plant in Two Rivers, Wisconsin (1,036 MW).

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to present and explain how Turkey Point Units 3 and 4 were prudently and properly taken off-line in response to the

voltage fluctuations caused by the February 26, 2008 transmission event that was initiated at FPL's Flagami substation (the "Flagami Transmission Event"). My testimony will also describe the equipment issues that emerged during the outage that were independent of this event and delayed the restart of these units.

Flagami Transmission Event

Q. What caused Turkey Point Units 3 and 4 to come off-line during the Flagami Transmission Event?

A. Turkey Point Units 3 and 4 experienced automatic reactor shut downs due to the external transmission disturbance causing reduced voltage in the switchyard that connects the nuclear units to the FPL transmission system.

Q. Why was it necessary to shut down Turkey Point Unit 3 and Unit 4 due to this voltage reduction?

A. The nuclear units automatically shut down to protect safety related equipment. The reactor protection system operated as designed in response to the reduced voltage in the switchyard. The set point requirements for the 4 KV bus under-voltage relays are contained within the Nuclear Regulatory Commission ("NRC") operating licenses for the Turkey Point nuclear units. These requirements are very important to nuclear safety. Allowing an under-voltage condition to continue would result in a loss of flow from the reactor coolant pumps and an increase in

reactor coolant temperature. This increase in reactor coolant temperature could result in damage to the nuclear fuel and to reactor coolant pump motors. Thus, it is important that the reactor units be set to automatically and promptly come off-line in undervoltage conditions.

Q. Did the Turkey Point Units come off-line as designed and in accordance with the NRC mandated undervoltage set points?

A. Yes. The Turkey Point Units came off-line exactly as designed and in accordance with the NRC mandated undervoltage set points that are included in the NRC operating licenses for Turkey Point Units 3 and 4.

Q. How long does it typically take to bring a nuclear unit back on line after an unplanned undervoltage condition such as the one caused by the Flagami Transmission Event?

A. A single nuclear unit can be brought back on line in as little as 24 hours after a plant shut down, and certainly the Company may set such timeframe as a goal, but typically it takes approximately 48 hours to bring a single unit back on line after an unexpected plant shut down. Restarting two nuclear units following an unexpected shutdown of both units is certainly more challenging than restarting a single unit. This unique set of circumstances certainly lengthens the typical 48 hour timeframe that would be required to restart a reactor following an unplanned shutdown.

In any case, a sufficient amount of time is necessary to restart equipment that was shut down and to perform all tests required by the NRC

operating licenses before it can return to service. Additionally, it is FPL's and standard nuclear industry practice to provide special training to plant operators immediately prior to plant start up using a plant-specific control room simulator, which adds incremental time to the plant startup sequence after an unplanned reactor shutdown.

Q. Can unrelated equipment issues delay restart?

Yes. It is not uncommon for unrelated equipment issues to delay restart. That was the case for Unit 3 following the Flagami Transmission Event: Unit 3 would have been able to return to service in approximately 48 hours, but for certain unrelated equipment issues that had to be addressed first.

Q. Please describe the equipment issues that extended the outage for Unit 3.

A. The Unit 3 outage was extended to repair the Rod Position Indication ("RPI") system that had previously malfunctioned in October 2007. FPL had obtained permission from the NRC to defer RPI repairs until the next unit shutdown in order to minimize the overall outage time for Unit 3. There was also a condition at Unit 3 associated with a reactor protection under-voltage time delay relay that was identified to be outside its acceptance criteria for calibration. This relay was replaced in conjunction with the RPI system repair and did not contribute additional time to the Unit 3 outage duration.

Q. Could FPL have restarted Unit 3 without repairing the affected RPI system?

A. No. In January 2008, at FPL's request, the NRC amended the Unit 3 operating license to allow FPL, as an interim measure, to continue operating the plant contingent upon a commitment to repair the RPI system the next time the unit shut down. This allowed FPL to avoid additional outage time in 2008, but meant that when Unit 3 was shut down in response to the Flagami Transmission Event, FPL was required by the Unit 3 NRC operating license to implement the RPI system repair.

Q. Please describe the steps FPL took to minimize the outage time associated with repairing the RPI system.

A. When a nuclear unit is shut down, FPL initiates processes to minimize the time the unit is off-line without compromising safety. There are multiple work crew shifts working 24 hours a day, 7 days a week to minimize the time a unit is off-line. Additionally, during outages, FPL staffs a nuclear Outage Command Center at the plant to provide detailed management oversight of all of the work being performed on the unit. Because the RPI system repair was a known required repair in the event of a unit shutdown, the work orders, planning, and materials necessary to perform the work were already in place. This allowed work to proceed as soon as it was safe for plant staff to access the Unit 3 containment building to complete the RPI system repairs.

It should be noted that the containment building is a challenging work location for plant staff because of high air temperatures and the need for

advance planning to minimize occupational radiation dose. This makes planning and execution of the work considerably more difficult and time-consuming when compared with work in more accessible areas of the nuclear plant or compared to work in fossil-fueled power plants that do not present heat and radiation exposure considerations.

Q. Would FPL ultimately have experienced the same amount of outage time to repair the RPI system during any unexpected outage as was incurred following the Flagami Transmission Event?

A. Yes. In October 2007, Unit 3 was in power ascension at 30 percent power when the initial RPI system issue was discovered. Had FPL been required to shut down Unit 3 at that time to implement the RPI repair, replacement power costs would have been incurred for the necessary outage time. As noted, FPL had to commit to the NRC to implement the RPI system repair during the next outage. The same amount of time was required to implement the RPI repair following the Flagami Transmission Event.

Q. What extended the outage for Unit 4?

A. When Unit 4 was returning to service, the water level in one of the four steam generators exceeded 75%. Plant operators initiated a manual reactor shutdown as required by plant procedure. The plant was shut down safely after the manual reactor shutdown.

Q. What influences the water level in the steam generators?

A. The main generator loading rate impacts the steam generator water level and fluctuations. The loading rate is governed by a complex interaction of

various plant conditions. Because of this complexity, a reactor shutdown because of high steam generator water level occurring during plant restart is not an unusual event.

Q. What was the duration of the outages for Unit 3 and Unit 4?

A. The total outage duration, including the equipment issues that emerged independently of the transmission incident, was approximately 158 hours for Unit 3 and 107 hours for Unit 4.

Q. Are these types of outage durations unusual to you based on your experience in the nuclear industry?

A. No. While our goal is to run the nuclear units for their entire 18-month fuel cycle in order to maximize the fuel cost savings for customers, this is not always possible. Indeed, nuclear industry experience is that most units will have one or more unscheduled shutdowns during a fuel cycle. The fact that unscheduled shutdowns occur is a function of the complex technology used in nuclear generating plants and conservative operating philosophies used in their operation. Unscheduled shutdowns are not evidence of problems or deficiencies in the design or operation of the nuclear units. Rather, those shutdowns demonstrate that safety systems are working properly (in the case of automatic plant shutdowns, such as triggered both Units 3 and 4 in the Flagami Transmission Event) and that plant operators are trained to and exhibit the right behaviors to conservatively shut a nuclear unit down (in the case of manual plant shutdowns, such as described above for Unit 4).

Q. Did FPL prudently respond to the automatic reactor shutdowns at Units 3 and 4 that resulted from the Flagami Transmission Event?

A. Definitely. FPL's top priority is safe operations at all of its nuclear plants. The units automatically came off-line as intended and, indeed, as required by the NRC operating licenses for Units 3 and 4, in response to voltage fluctuations. FPL then took prudent and conservative measures to investigate, inspect, and analyze system components prior to safely restarting both units.

Q. Did the NRC identify any issues or take any enforcement action against FPL arising out of the Unit 3 and 4 outages arising from the Flagami Transmission Event?

A. No. The NRC had no issues with the outages or with the restart of both units.

Q. How did the overall generation performance of Units 3 and 4 compare to industry average for 2008?

A. The generation performance of both Turkey Point Units 3 and 4, as measured by the capacity factor and equivalent availability factor, were both above average in 2008. The combined capacity factor for Units 3 and 4 in 2008 was better than the average nuclear capacity factor ("NCF") for U.S. nuclear units. Specifically, the 2008 NCFs for Units 3 and 4 were 100.86 and 85.97, respectively. This is an average of 93.41, which is substantially above the industry average NCF of 89.97.

The combined equivalent availability for Units 3 and 4 in 2008 also was better than the 2008 average equivalent availability factor ("EAF") for U.S. nuclear units. Specifically, the 2008 EAFs for Units 3 and 4 were 97.84 and 83.44, respectively. This is an average of 90.64, which is more than a full percentage point above the industry average EAF of 89.40.

These statistics illustrate that, in spite of the unexpected outages that were initiated by the Flagami Transmission Event, FPL's customers received the benefit of considerably more low-cost nuclear-generated energy in 2008 than they would if Units 3 and 4 had performed at industry-average levels. This strong performance at Turkey Point has surpassed Turkey Point NCF and EAF performance in recent years, and this improvement is continuing, as evidenced by the fact that Unit 4 ran for 376 days during the past operating cycle without a forced outage, and the recent refueling and maintenance outage on Unit 4 was accomplished within the planned budget and schedule for the work.

Q. Does this conclude your testimony?

A. Yes.

ERRATA SHEET

(X) DIRECT TESTIMONY, OR () REBUTTAL TESTIMONY (PLEASE MARK ONE WITH "X")
WITNESS: J. A. Stall

PAGE #	LINE #	CHANGE
6	17-20	Add the following:

A. There were two plant shutdowns that extended the outage for Unit 4. When Unit 4 was returning to service, on February 28, 2008 there was an automatic shutdown of the turbine due to reverse power protection. The turbine was shut down safely. Operators began the startup sequence again approximately eight hours later. On February 29, 2008, the water level in one of the four steam generators exceeded 75%. Plant operators initiated a manual reactor shutdown as required by plant procedure. The plant was shut down safely after the manual reactor shutdown.

Q. What was the cause of the automatic shutdown of the turbine on February 28, 2008?

A. A relay for a protective circuit did not function properly, and a contact failed closed, which caused an automatic shutdown of the turbine.

Q. What was the cause of the relay malfunction?

A. This relay had a mechanical issue that was identified during post-failure testing by the Company's test laboratory in West Palm Beach. The malfunction was a random mechanical failure. A replacement relay was tested to ensure it did not have a similar issue and was placed in service for Unit 4, after which it worked properly. Additionally, the same relay for Unit 3 was tested and no further issues have occurred.

Q. You stated that the second shutdown was due to the water level in one of the four steam generators exceeding 75%. What influences the water level in the steam generators?

amount of time was required to implement the RPI repair following the Flagami Transmission Event.

Q. What extended the outage for Unit 4?

A. There were two plant shutdowns that extended the outage for Unit 4. When Unit 4 was returning to service, on February 28, 2008 there was an automatic shutdown of the turbine due to reverse power protection. The turbine was shut down safely. Operators began the startup sequence again approximately eight hours later. On February 29, 2008, the water level in one of the four steam generators exceeded 75%. Plant operators initiated a manual reactor shutdown as required by plant procedure. The plant was shut down safely after the manual reactor shutdown.

Q. What was the cause of the automatic shutdown of the turbine on February 28, 2008?

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A. This relay had a mechanical issue that was identified during post-failure testing by the Company's test laboratory in West Palm Beach. The malfunction was a random mechanical failure. A replacement relay was tested to ensure it did not have a similar

issue and was placed in service for Unit 4, after which it worked properly. Additionally, the same relay for Unit 3 was tested and no further issues have occurred.

Q. You stated that the second shutdown was due to the water level in one of the four steam generators exceeding 75%. What influences the water level in the steam generators?

A. The main generator loading rate impacts the steam generator water level and fluctuations. The loading rate is governed by a complex interaction of various plant conditions. Because of this complexity, a reactor shutdown because of high steam generator water level occurring during plant restart is not an unusual event.

Q. What was the duration of the outages for Unit 3 and Unit 4?

A. The total outage duration, including the equipment issues that emerged independently of the transmission incident, was approximately 158 hours for Unit 3 and 107 hours for Unit 4.

Q. Are these types of outage durations unusual to you based on your experience in the nuclear industry?

A. No. While our goal is to run the nuclear units for their entire 18-month fuel cycle in order to maximize the fuel cost savings for

BY MR. ROSS:

Q. Mr. Stall, have you prepared a summary of your Direct Testimony?

A. I have.

Q. Would you please provide that summary to the Commission.

A. Good morning, Commissioners.

My testimony explains how Turkey Point Units 3 and 4 were prudently and properly taken off-line in response to the voltage fluctuations caused by the February 26th, 2008, transmission event that was initiated at FPL's Flagami Substation. I also explain the equipment issues that emerged during the outage that were independent of the Flagami event and delayed the restart of the Turkey Point nuclear units.

As a result of the Flagami event, Turkey Point Units 3 and 4 automatically shut down to protect safety-related equipment precisely as designed and in accordance with the Nuclear Regulatory Commission operating licenses for Units 3 and 4. FPL then took prudent and conservative measures to investigate, inspect, and analyze the plant prior to safely restarting both units.

The Nuclear Regulatory Commission had no issues with the outages or the restart of either unit.

It usually takes approximately 48 hours to bring a single nuclear unit back on-line after an unexpected plant shutdown. However, it is not uncommon for unrelated equipment issues to delay the restart of a reactor.

The Unit 3 outage was extended to repair the rod position indication system that had previously malfunctioned in October of 2007. At FPL's request, the Nuclear Regulatory Commission amended the Unit 3 operating license to allow FPL as an interim measure to continue operating the plant contingent upon a commitment to repair the RPI system the next time the unit shut down. After the Flagami event, the RPI repair was conducted and the unit was returned to service without incident.

When Unit 4 was returning to service, there was a turbine shutdown attributable to a relay problem, and plant operators subsequently initiated a manual reactor trip because of high steam generator water level as required by plant procedures. A reactor shutdown in these circumstances is not unusual.

While our goal is to run our nuclear units for their entire 18-month fuel cycle in order to maximize the fuel cost savings for our customers, this is not always possible. Unscheduled shutdowns are not evidence

of problems or deficiencies in either the design or operation of nuclear units. Rather, those shutdowns demonstrate that safety systems are working properly and that plant operators are trained to and exhibit the right behaviors to conservatively operate these nuclear units.

The generation performance of both Turkey Point Units 3 and 4, as measured by the capacity factor and the equivalent availability factor, were significantly above industry averages in 2008 despite the unexpected outages from the Flagami Transmission event. These statistics illustrate that FPL's customers have received the benefit of considerably more low-cost nuclear generated energy in 2008 than they would have if Units 3 and 4 had performed at industry averages.

This concludes my summary.

COMMISSIONER SKOP: Thank you.

MR. ROSS: We tender the witness for cross examination.

COMMISSIONER SKOP: Mr. Beck, you're recognized.

MR. BECK: Thank you, Commissioner.

BY MR. BECK:

Q. Good morning, Mr. Stall.

A. Good morning, Mr. Young (sic).

Q. I'm Charlie Beck.

A. Oh, I'm sorry.

Q. But, good morning. How are you this morning?

A. Good morning, Mr. Beck.

Q. Mr. Stall, I'd like to ask you to turn to Page 3 of your testimony at Lines 15 and 16. And I believe you mentioned this in your summary, as well. You state that it typically takes approximately 48 hours to bring a single unit back on-line after an unexpected plant shutdown. Is that correct?

A. That is correct.

Q. That time period you give there does not include the ramp-up time to bring the power plant up to full power, does it?

A. That's correct. That's typically breaker-to-breaker, what we call breaker-to-breaker, from the breaker opening to the breaker closing.

Q. And the breaker closing would be when the reactor connects to the grid, as it were?

A. That's correct. And then we would go through the power ascension process.

Q. And the power ascension process, does that take approximately 12 to 14 hours?

A. That's correct.

Q. You've stated that that is the amount of time

to bring a single unit back on-line, but in this case we had two of them that had to be brought back on-line. Is that right?

A. That's correct.

Q. And when you have to bring two units back on-line after an unexpected shutdown, that will typically take three to five days, does it not?

A. That's correct. And that's highly dependent, of course, upon the nature of the event that caused the shutdowns as well as the maintenance that would need to be performed during that period of time and the surveillance testing. And, of course, with two units out of service, it's highly dependent upon the resources that you have because you have a fixed amount of resources available, and now you have to attend to two units versus just one.

Q. On Page 4 of your testimony, at the top you talk about special training that is done during the start up of the reactors, is that right?

A. Yes.

Q. And that training adds incremental time or incremental time to a start-up after an unexpected plant shutdown, does it not?

A. Not necessarily. We generally are able to manage that training within the critical path of the

overall outages. In other words, we'll take the crew that we believe will be in the control room at the time of reactor start-up and manage to get them over to the simulator even while these other activities are going on in the plant, so that's not necessarily an additive time.

Q. Well, let me ask you, does your testimony on Page 4, Lines 4 through 5, don't you state that it adds incremental time to the plant start-up consequence after an unplanned reactor shutdown?

A. In this particular case because there were two units out of service that would be true, but I thought you were asking generically. Generically, it's not always the case that it would add incremental time.

Q. So if you had a planned shutdown it typically would not add incremental time, would it?

A. It would depend upon the nature of that shutdown and the amount of work that needed to be done. But there is no one-size-fits-all, if you understand what I'm saying, to be able to say in all cases it would add incremental time. In this case that would be true because of the dual unit outage.

Q. You conducted what I think you have termed just-in-time training, is that right, for the operators?

A. Correct.

Q. Would you describe that, please?

A. What just-in-time training is that, again, we would look ahead on the schedule and we would anticipate the period of time where we would be starting up the reactor and placing it back in service. And we would get the crew that would be in the control room over to the simulator and we would have them do a start up on the simulator just before we were to do that training. That training is not required by the Nuclear Regulatory Commission, and it is a best practice that we attempt to do each time we have a start-up that we know about that is intended or planned.

Q. So in one sense would it be fair to say that that's a practice run, in essence, before the operators go and do the real thing?

A. That's correct.

Q. At Page 6 of your testimony beginning at Line 16, you mention that the outage for Unit 4 was extended because the water level in one of the four steam generators exceeded 75 percent, is that right?

A. Yes.

Q. Did Florida Power and Light conduct a root cause analysis to determine what led to the steam generators exceeding 75 percent water level?

A. Yes, we did.

Q. Okay. I'd like to -- I'm going to hand you an excerpt from what has been admitted into evidence as Exhibit 31. I think it's on the CD that the staff has handed out, and the excerpt is going to start at Bates stamp 410 of the exhibit.

COMMISSIONER SKOP: Mr. Beck, if you have additional hard copies that might be beneficial for the Commission.

MR. BECK: I didn't make many copies because we were all -- the idea was to use CDs and not make paper.

COMMISSIONER SKOP: Commissioners, are you comfortable with that, or would you like a hard copy?

COMMISSIONER STEVENS: I'm fine.

COMMISSIONER SKOP: Commissioner Edgar.

COMMISSIONER EDGAR: We'll try it this way, and if we need a hard copy, then I will be glad to ask.

Thank you, Mr. Beck.

MR. BECK: I have one extra here, Commissioner, if you'd like that.

COMMISSIONER SKOP: Thank you.

COMMISSIONER EDGAR: I'm old fashioned, so if you have an extra copy I will take it, but I don't want to be the reason for the death of more trees, either.

COMMISSIONER SKOP: No, that's fine. I've got

one. I just thought that we were all trying to do the CD thing this time.

COMMISSIONER EDGAR: Thank you.

COMMISSIONER SKOP: Thank you, Mr. Beck. You may proceed.

BY MR. BECK:

Q. Mr. Stall, do you have the exhibit I just handed you?

A. Yes.

Q. And, again, Commissioner, this doesn't have the Bates stamps because that was on the CD, but this begins with the Florida Power and Light Bates stamp of 10-83, does it not?

A. On the bottom of the first page? Yes, that is correct.

Q. And this is an excerpt from the root cause analysis behind the 75 percent water level in the steam generator, is it not?

A. Yes, it is.

Q. Let me ask you to go to what on your copy has 10-85 on it, and that would be Bates-stamped 4-12 of the staff exhibit.

A. Okay.

Q. And I'd like to ask you about the second paragraph from the top where it starts, "This manual

reactor trip," do you see that?

A. I see that.

Q. Okay. It says this manual reactor trip challenged plant systems and caused financial consequences by adding an unplanned unit cycle and delaying start up of both Turkey Point nuclear units by approximately 30 hours. Do you see that?

A. I do.

Q. What does it mean by challenged plant systems?

A. Well, any time you actuate a safety system, in this particular case the manual reactor trip is what we are talking about, the safety systems are exercised. So we would consider that a challenge to those safety systems. And, of course, we know in this particular case all of those safety systems functioned properly.

Q. Okay. And by one of the safety systems, that was the plant operators manually tripping the plant off when it reached 75 percent water level in the steam generator, is that right?

A. That's correct. Our operators are trained to anticipate an automatic safety system actuation, and proactively initiate a manual actuation of that particular safety system before the automatic system would actuate. That's sort of a redundancy, if you will, in the training in the backup systems.

Q. Now, in the testimony that was prefiled, which you read earlier on Page 6, the question was what extended the outage of Unit 4, and you referred to the water level in the steam generators. Here it says it delayed the start up of both Turkey Point nuclear units, does it not?

A. It does.

Q. Do you agree with that?

A. No, I don't agree with that. I went back and looked at the schedules for the start up of both of those units, and I think that, first of all, you have to understand the context of these evaluations. The problem statements are framed rather broadly at the initiation of one of these condition reports, which is the parent document for this root cause evaluation, and it would be an obvious leap to say that there was a 30-hour impact on the other unit. But when I went back and looked at how the schedules were sequenced and how resources were reallocated, I personally could not get to that conclusion. So I think that that is a speculative statement.

Q. Okay. On the cover page that I gave you, the first page of the exhibit, Page 83, there are 16 members that prepared this report, is that right?

A. Sixteen members that participated in the

report. Each of them has various levels of expertise. There wouldn't have been necessarily 16 people sitting around a table writing this report. Each person would have bits and pieces of this that they would typically do.

Q. And did you review this report when it was issued?

A. No.

Q. Only as part of this case?

A. As part of this procedure.

Q. Okay. Could you turn to the page that has an 86 at the bottom, and that's the staff exhibit Bates-stamped 413.

A. I'm there. Page 6, did you say?

Q. 86 at the bottom. It's about the fourth page in.

A. Okay, I have it.

Q. And this is the executive summary of the root cause analysis, is that right?

A. Yes.

Q. What does it mean by root cause?

A. Root cause is where after a condition report is initiated for an unexpected situation in the plant we put together a cross-functional team, as you indicated earlier, and we look at all of the possible causes and

we narrow that down to what we call contributing causes and what we would call the root cause of the particular event, in this case that being the 75 percent level in the steam generator and attendant manual reactor trip.

Q. And in this case you have both a root cause and then several contributing causes, is that right?

A. That's correct.

Q. What was the root cause?

A. The root cause, as indicated in the report, was insufficient guidance for the initial loading of the main generator and for stabilizing power by preparing to transfer to automatic feed reg valve control.

Q. Okay. And you are reading from the paragraph that is under the heading major conclusions of the root cause effort, is that right?

A. That is correct.

Q. And just before that section you read it says the procedure used in this evolution -- and it refers to a document, I gather, 4-GOP31, hot standby to power operation. Do you see that?

A. Yes, 4-GOP301, I believe, is the procedure in question.

Q. And is that a Florida Power and Light created document?

A. That's correct.

Q. And it says that that document did not provide sufficient guidance for the rate of initial loading of the main generator, is that right?

A. That's correct. I think that perhaps a little bit of context and explanation would be useful for some in the room here. This portion of a reactor startup at lower power level, when you are transitioning from what we call bypass feed water control to main feed water control is a very critical and important evolution obviously in the plant.

And the manual -- the bypass feed water system is not an automatic system. That is a manual system. So the goal that the operators have and the way they are trained is to as quickly as possible, while maintaining stability, to move through that low power region and get up into a .12 to .15 percent power where you can effectively transition off of these by-pass manual feed water valves and get into what we call automatic feed water control. The plant is a lot more stable at that point in time.

So what you are doing, in essence, it is a balancing act between moving as quickly as possible through this region, if you will, while maintaining the stability, recognizing that the longer time that you spend in this power region the more opportunity you

present for a transient because you are in manual control and you want to get into automatic control.

So you are doing a balancing act, if that makes sense, between moving as quickly as possible versus loitering in that area. And the stability of the feed water system is highly dependent on a number of variables, multiple variables that can change from startup to startup, and so it is very, very difficult to prescriptively put into an operating procedure precisely how these operators should load that generator. And so the training that they have been given through the years, and I think it has proven to be generally very successful, is to have a good understanding of these tradeoffs that you make and to give them as much flexibility as possible on that loading of the generator, dependent upon the plant systems.

So, in this particular case, this was a very experienced operator who did this evolution. He had done it in the past, so obviously that individual knows how to do this successfully. So it is typical -- not just at our plants at FPL, but across the industry -- to not try to write an overly specific criteria into these procedures for that particular reason.

Q. Let's talk a bit about what the operators did. Could you turn to page what has a Bates-stamped 93 at

the bottom, which from the staff exhibit is Bates stamp 420?

A. I'm there.

Q. Okay. And toward the bottom of the page there is three items listed; A, B, C. The first one is prevention causal factor one. Do you see that?

A. Yes.

Q. It states there that the turbine operator and the SRO, and the SRO would be the senior reactor operator?

A. That's correct.

Q. They continued to increase main generator load while steam generator levels not stable, is that right?

A. Yes.

Q. I take it that's something they weren't supposed to do?

A. Well, I think putting myself in their shoes, since I have been in that position in the past myself, I believe at the time in the control room they felt as though the steam generator levels were sufficiently stable in order for them to continue to increase load. It was only in hindsight after the event that you could go back and look at the data and draw a conclusion that perhaps we know because it resulted in a scram, or a reactor trip that they could have let those levels

stabilize out a little bit longer.

But at that point in time they knowingly moved forward believing that they were, in fact, stable enough to continue forward. And that's based on their experience. As I indicated, that operator at the controls had multiple start-ups on his resume.

Q. Mr. Stall, you said that they felt it was stable, but if you go down to number C, or the letter C, it says the operator crew failed to stop, slow down when unsure. Do you see that?

A. I see that.

Q. Doesn't that say the operators were unsure and they just kept going anyhow?

A. I don't believe that the operators were unsure. As I indicated, these operators have started up these units in the past. They have a sense around when it's stable enough or not stable enough in order to continue to load the generator. These operators at Turkey Point have exhibited in many occasions that they do know when to stop when they are unsure. They would not have knowingly proceeded in the face of an instability that they didn't think was manageable to try and attempt to put this unit on-line. They believed at that time that they were doing the right thing.

Now, you know, it's pretty simple to look back

after the event and say, well, you know, you should have recognized that these levels were perhaps oscillating a little bit more than they might have under a different circumstance, and maybe you were unsure and should have stopped. But I don't believe that for one moment that they were unsure of themselves at that moment in time and proceeded. They are just not trained that way and they wouldn't behave that way.

Q. Mr. Stall, let me ask you to go back to the page that has an 86 at the bottom, which is Bates stamped 413 on the staff exhibit?

A. I'm there.

Q. Okay. Now, we have already talked about the root cause being insufficient guidance, is that right?

A. Yes.

Q. There is also a number of contributing causes that were identified by this team, is that right?

A. Yes.

Q. One of them is the reactor control operator did not attend just-in-time training, is that right?

A. That's correct.

Q. And how did that contribute to the shutdown?

A. Well, obviously the preferred methodology for doing just-in-time training would be that you would have the exact same crew in the simulator practicing this as

will be in the control room for the actual startup. But because of the complex overtime rules by the NRC and various other competing interests, that's not always possible, and there is no regulatory requirement for that to occur. I think the most important thing to keep in mind here is that all of those individuals who practiced in the simulator and who performed that startup in the control room are licensed reactor operators by the Nuclear Regulatory Commission, so they are fully qualified independent of this just-in-time training to execute a plant start-up as in this particular case.

Q. A second contributing cause, Mr. Stall, and it is the second bullet as we look down this page, was the abnormally fast generating loading. Do you see that?

A. I do.

Q. What does it mean by abnormally fast?

A. Well, I think it means, in this particular case, that the loading of the generator which is influential on the steam generator level control system was faster than had typically been done in the past, and that that was a contributing cause to the transient that resulted in the reactor trip.

Q. Let me ask you about the third bullet. It says a weakness in the understanding of the

shrink-and-swell concept is a contributing cause. Do you see that?

A. I do.

Q. Could you tell us what the shrink-and-swell concept is?

A. This is a little bit complex, but let me see if I can simplify this as much as possible. The steam generators are nothing but large heat exchangers, and they are a tube and shell designed heat exchanger. On the tube side you have reactor coolant system water that is at approximately 547 degrees. And on the shell side is the secondary system which takes the feed water, turns it to steam, and powers the turbine. And the way the operators would load the generator is they control the turbine load. They'll demand the valves on the turbine to come open to increase load, they will close the valves on the turbine to decrease load.

Shrink and swell refers to a physical phenomenon that results from the movement of those control valves as one variable. And as I indicated before, there are a number of other variables that can influence that, as well, but for a moment we'll focus on the control of the turbine valves. As you begin to open up these turbine valves, what you're doing is you're drawing more steam off of the steam generator for the

turbine to increase the load. And as you do that you are, in essence, depressurizing the steam generator, which will be somewhere around 1,000 to 1,100 pounds in pressure. As you depressurize that steam generator, the level will swell. And if you could think about this in a simplified way, if you have ever opened a bottle of Coca-Cola, for example, and you pop the top off, have you ever noticed that sometimes the bubbles, and it'll increase in level and sometimes even overflow the bottle. It's the same physical phenomena. As you open up these valves, the level will increase and that will be swell.

Now, the shrink side of that is a little bit counterintuitive, as well. If an operator opens up the feed water valves and admits what we would cold feed water to the steam generators, then the initial response of the steam generators is when that cold feed water is seen in the steam generator it will increase the density actually in the steam generators of that water and it will cause that water to shrink. And then as that water that's introduced to the steam generator picks up heat, then you'll have a swell phenomenon.

So I think the point that is important here for everybody to understand is that, once again, operating in this region is not the most stable region

to operate in. And that's why our operators not just at FPL but across the industry are trained to understand the variables that influence this and to move as quickly as they safely can through this region to get into automatic feed water control.

COMMISSIONER EDGAR: Mr. Beck, I'm sorry, the bullets that the witness is referring to that you are asking about, what page are you on?

MR. BECK: The Bates stamp is 413 for the staff exhibit, and there's a Florida Power and Light Bates stamp of 86 at the bottom.

COMMISSIONER EDGAR: That's the one I wanted. Thank you.

And if I may, Commissioner Skop, what time did you say you were planning that we take a lunch break?

COMMISSIONER SKOP: Depending on the will of the Commission, I was thinking about 12:00 o'clock.

COMMISSIONER EDGAR: Okay. Thank you. I appreciate it, Mr. Beck.

BY MR. BECK:

Q. Mr. Stall, thank you for the explanation of shrink and swell. Is that a phenomena that your operators are trained in and are supposed to be knowledgable about?

A. I think they are generally knowledgable about

that, but, of course, the degree of an in-depth knowledge of that phenomenon, as in this case, it can vary from one operator to another. But I think we come back to first principles, and that is that they are trained to understand the variables that can influence the level in the steam generators, and to try to balance that loading of the generator as quickly as possible with maintaining a stability and not causing a level oscillation.

Q. Let me ask you to turn to the page that has a 99 at the bottom, it's FPL 10-99. It's also 426 in the staff's exhibit.

A. I'm there.

Q. In about the middle of the page there is a larger paragraph. It says during the latter stages, and I'd like to ask you about the sentence that is five lines down where it states, "The significance of the wide range level indicators is that shrink and swell phenomena can be easily diagnosed by comparing the narrow range level indicators to the wide range level indicators."

Could you explain what that's referring to?

A. Certainly. The mechanical design of the steam generators is such that you have, as I indicated earlier, you have got these tubes, it's a tube and shell

heat exchanger. Tubes in the interior of the steam generator that on the inside of those tubes is the reactor coolant system water, which is the heat source for the secondary water, which is the feed water.

Surrounding the tube bundle is what we call a wrapper, and you have several sets of level taps, as we would call them, that are mechanically plumbed into the steam generator. One is the wide range level, which if this bottle of water was the steam generator, the wide range level taps would be on the outside of the steam generator tap or the wrapper, and they would go from the top basically to the bottom.

Q. Okay.

A. For example, the narrow range, which are highly influenced by the hydrodynamics that are going on in that region between the wrapper and the outer shell are in the operating -- you know, much narrower in the operating band. And so I think what the author of this document is trying to say, and I do agree with them, is that looking at the wide range level can provide useful intelligence about what the trends are going to be on the behavior of the narrow range level.

Q. Okay. The author of this document down on the next paragraph also indicates that the events described in the preceding paragraphs indicate a fundamental

knowledge gap by some operators regarding shrink-and-swell phenomena. Would you agree with that?

A. I would agree with that. But, I think, again, I'm going to have to come back to a broader point here and that is that our training programs -- not just at FPL, but in this industry -- constantly reveal gaps in knowledge and training in operators. And we use what is called the systematic approach to training where we consciously look for opportunities to identify training gaps, put them back into our continuing training program, share those with the industry, and learn from those.

I think it's important to realize that these operators are really doing a herculean job out there, and there are going to be particularly as we begin to transition operators who are retiring out in with new operators, there are going to be knowledge gaps going forward that we are going to find. And, yes, some of those knowledge gaps are going to manifest themselves in an event like this. But I don't think that the standard can be perfection, either. I think that you have to step back and look at the process from a broader point of view and not focus in on every knowledge gap that results in some deficiency, and say that, well, you know, obviously these operators weren't well trained,

because we have demonstrated in the past the ability to start these units up, and nobody is going to be perfect. These events are going to happen from time to time, and I don't think we should be holding these operators to standards of perfection, which is what I feel like we are doing in this particular case.

Q. The shrink-and-swell phenomena is not a phenomena that is unique to a nuclear plant, is it?

A. I can't say that. I don't believe that I can answer that, but I would surmise that it is, in fact, unique to a nuclear plant. Yes, I would think it would be.

Q. Are there not steam generators -- isn't it more connected to a steam generator rather than the actual nuclear plant?

A. The steam generator is part of the nuclear plant.

Q. But you have other steam generators, do you not?

A. Not in this sort of design, no. Not at all. This is a unique design applied to a pressurized water reactor in the industry. So I would say that that is -- you know, on second thought, I would say for the record, yes, this is unique to the nuclear industry. I have never heard of it being a phenomenon in general

industry, because there is nothing similar that I'm aware of of this design in general industry.

Q. Okay. Let's turn to the issue about the rod position indicator. And you address this on Page 4 of your testimony, do you not?

A. Give me one moment to get to that page.

Q. Sure.

A. Yes, you're correct.

Q. Okay. And you discovered an issue regarding the rod position indication system during the October of 2007 startup after the planned refueling outage, is that right?

A. That's correct.

Q. Would you describe what happened?

A. During the power ascension process, we observed that that particular analog rod position indicator, I believe, was reading high. Again, to provide a little bit of explanation on this system, there are 45 control rods associated with each Turkey Point unit down there, and these control rods are grouped into what we call banks. And each individual control rod has its own analog position indicator, which is a meter that's in the control room to show that position of that rod. And the operators will be generally continuously -- especially during a power

ascension process -- scanning these meters looking for alignment among the rods in that particular bank. And in this particular case, this rod position indicator failed high. The rod itself was physically at the right position in the reactor. The indication failed high. And we have a specification in our license documents that says that if there is a difference in an indication of plus or minus 12 steps from the demand position, then we must declare that rod inoperable. And so the operator at the controls observed that.

We declared that particular rod inoperable and we were able to continue the power ascension. Now, the problem with this is that as long as there is only one rod in a particular bank of control rods that is out of service, we have alternate ways of determining its position and we can continue to operate. But if we were to have a second rod fail in that particular bank, it would be an immediate shutdown requirement from the Nuclear Regulatory Commission.

So our engineers developed a modification package where we were able to alternately determine a way to display the indication of that rod, what its actual position was by capturing a voltage signal and translating it to a recorder in the control room. And we approached the NRC and indicated to them that we

believed that we had developed a method that would allow us to safely determine the position of that rod, and we asked for an amendment to our license to continue to operate. And they approved that amendment, but we had offered along the way, and they included it in the license amendment, that at the next outage where we shut the unit down that we would repair that particular rod position indicator, which we would have done anyway because we want these operators to have full indication of all of their instruments. And that next opportunity was at the February 26th outage.

Q. So you were required, then, to fix that at the next outage, whether it was unplanned or a planned outage, is that right?

A. That's correct.

Q. And because this was an unplanned outage, it added incremental time to bringing the units back on-line, did it not?

A. In this particular case it added incremental time to the outage to effect that repair. But I think in keeping with that vein of thought, I think it is also important to realize that we would have had to repair that rod position indicator at the next forced outage that we would have had. Now, we had a forced outage in June as it turned out to do a turbine balance shot, and

at that point in time we would have done that repair on that particular rod in June.

Q. Would you have been required to have done it in June? Did the plant go down enough that it was required to be done?

A. By the legal requirements in our operating license, we would not have been technically required. But I can tell you, and I think our track record strongly supports this, that we have a policy of operating with regard to our regulator, in this case the Nuclear Regulatory Commission, that we will not take advantage of the letter of the law. We will meet the spirit of the law. And had we came to that event in June of 2008 and we still had that problem with the rod position indication system, we would have shut the unit down and fixed that problem. And I think that I can support that with several examples of where we have shut these units down before we reach a regulatory requirement.

As a matter of fact, the June of 2008 shutdown, we weren't required to shut the unit down either. We were running with high vibrations on the turbine. We still had operating margin, but we elected to shut it down before we got there. So we would never have taken advantage of the regulation in the manner

that is suggested by that question.

Q. Other than the June outage, the next outage for Turkey Point Unit 3 was the regularly scheduled refueling outage, is that right?

A. That's correct.

Q. And had the repair been done during the regularly scheduled refueling outage, it would not have extended that refueling outage, would it?

A. No, it would not have.

Q. Okay. So it was the fact that this was an unplanned outage that it added incremental time to this outage?

A. In the February outage. I think the other thing, too, that's important to understand is that as these units operate through their operating cycle, equipment problems are going to occur. And what we do is we keep a list of work orders that we want to work when a unit comes down because we want to -- if we have the opportunity, we want to fix it to give us every opportunity to operate successfully to the next refueling outage.

So because just we did not have any other forced outages other than that June of 2008 outage, we can't say conclusively that would have been the case in this case because we did other work orders that we would

have still been running with, and with problems that occur during the cycle, we could have very well found ourselves in another forced outage. So it would be too speculative to suggest that we could have operated to the next refueling cycle.

MR. BECK: Mr. Stall, thank you. That's all I have.

COMMISSIONER SKOP: Thank you.

Ms. Bradley, you're recognized for cross-examination.

MS. BRADLEY: Thank you.

CROSS EXAMINATION

BY MS. BRADLEY:

Q. Mr. Stall, you were talking with Mr. Beck at Bates stamp 413 and the root cause analysis?

A. On the steam generator level trip?

Q. Yes, I believe that's correct.

A. Yes.

Q. Who prepared that document?

A. There's a list of team members on the first page there. I believe that Mr. Beck referred to them.

Q. Are those employees of Florida Power and Light?

A. That's correct.

Q. Do you know who assigned them to prepare this

report?

A. I don't know specifically by name, but it would have been somebody in the plant management staff.

Q. And was that person authorized by the company to make this kind of team assignment?

A. Yes.

Q. The persons that did this, were they qualified to perform that type of analysis and work?

A. Yes.

MS. BRADLEY: No further questions.

COMMISSIONER SKOP: Thank you, Ms. Bradley. Ms. Kaufman.

MS. KAUFMAN: Thank you.

CROSS EXAMINATION

BY MS. KAUFMAN:

Q. Good morning, Mr. Stall. How are you doing?

A. Good, thank you.

Q. I just want to follow up on some questions Mr. Beck asked you and Ms. Bradley. Mr. Beck took you through the root cause analysis that you still have in front of you, and he asked you some questions about the water level in Unit 4 that exceeded 75 percent. Do you recall that?

A. That's correct.

Q. And he took you through some of the root

causes and the contributory causes to that event. Do you recall that?

A. Yes.

Q. And the report that Ms. Bradley and Mr. Beck asked you about identified, I think, what are called some knowledge gaps and some other causes of the event. Do you agree with that?

A. I do.

Q. Mr. Stall, would you also agree that ratepayers don't have any ability to influence or change some of these knowledge gaps or issues that FPL employees may have?

A. I would agree with that.

Q. And that that sort of training and information would be within the purview of FPL management practices?

A. Yes.

Q. Now, you would agree -- and I think we heard this in the open statements, but you would agree, wouldn't you, that the Turkey Point nuclear units came off-line on February 28th, 2008, as a result of some actions by FPL employees at the Flagami Substation?

A. I believe the date was February 26th.

Q. I'm sorry. You're right, February 26, 2008.

A. Correct.

Q. Okay. And you would agree that the reason the

units tripped were due to some actions of employees at that substation?

A. Correct.

Q. Okay. And if those actions or activities had not occurred at the substation as far as you know that Units 3 and 4 would have continued to run, is that correct?

A. On that particular day. However, you know, who knows what might have happened. I mean, we can only say that it certainly wouldn't have tripped from that particular event.

Q. Right. You testify on Page 8 of your Direct Testimony starting at Line 9 --

A. On which line, I'm sorry?

Q. The question begins at Line 9, but to paraphrase, the question is did the NRC have any issues arising out of the shutdown of the units, and you say they did not, correct?

A. Yes. The NRC had no issues. And as a matter of fact, in their inspection reports they found that the units were handled and restarted successfully without error, I believe, is the word they had.

Q. Does the NRC have any responsibility for determining what replacement fuel costs might be for Florida ratepayers?

A. No.

MS. KAUFMAN: Thank you. That's all I have.

COMMISSIONER SKOP: Thank you, Ms. Kaufman. Staff.

MR. YOUNG: Thank you, sir.

CROSS EXAMINATION

BY MR. YOUNG:

Q. Good morning, Mr. Stall. How are you?

A. Good morning, Mr. Young.

Q. All right. You mentioned earlier that FPL complies with work orders. Do you remember that statement?

A. Excuse me?

Q. You mentioned that FPL complies with work orders for nuclear units, and when the opportunity arises, FPL tries to perform these work orders. Do you remember that you stated that earlier?

A. Yes.

Q. Is this unique to nuclear units, or do you also do this type of preparation for fossil fuel units?

A. I don't have direct responsibility for our fossil fleet, but I'm comfortable with saying that they would do everything they can to be prepared for any forced outage event, as well. They run a very efficient fleet.

Q. Okay. During cross-examination of Mr. Beck you talked about the RPI system, correct?

A. Yes.

Q. All right. Why didn't FPL perform the RPI system repair when they initially discovered it in October of 2007?

A. Because we had come out of the refueling outage, and as I indicated earlier, we had that one rod position indication that had failed, so we were well within our operating license guideline to continue to operate the plant. And we were able to develop an alternate methodology for determining that particular rod position that was safely executed and approved by the Nuclear Regulatory Commission.

Q. All right. And that alternative allowed you to operate until the next outage, correct, or the next planned outage possibly, next planned outage, correct?

A. Either the next forced outage or the next planned outage, whichever occurred first.

Q. Do you recall how long it was after the Flagami transmission event that FPL began working on those repairs?

A. I would have to go back to the work order for the exact time, but there would not have been the ability to get into that reactor compartment immediately

after the shutdown to begin those repairs. I'm confident from looking at the background material that they got on top of that job as quickly as possible. You have to realize that it's very hot in there, a difficult environment. Radiation surveys have to be performed, radiation work permits have to be written, so there is a time delay between the moment that that reactor trip breaker opens and the plant comes down and when that crew is dispatched to actually go do the physical work. There are a lot of administrative and safety precautions that must be taken.

Q. So would you agree, subject to check, it was approximately seven to eight hours after the Flagami transmission event that FPL began work on those repairs?

A. I would have to look at the documents, but I think that would be reasonable.

Q. Okay. Now, prior to or since that initial discovery of the RPI system in October 2007, has FPL experienced issues with the RPI system at Turkey Point's -- either Turkey Points 3 or 4?

A. Yes. We had had some issues with the rod position indication system on both Unit 3 and Unit 4 prior to that point in time.

Q. Okay. Now, you discussed the issues which delayed the return of Unit 4. Do you remember that

discussion?

A. With regard to the steam generator level transient, yes.

Q. Now, in your response to Staff's Interrogatory Number 13, and that's Bates stamp Number 256, and if you look on -- Commissioners, if you look on the computer it's the Hearing Exhibit Number 27 on the CD, and it's in the first file.

A. I'm trying to find it here. Could you direct me to it one more time?

Q. It's Staff's Response to Interrogatory Number 13. It's Bates stamp Number 256.

A. I have it, I believe.

Q. And just to speed things up, you indicated in this response that FPL commenced startup of Turkey Point Unit 4 on February 28th, 2008, at 4:58 a.m., is that correct?

A. Yes.

Q. Absent the issues with the delay and the shutdown due to high steam generator, at what time did you believe Unit 4 would have returned on-line given the consideration in your response to Interrogatory Number 13?

A. Shortly after 0458. I think that's when we had the -- let's see. I'd have to go back and look at

the timeline, but I see that we commenced startup at Unit 4 on February 28th at 0458, and then he had the high steam generator water level event on February 29th at 0450. So we had a period of time there between the commencement of that startup and when we had that level transient.

Q. Okay. Now, earlier I think it was with Mr. Beck or Ms. Kaufman, you talked about the RPI in terms of the NRC's statement in terms of you repairing the RPI system during the next planned shutdown, correct?

A. Yes.

Q. Or the next shutdown. Did FPL consider taking down the plants to repair the RPI system?

A. Well, as I indicated in my testimony -- not testimony, but deposition, excuse me, earlier, I considered, in the back of my mind, looking for an opportunity before the hot summer months to proactively take the unit down and fix this problem. But as you and I had spoken in the deposition, there is no documentation to that effect.

COMMISSIONER SKOP: Mr. Young, can we take a quick five-minute break here to allow the court reporters to switch out. It looks like they are trying to do that, so let's stand adjourned here as a stopping point for five minutes.

MR. YOUNG: Yes, sir.

(Recess taken.)

COMMISSIONER SKOP: Okay. We're going to go back on the record. And, staff, you're recognized for cross-examination.

MR. YOUNG: Staff has no further questions.

COMMISSIONER SKOP: Thank you.

Commissioners?

COMMISSIONER EDGAR: I do.

COMMISSIONER SKOP: Commissioner Edgar.

COMMISSIONER EDGAR: Thank you.

Mr. Beck, this document that you were using for some of your cross labeled Turkey Point Nuclear Plant Steam Generator Level Manual Trip, has this -- is this marked as an exhibit?

MR. BECK: No, Commissioner, because it's part of the staff exhibit that's already been admitted into evidence.

COMMISSIONER EDGAR: Wonderful. Thank you.

I have one question for the witness using, referencing this document that Mr. Beck was asking you about. On the page that says Page 17 of 72, and at the top it is the beginning of the section on Causal Factor 3.

THE WITNESS: Okay. I find it.

COMMISSIONER EDGAR: Okay. Towards the bottom it talks about an operator not having a peer checker as is recommended in some recommendation type document. I'm not sure what that is referring to, NAP 402. Could you describe to me this process and requirements of a peer checker, and if in your opinion where it says that there was not a peer checker, what the importance of that is or is not?

THE WITNESS: Okay. Peer checking is a technique that has been developed in the industry. It is primarily an error minimization tool, and it is not a regulatory required process by the Nuclear Regulatory Commission but one that we adopt in order to again minimize potential for errors. And the way it is used is that there are certain evolutions that are performed both in the control room and out in the plant proper that have the potential for a problem to result if they are not performed correctly, and so we, we assign individuals to perform what we would call peer checks.

For example, if I was going to be starting a, a critical pump, I would want to obviously make sure that I'm on the right pump. There's plenty -- there's hundreds of pumps in the control room. Before I start that pump, I want to make sure I'm on the right pump, for example. So I would go to that particular switch

and I would say I'm preparing to start 1FWP1 Alpha, main feedwater pump. And if you were the peer checker, you would basically stand right next to me and say I understand you are preparing to start 1FWP1 Alpha, that is the correct switch, and then I would start it. And we would both look at the response of the system and concur that we had the expected response.

During this period of time again that we're talking about with this startup of the unit there are a lot of critical activities going on, so there is a lot of peer checking activity going on as well. And I think what this gets to is that in this particular case peer checking was going on of something that was deemed to be perhaps of higher significance than this particular item that's talked about, and so it was not peer checked.

COMMISSIONER EDGAR: So in your, your opinion, in your expertise and your knowledge of this document, realizing as you've just said that there would have been a lot going on at the same time, is the point made on this page that a peer checker was not utilized at this point, is that significant or not significant?

THE WITNESS: I don't, I don't believe it is significant in this particular point because, again, the operator at the controls was a veteran operator who had conducted multiple startups successfully in the past,

and there were other more critical things going on at that point in time that caused the unit supervisor to perhaps be peer checking something else. And as we talked about earlier, that operator at the controls believed that he had those steam generator level oscillations under, under control at that point in time.

COMMISSIONER EDGAR: All right. Thank you. Thank you.

THE WITNESS: You're welcome.

COMMISSIONER SKOP: Thank you, Commissioner.

Commissioner Klement, I believe you had a question, then Commissioner Stevens.

COMMISSIONER KLEMENT: Thank you, Mr. Chairman.

Mr. Stall, I would like to refer to the, your test, your statement on Page 4, the question on Line 22, "Could FPL have restarted Unit 3 without repairing the affected RPI system?" And your answer from Line 1 to 7 is "No." And you say that the NRC required you to do the rod replacements at the next shutdown downtime. Yet I think, I thought I heard you say just before, a few minutes before the recess, the last recess, that you were not actually required to shut it down, but in the spirit of the law as well as the letter, you chose to do so. Is -- am I hearing right or --

THE WITNESS: No. What I was -- let me -- perhaps I wasn't speaking clearly, so let me attempt to elucidate that a little bit clearer for your benefit.

What I was indicating was that we had a legal requirement in place that if the unit was to shut down for any reason at all, whether it was a forced outage or a planned outage, following the issuance of that license amendment, that we were required by law to repair that particular rod position indication.

And I believe the line of questioning at that point in time was around had we not had the Flagami transmission event, would we have had to complete that repair when we had a subsequent outage in June of 2008? And the point that I think was being made was that that particular outage in June of 2008 was what we call a Mode 2 outage, which meant that we kept the reactor critical. And so by the legal definition or requirement in our operating license, we would not have been technically required to execute that repair. And then we operated from June to the next refueling outage. And if we had gotten to the refueling outage, it would have happened in the normal context of business.

But my point that I was trying to make and perhaps I wasn't very clear was that our policy is, is to not -- it basically boils down to doing the right

thing. And in this particular case it's not to take advantage of the letter of the law with regard to how we run our nuclear plants. We -- and in June, for example, when we shut that unit down with high vibrations on the exciter bearing, we were still, had some operating margin to the limit. But we, we could see that it was not an optimal condition, and so we shut the plant down to do that repair before it drove us off of line.

And so my point was, was that had we come to that June situation where we were going to shut down to do this turbine vibration shot and if that rod position indication was still a problem because Flagami had not occurred, we would have certainly shut the unit down and fixed it at that time because that is the right thing to do and, you know, to preserve all indications for the operator. That's what our processes and our training drives us to do.

COMMISSIONER KLEMENT: Thank you. When was, when was the next fuel, refueling downtime scheduled?

THE WITNESS: That would have been in, I believe, March of 2009.

COMMISSIONER KLEMENT: Okay. Thank you.

THE WITNESS: You're welcome.

COMMISSIONER SKOP: Commissioner Stevens.

COMMISSIONER STEVENS: Thank you, Mr. Chair.

Mr. Stall, how many hours were the plants down, Unit 3 and Unit 4?

THE WITNESS: Unit 4, I believe, was down for 158 hours and Unit 3 for 107 hours, I believe.

COMMISSIONER STEVENS: I think you have it backwards, but that's, that's fine, according to the --

THE WITNESS: Yes. I had it backwards. Excuse me. You're correct.

COMMISSIONER STEVENS: Okay. How many hours were customers without power?

THE WITNESS: I cannot say. That would not have been in my scope of responsibility, Commissioner. I was solely focused on, on the operating, you know, the reactors. And the amount of time the customers were without power was not something that I was particularly focused on at that point in time.

COMMISSIONER STEVENS: Thank you.

THE WITNESS: You're welcome.

COMMISSIONER SKOP: Thank you. Any further questions?

I have one. Good morning, Mr. Stall.

THE WITNESS: Good morning, Commissioner Skop.

COMMISSIONER SKOP: I just wanted to focus on the discussion regarding the Unit 4. And on Page 412 of the exhibit -- or Bates Number 412 that Mr. Beck had

asked you about, there was a manual reactor trip as a result of the steam generator level. And as part of the problem statement in the second paragraph it states, "This manual reactor trip challenged plant systems and caused financial consequences by adding an unplanned unit cycle and delaying startup on both Turkey Point nuclear units by approximately 30 hours." Can you briefly explain, if that statement is accurate, why it would cause a delay in the startup of both units?

THE WITNESS: Well, I think, as we, as we talked about earlier, I think, first of all, these problem statements are developed immediately after the event and they're typically written in a very broad sort of way to encompass any particular outcome that may, you know, end up in the ultimate root cause of it.

But essentially what is going on is that again you have, you have two units that are out of service simultaneously and you have a fixed number of resources available. And as you'll focus on one unit being what we would call the lead unit and the other unit being the lag unit in terms of returning of the service, in this particular case Unit 4 would have been the lead unit for restart because we knew we had this rod position indication system repair to do on Unit 3.

So when we had the steam generator water level

transient that resulted in a manual reactor trip, then we're, we're going to divert resources, we're going to take a look and step back and say, okay, now which unit is more, was more further along in terms of being able to recover? And we'll adjust our resources for that to make sure that we're getting the first unit back as quickly as possible. Because it's quite possible that now Unit 3 might have become the lead unit.

And that's why I said that I believed that this problem statement when it was initially formulated at the, at the beginning of when this analysis was kicked off was overly broad and simplistic because it's not a simple matter of saying there was a, there was a delay of 30 hours on one unit and that translated to a delay of 30 hours on the other unit. That's not the way that we would operate our business.

COMMISSIONER SKOP: Okay. And I'm taking this as 30 hours combined between, or 30-hour additional delay.

But with respect to your testimony, am I correct to understand, and this is why I'm focusing on Unit 4, am I correct to understand that Unit 3 could not be immediately placed back in service and that's why it had to be the lag unit because of the replacement of the control rod indicator?

THE WITNESS: That's correct.

COMMISSIONER SKOP: Okay. And that's pursuant to a commitment that FPL made to the Nuclear Regulatory Commission; is that correct?

THE WITNESS: Yes, sir.

COMMISSIONER SKOP: Okay. All right. Focusing on Unit 4 on Page, Bates Number 413, one of the contributing causes was obviously the abnormal fast generator loading, and it indicated that the unit immediately, that load was immediately increased after synchronization. So would it be correct to understand that the turbine generator was on the governor valve at that point in time that load was being added?

THE WITNESS: Yes. The way that the generator is typically, in the loading of the turbine is sequenced, you're typically on what we call throttle valve control until about 1,700 RPM, and then you make a swap between throttle valve to governor valve control. So you are correct, we would have been on governor valve control.

COMMISSIONER SKOP: Okay. So as the loading of the generator continued, obviously that would have, the governor valve would have responded by opening, you know, additional valves or the distance, additional steam flow so you could meet load. And as a result of

the lack of coordination between the feedwater and the steam generator levels, that caused the manual reactor trip.

THE WITNESS: That's one of the influences on it, as well as reactor coolant system temperature, pressure in the secondary site of the steam generator, whether or not the feedwater heaters are fully in service or partially in service.

As I, as I mentioned earlier, and I think you probably are aware from your experience as well, is that there are a large number of variables that influence this, and that, that is why I was trying to make the point earlier that trying to be overly prescriptive in an operating procedure, a one-size-fits-all approach to the startups is, is not necessarily the proper way to go about this.

It's really all about understanding the tradeoffs between being in manual control for longer as you move slower through that region versus moving in a safe but expedited manner to get into automatic control, and no two startups will be the same.

COMMISSIONER SKOP: Okay. With respect to startups, how many times would you say that Unit 4 has been started up since it's been placed in service just generally? A hundred, hundreds?

THE WITNESS: That's as good of an estimate as any. Many times.

COMMISSIONER SKOP: Okay. How many times has this specific type of transient event occurred at startup?

THE WITNESS: One other time at Turkey Point this has occurred, and we've had a couple of events at St. Lucie. But in the industry there have been literally hundreds of these events. And I think to my point earlier, it's a testament to the overall training and skills of our operators that we've been successful as many times as we have. And that's why it was disturbing to me that we would now begin to, to say that, well, the, you know, once in a blue moon an event like this happens and therefore there's some inadequate training or some culpability by our operators and therefore we ought to be penalized. Because to me that's, that's asking for a standard of perfection, which we're never going to rise to that standard.

COMMISSIONER SKOP: Okay. And with respect to your response, you indicated that there was one previous instance where this specific type of transient event occurred, and obviously there would have been corrective action at that time put in place; is that correct?

THE WITNESS: That's correct. As you're

probably well aware from your experience as well, that our training and our -- the whole systematic approach to training that we use in the industry is an extremely self-critical approach where we -- if we have an equipment problem, we go after every contributing and potential cause for that. We do the same on a, on a human problem like we had with the steam generator level control. We look for gaps in training and knowledge and we feed those back into our training programs to improve the performance. And I think that's one of the primary reasons why the customers have benefited from these plants performing significantly above industry average, because of this self-critical approach that we take at FPL.

COMMISSIONER SKOP: Okay. And with respect to this event in question, corrective action was put in place to prevent reoccurrence; is that correct?

THE WITNESS: Yes, sir.

COMMISSIONER SKOP: Okay. Now was that corrective action separate and distinct from the prior corrective action?

THE WITNESS: Yes, it was.

COMMISSIONER SKOP: Okay. All right. Great. And just one final question: With respect to the delay in restarting the unit or bringing Unit 4 back online,

could that have been avoidable through improved operator communication?

THE WITNESS: I don't, sitting here today I cannot say with certainty that it could have been avoidable. It's possible that it could have been. But I believe again that at that point in time, having been in those operator's shoes, knowing the way that they're trained and their approach to operations, that individual that feedwater controls on that particular day believed with all of his heart that that plant was stable enough for him to increase the load on the, on the generator.

And having been the experienced operator who has done this successfully, I think that if, if that was the position he took, even had he communicated with, on this specific point with some of his peers, that they could have very well came to the same conclusion that he did, that, yes, I think that, you know, we're stable enough to continue to increase power.

COMMISSIONER SKOP: Okay. Thank you.

THE WITNESS: You're welcome.

COMMISSIONER SKOP: Yes. Commissioner Klement, you're recognized.

COMMISSIONER KLEMENT: One other question for Mr. Stall, which is just following up on what, the one I

asked earlier.

I'm not sure what your communication process is with the NRC, but just, would it have been possible when, in the early hours of this when you were making these decisions about the rod replacement in connection with the downtime to ask, to get on the phone or some other way of communicating and ask them if you could be excused from this requirement and delay it until your scheduled outage to avoid having to replace this, this power at the higher cost and thus saving, saving the, the additional cost?

THE WITNESS: No. That wouldn't have been possible. And the way that the, the Nuclear Regulatory Commission operates is they turn essentially a blind eye to the economic impact. Their focus is solely on, on safety, and we had previously made that commitment to them. And we would not have been able to go back and ask in this particular case to extend that. It just wouldn't have been feasible.

COMMISSIONER KLEMENT: Okay. Thank you. That's all.

THE WITNESS: You're welcome.

COMMISSIONER SKOP: Thank you. Any other questions for Witness Stall? Hearing none, if we can take up exhibits.

MR. ROSS: Mr. Chairman, I do have some brief redirect.

COMMISSIONER SKOP: Excuse me. I stand corrected. We will turn to FPL for redirect.

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

REDIRECT EXAMINATION

BY MR. ROSS:

Q. Mr. Stall, you were asked a question by Mr. Young about why the company didn't affect the repair to the rod position indicator when it, when the problem was discovered in October of 2007. Do you remember that question?

A. I do.

Q. If, if FPL had decided to shut the plant down and to make the repair at that time, how long would that repair have taken compared with how long it took after the Flagami event?

A. Well, I think that's the unfortunate part of the discussion that we're having today. We know that it took approximately 127 hours to execute this repair during the Flagami transmission event. And by taking the course of action that we did when that problem revealed itself, and by that I mean going to the Nuclear Regulatory Commission and proposing an alternate

methodology for ascertaining the position of that particular rod, that gave us time to procure spare parts, to plan the work order packages, to be ready to go, as Mr. Young indicated, within eight hours of the shutdown of that unit. So we were able to minimize the amount of time and impact on the customers.

Had we elected to shut the unit down upon receipt of that problem in October, it would have taken a much longer period of time to execute that repair. We would not have had the parts available, we would not have had the work order package fully planned, we wouldn't have had necessarily the right people who are qualified in that area available, and unfortunately I don't think we would be talking about this here today.

Q. You were asked a number of questions about the root cause analysis on the manual reactor shutdown of Unit 4 on high steam generator water level. Can you describe what the purpose of root cause analysis are as used by FPL and the nuclear industry?

A. A root cause analysis is, is a technique that is used for a specific subset of conditions or problems that occur in a plant. I think it's important to realize that anything that happens at one of these nuclear plants that is, quote, out of the norm, we write a, what we call a condition report. We document that

problem, we put it into our system, and we, we treat that condition report in one of several different ways.

On the one hand, it can be a simple what we call broke fix, a piece of equipment that is not consequential to safety or generation failed, simply repair it, fix it, put it back in service. If it's a little more significant, we can perform what is called an apparent cause where we devote some resources to getting to the, to the root of the problem. But the magnitude of resources that would need to be devoted to do a full root cause are not warranted because the significance of the problem didn't rise to a high enough level. The third level is what's called a root cause where we invest a large number of resources, as we talked about in this particular case, to get to the root of the problem and its contributing causes.

We write on the, we write literally tens of thousands of these condition reports at any particular site like Turkey Point in a year. So there's a constant volume going through the system, and we'll be doing on average hundreds of root causes in a year. So these things are not out of the ordinary. And it is not out of the ordinary for something to be in a root cause, particularly in a problem statement which is broad and sweeping, that is not necessarily borne out later on

when the root cause is, is finished. And there may be conclusions that are reached in a particular root cause that upon reexamination some people might have a different opinion about.

Q. You were asked some questions about the generator loading rate in connection with the, the Unit 4 manual reactor shutdown and the speed of the loading rate. Is there any risks with going too slow as opposed to going too fast?

A. Yes. As I attempted to explain earlier, it is a tradeoff between moving expeditiously through this low power region to get off of what we call manual feedwater control where the vulnerability to a reactor trip is much higher than once you're on main feedwater control with the valves controlling automatically without operator action. So the operators are trained to move through that low power region as quickly and safely as possible while maintaining stable control to get into that automatic control.

The slower you go, the more time you spend on manual feedwater control, the higher the probability that you're going to have a reactor trip because you're on manual control. So it's a tradeoff. And that's why I said earlier that reducing these requirements to a prescriptive step in a procedure is virtually impossible

to do and it can have perverse consequences of causing a problem. So that's why we try to give them as much broad leeway in establishing that generator loading rate as reasonably is possible.

Q. With respect to the performance of the plant in response to the Flagami event and the reactor trip that we were talking about as well as the RPI repairs, at any time was there ever any threat to plant personnel or to the health and safety of the public?

A. Absolutely not. Safety is, is the most important thing that we deal with, the health and safety of the public. And in no, no case was the health and safety of the public jeopardized by this particular event. And that was confirmed by the Nuclear Regulatory Commission's inspection of that dual unit outage and how it was conducted at Turkey Point.

MR. ROSS: No further questions, Mr. Chairman.

COMMISSIONER SKOP: Thank you. We'll take up the exhibits at this point.

MR. ROSS: Mr. Stall is not sponsoring any exhibits, Mr. Chairman.

COMMISSIONER SKOP: All right. Great.

Commissioners, it's after 12:00. I just wanted to see what the will of the Commission would be in terms of lunch. I was thinking, you know --

COMMISSIONER STEVENS: 1:15.

COMMISSIONER SKOP: -- 1:15, 1:30. Okay. All right. Why don't we do this, why don't we reconvene at 1:30, and we stand adjourned for lunch.

(Lunch recess taken.)

COMMISSIONER SKOP: Okay. We're going to go back on the record. Where we had left off is Witness Stall had finished his direct testimony and will return for rebuttal later in the proceeding. So, Mr. Butler, if you'd call your next witness.

MR. BUTLER: Thank you, Commissioner Skop. I would call Mr. Gerald (sic.) Yupp, and Mr. Yupp has been previously sworn.

COMMISSIONER SKOP: Thank you.

GERARD J. YUPP

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

DIRECT EXAMINATION

BY MR. BUTLER:

Q. Would you please state your name and business address for the record, Mr. Yupp?

A. Gerard J. Yupp, 700 Universe Boulevard, North Palm Beach, Florida.

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

A. I'm employed by Florida Power & Light as Senior Director of Wholesale Operations in the Energy Marketing and Trading Division.

Q. Did you prepare and cause to be filed seven pages of prefiled direct testimony in this proceeding on January 13, 2010?

A. I did.

Q. Do you have any changes or corrections to make to your prefiled direct testimony?

A. I do not.

Q. Okay. If I asked you -- excuse me -- asked you the questions contained in your prefiled direct testimony, would your answers be the same?

A. They would.

MR. BUTLER: Commissioner Skop, FPL asks that the prefiled direct testimony of Gerard J. Yupp be inserted into the record as though read.

COMMISSIONER SKOP: Very well. The prefiled testimony of the witness will be entered into the record as though read.

MR. BUTLER: Thank you.

BY MR. BUTLER:

Q. Mr. Yupp, are you also sponsoring Exhibits GJY-1 through GJY-9, which are attached to your prefiled testimony?

A. Yes, I am.

Q. And were those prepared by you or under your direction, supervision and control?

A. Yes, they were.

MR. BUTLER: Okay. Commissioner Skop, I would note that those exhibits, GJY-1 through 9, have been prefiled or premarked as Exhibits 2 through 10 in the Comprehensive Exhibit List.

COMMISSIONER SKOP: Thank you.

(Exhibits 2 through 10 marked for identification.)

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

FLORIDA POWER & LIGHT COMPANY

TESTIMONY OF GERARD J. YUPP

DOCKET NO. 090505-EI

JANUARY 13, 2010

Q. Please state your name and address.

A. My name is Gerard J. Yupp. My business address is 700 Universe Boulevard, Juno Beach, Florida, 33408.

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

A. I am employed by Florida Power & Light Company (FPL) as Senior Director of Wholesale Operations in the Energy Marketing and Trading Division.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to provide a detailed explanation of FPL's Replacement Power Cost (RPC) calculation for the Flagami Transmission Event ("the event") that occurred on February 26, 2008.

Q. Have you prepared or caused to be prepared under your supervision, direction and control any exhibits in this proceeding?

A. Yes, I am sponsoring the following exhibits included in Appendix I:

- GJY-1 – Description of Units
- GJY–2 - February 2008 Schedule A4 Heat Rate Data
- GJY-3 - February 2008 Schedule A4 Fuel Cost Data
- GJY-4 - February 2008 Schedule A4 Fuel Consumption Data
- GJY-5 – Blended Fuel Cost Calculation

- GJY-6 – Peaking Units Production Cost Calculation
- GJY-7 – System Average Cost Adjustment Calculation
- GJY-8 – Total Fuel Cost Utilizing Adjusted System Average Cost
- GJY-9 – Purchased Power Cost

Q. Please describe the components of FPL's RPC calculation.

A. FPL's RPC calculation reflects (1) costs associated with replacement fuel that was required to off-set the loss of generation that occurred as a result of the event; and (2) costs associated with off-system power purchases that FPL executed immediately following the event.

Q. What is the time frame that provides the basis for FPL's calculation of the cost of replacement fuel that was required to off-set the loss of generation that occurred as a result of the event?

A. FPL based its replacement fuel cost calculations on the 8-hour period immediately following the event.

Q. Why does FPL believe that the appropriate measure of replacement fuel costs attributable to the event is captured in the 8-hour period immediately following the event?

A. The 8-hour period immediately following the event covers the entire time frame during which the event had a significant impact on FPL's ability to operate its generating system and, as a result, FPL had to run its expensive peaking units in order to meet system load requirements. As discussed by FPL witness Stall, FPL's Turkey Point nuclear units (Units 3 and 4) remained off-line beyond that period due to startup requirements and operational issues that are unique to nuclear plants. For the reasons

discussed by FPL witness Avera, however, it would be unfair to FPL and serve as a major disincentive to the construction and operation of low fuel-cost generating technologies such as nuclear, solar and wind if FPL were to be penalized for replacement power costs associated uniquely with Turkey Point Units 3 and 4 that are not a result of any imprudence in the operation of those units. Therefore, FPL has calculated replacement fuel costs for this 8-hour period, based on what its system average fuel costs would have been in that period if all generating resources were available and able to operate.

Q. What peaking units did FPL run in response to the Flagami Transmission Event?

A. FPL ran peaking units at its Fort Lauderdale, Port Everglades and Fort Myers sites. A description of these sites is shown in Exhibit GJY-1.

Q. How did FPL calculate the cost of running these peaking units?

A. The cost of running these peaking units was calculated utilizing data from FPL's February 2008 A4 Schedule, as filed with the Commission, and actual MWh production from these units during the 8-hour period immediately following the event. Specifically, heat rate, fuel price and fuel consumption data from Schedule A4 were utilized to develop the generation cost of each site of peaking units on a dollar per MWh basis. This data is shown in Exhibits GJY-2 through GJY-4. Because the Fort Lauderdale/Port Everglades peaking units are capable of burning natural gas or light fuel oil, FPL calculated a blended fuel price for each site based on the MMBtu consumption of natural gas and light fuel oil during the

month. This methodology ensured that the fuel price used to determine the generation cost was representative of the proportion of each fuel utilized during the month at each site. This calculation is shown in Exhibit GJY-5. The Fort Myers peaking units burn light fuel oil only; therefore a blended price calculation was not necessary for these units. Multiplying these fuel prices times the respective heat rate for each site yielded production costs on a dollar per MWh basis for each site. Production costs, by site, are shown in Exhibit GJY-6.

Q. What was the total cost of running FPL's peaking units after the event?

A. In order to determine the total cost of running FPL's peaking units after the event, FPL multiplied the MWh production from each site by the production cost ($ per MWh basis) for each site. As shown in Exhibit GJY-6, the total system cost of running FPL's peaking units in response to the event was $1,992,270.

Q. How did FPL use the total cost for running the peaking units to determine replacement fuel costs?

A. To calculate replacement power costs resulting from generating resources being unavailable, one has to net the cost that would have been incurred if those generating resources had been available against the actual cost incurred. The figure of $1,992,270 represents the total system cost incurred for running the peaking units in the 8-hour period immediately following the event. Had the event not occurred, FPL would have generated the 11,430 MWh (Exhibit GJY-6) with other generation

resources. To calculate the total replacement fuel cost, the cost FPL would have incurred to generate the 11,430 MWh if the event had not occurred must be netted against the total cost for the peaking units.

Q. What cost basis did FPL use for comparison to its peaking units to determine the net replacement fuel costs?

A. FPL used system average cost as a basis for comparison to the peaking units to determine the net cost of replacement fuel.

Q. Why did FPL use its system average cost for comparison purposes?

A. Utilizing the system average cost distributes the effect of the lost generating capacity across the entire fleet of generation, as opposed to basing the calculation on one specific type of unit. This is consistent with the testimony of FPL witness Avera that it would be unfair and create adverse incentives if the net cost of replacement fuel were based exclusively on the Turkey Point nuclear units.

Q. Did FPL adjust the system average cost reflected in the A Schedules for the purpose of the replacement fuel cost calculation?

A. Yes. Because the system average cost that FPL filed in the February 2008 A Schedules included higher overall fuel costs due to the outages of Turkey Point Nuclear Units 3 and 4, FPL adjusted its system average cost to account for these outages. In other words, had the outages at Turkey Point 3 and 4 not occurred, FPL's system average cost would have been lower in February 2008. Therefore, FPL adjusted its system average cost for February 2008 to account for these outages.

Q. How did FPL make this adjustment to the system average cost for

February 2008?

A. FPL adjusted its system average cost for February 2008 to account for the lost MWh production from Turkey Point Units 3 and 4. Turkey Point Units 3 and 4 would have generated approximately 118,783 MWh from 13:10 on February 26, 2008 through the end of the month (82 hours and 50 minutes). Other units on FPL's system were required to replace this generation. FPL calculated a replacement generation cost on a dollar per MWh basis utilizing the actual mixture of natural gas, light fuel oil and heavy fuel oil from the February 2008 Schedule A3 (Exhibits GJY-7). This generation cost was then multiplied times the 118,783 MWh to yield the fuel costs that FPL incurred in absence of the nuclear units. This figure was netted against the cost of fuel for the same MWh production for Turkey Point Units 3 and 4. The difference was subtracted from FPL's total fuel expenditures on Schedule A3 and that figure was divided by the total MWh of generation for the month on Schedule A3. This process resulted in an adjusted system average cost of $51.32/MWh, or $1.30/MWh less than the original Schedule A3 value. The calculation formulas are shown on Exhibit GJY-7 under the sections entitled "Cost Impact Calculation" and "Adjusted System Average Cost".

Q. What was the cost of generating the 11,430 MWh with the adjusted system average cost?

A. As shown on Exhibit GJY-8 under "Total Fuel Cost Utilizing Adjusted System Average Cost", the total system cost was $586,588.

Q. What is the replacement fuel cost that FPL incurred to run its peaking

units?

A. Netting the $586,588 against the $1,992,270 (cost of running peaking units) yields a total system replacement fuel cost value of $1,405,682.

Q. Please provide the details of the costs associated with off-system power purchases that FPL secured as a result of the event.

A. Immediately following the event, FPL began to purchase off-system power to help off-set the generation that was lost as a result of the event. FPL purchased a total of 5,214 MWh from six different entities throughout the afternoon/evening of February 26, 2008. FPL incurred total purchased power costs of $885,935 ($169.91/MWh), including a capacity payment to one entity. If the event had not occurred, FPL would have produced the 5,214 MWh with its own generation. Multiplying the adjusted system average cost by the 5,214 MWh yields a total cost to produce the power of approximately $267,582. Therefore, the net cost differential of the purchases that FPL made in response to the event was $885,935 minus $267,582, or $618,353. The details of the purchased power cost calculations are shown in Exhibit GJY-9.

Q. What is the total RPC that FPL calculated?

A. The total system RPC is $2,024,035. This total includes $1,405,682 of replacement fuel costs and $618,353 of purchased power costs.

Q. Does this conclude your testimony?

A. Yes.

BY MR. BUTLER:

Q. And with that, Mr. Yupp, would you please summarize your direct testimony?

A. Good afternoon, Commissioners. My direct testimony in this docket provides FPL's calculation of replacement power costs for the Flagami transmission event that occurred on February 26th, 2008. The direct testimonies of FPL Witnesses Stall and Avera provide the support and rationale for the methodology that FPL has used for that calculation.

The replacement power cost calculation reflects costs associated with replacement fuel and purchased power that was required to offset the loss of generation after the Flagami event.

The calculation was, was completed basically in the following manner. First, we totaled the fuel cost for all the megawatt hours of additional generation that was brought online in the first eight hours immediately following the transmission event, and we coupled that with the payments for the purchased power that we purchased during that same time period immediately following the event.

From that we subtracted the value of the same number of megawatt hours at FPL's system average cost for the month of February. The calculation resulted in

a replacement power cost total of just slightly over $2 million, $2,024,035. And that concludes my summary.

MR. BUTLER: Thank you, Mr. Yupp. I tender the witness for cross-examination.

COMMISSIONER SKOP: Very well. Thank you.

Mr. Beck, you're recognized on behalf of Public Counsel for cross-examination.

MR. BECK: Thank you, Commissioner.

CROSS EXAMINATION

BY MR. BECK:

Q. Good afternoon, Mr. Yupp.

A. Good afternoon, Mr. Beck.

Q. Mr. Yupp, could you turn please to your Exhibit GJY-7?

A. Okay. I'm there.

Q. What I want to do is just review the various prices for fuel that were taking place in the February/March time frame.

A. Okay.

Q. The chart at the top says "Original A3 Data." Do you see that?

A. Yes.

Q. And that's the source of the numbers that are here?

A. Correct.

Q. And just could you briefly describe what, what the A3 is?

A. Yes. The A3 is basically an aggregate format, all of the fuel that we used to produce our own generation, in this case for the month of February. And on the A3 there's several pieces of data, but most importantly total fuel cost by fuel type during the month as well as the megawatt hours produced with each fuel type for the month. There's a percent mix of fuel used, there's heat rate data, a lot of different data, but most importantly the total fuel cost for the month.

Q. And for nuclear during that time frame, you have $4.44 per megawatt hour; is that right?

A. That's correct. And that would be a combination of not only the Turkey Point units, but also the St. Lucie units.

Q. And another way to express that is about .444 cents per kilowatt hours.

A. That is correct.

Q. Is that the same thing? And compared to that, natural gas was running about .76, or 7.6 cents per kilowatt hour; is that right?

A. Yes. That is correct.

Q. Okay. And so when the nuclear plants went down at Turkey Point 3 and 4, customers lost the benefit

of that lower fuel price for nuclear; is that right?

A. That is correct.

Q. And it had to be replaced with something else.

A. Correct.

Q. And what you have listed in this chart here are the various prices for, for other fuels that existed at that time; is that right?

A. That is correct.

Q. And when the nuclear plants went down, you not only had to run some of your own higher cost units, but you also purchased power, did you not, in the open market?

A. We did.

Q. And is that shown on GJY-9?

A. Yes. The purchased power that we procured during the initial eight hours immediately following the event is shown on Exhibit GJY-9.

Q. And the prices that you paid ranged from about 12.5 cents per kilowatt hour up to 29.8 cents per kilowatt hour; is that right?

A. That is correct.

Q. Mr. Yupp, do you have your response to the staff's Interrogatory Number 42?

A. I do not have a copy of it in front of me.

Q. Then I will hand it to you. And,

Commissioners, this is in staff exhibit Bate stamp 318.

Staff asked you to provide a production costing simulation comparing FPL's system assuming no unit outages with various scenarios, did they not?

A. They did.

Q. And your response is contained in the response to Interrogatory 42; is that right?

A. That is correct.

Q. And of the four -- they listed four different scenarios; is that right?

A. That is correct.

Q. The one that simulates what actually occurred is the Scenario D, is it not?

A. Yes. 40 -- 42D covers the entire duration of the outages that we spoke of previously today.

Q. Okay. And that's the full 158 hours for Turkey Point Unit 3 being down and the full 107 hours that Turkey Point Unit 4 was down; is that right?

A. That is correct.

Q. Could you briefly describe what it is to perform, or what it is when you perform a production costing simulation?

A. Yes. We used a program named GenTrader to run our production cost simulation for these scenarios that were laid out in this interrogatory.

Very simply put, it is a system dispatch model. So it optimizes FPL's system based on input data including generation parameter data, load forecast data, fuel forecast data, and purchased power transactions, sales transactions. Whatever, whatever data we have surrounding our system goes into the model. It runs an optimized system dispatch and determines a production cost to meet that system dispatch. And it can be run over, from one-hour time frame to -- we run it for multiple years at a time. In this case we ran it from February 26th through March 4th, which covered the entire duration of the outage, and we ran it with these four different scenarios.

So very quickly what we ran was a base case, optimized case, dispatching the system as if nothing had occurred at the Flagami substation. And then on top of that we began to layer the different scenarios that staff requested in this interrogatory. 42A was to run a case of if Turkey Point 3 was off for 48 hours and Turkey Point 4 was off for 48 hours. So we did that. We determined a production cost for that case, subtracted the production cost from that case from the base case, and that determines basically the replacement fuel costs attributable to that specific scenario.

And, likewise, we went on and did three

additional scenarios ranging from 107 hours out of Turkey 4 to 158 on Turkey Point Unit 3, and then finally 158 on Turkey 3 and 107 on Turkey 4 as the final case that we were looking at.

Q. And on page -- or the attachment to your response to interrogatory, let's see, assumptions you used; is that correct? The second page?

A. Yes.

Q. And you used the actual load that existed at that time, the actual unit initial conditions and the actual fuel prices that existed; is that right?

A. That is correct. We tried to replicate everything we could from an actual perspective that was occurring on that day.

Q. Okay. Now one difference between this and the other models is that you used the ascension power which occurred or a simulation of that, did you not?

A. Correct. We did with one caveat. We, if the -- in any case where we were asked to evaluate a scenario in which one or the other or both Turkey Point 3 and 4 were off for a total of 48 hours, we did not use ascension power. We used -- to use a term that Mr. Stall used, we used breaker to breaker as 48 hours.

For any case in which we were asked to look at 158 hours for Unit 3 or 107 hours for Unit 4, we did

include the ascension power that occurred in reality as those units ramp back up within that case.

Q. Okay. And your scenario for 42D, which has the full outages of Unit 3 and 4, calculates the replacement power costs at $14.557 million; is that right?

A. That is correct.

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

COMMISSIONER SKOP: Thank you, Mr. Beck.

Ms. Bradley, the Attorney General is recognized for cross-examination.

MS. BRADLEY: Thank you.

CROSS EXAMINATION

BY MS. BRADLEY:

Q. Now Turkey Point 3 was out for 158 hours; correct?

A. The total duration was 158 hours until it was back to 100 percent power. So the breaker closed to put the unit online prior to 158, but for, for purposes of getting to 100 percent power, yes, 158 hours.

Q. Now the reason it took longer was because y'all had to repair the rod; is that correct?

A. That is my understanding. Mr. Stall is the witness that is the expert in that area of the

testimony, but that is my understanding from reading testimony and listening to testimony given today.

Q. Is it also your understanding that but for the outage that tripped the shutdown, that you all would have waited until a later date to replace the rod?

MR. BUTLER: I'm going to object to these questions. They're more appropriate for Mr. Stall. In fact, he covered those very questions earlier in his testimony today.

COMMISSIONER SKOP: Ms. Helton, to the objection.

MS. BRADLEY: Can I speak to the objection?

COMMISSIONER SKOP: Ms. Bradley.

MS. BRADLEY: Thank you. He's got a lot of calculations and he's making different calculations apparently based upon the testimony of Mr. Stall, so I'm just asking about his understanding.

MS. HELTON: Maybe Ms. Bradley could point me to in the testimony of this witness where she's looking and that might help me.

MS. BRADLEY: I'm looking at the same interrogatory answer, Number 42, where he has different calculations.

MS. HELTON: You're one ahead of me. I don't have that. Just a second.

MS. BRADLEY: I'm sorry.

MR. BUTLER: Commissioner Skop, I would observe in that regard if she's asking about what appears on, excuse me, the answers to the interrogatory, the cases that are appearing on the interrogatory were defined for us by staff. And certainly Mr. Yupp addressed them, but he was not involved in proposing what those cases would be that would be addressed.

COMMISSIONER SKOP: Thank you. Ms. Bradley, as a point of clarification, are you looking at the calculations on Bate stamp 319 of Interrogatory Number 42?

MS. BRADLEY: I apologize. I don't have a Bate stamp on this copy. I took it off of the computer. But it's Interrogatory Number 42, staff's first set of interrogatories. I think it was the thing that Mr. Beck was asking him about a few minutes ago.

COMMISSIONER SKOP: Thank you. Ms. Helton, if you could confer with staff to the objection.

MS. HELTON: Can I get Ms. Bradley to repeat her question one more time, please?

COMMISSIONER SKOP: Ms. Bradley.

MS. BRADLEY: I will try.

BY MS. BRADLEY:

Q. I was asking him if it was his understanding

that the reason that, that there was a difference in this, at least I think this is my question, was due to the fact that they had to repair the rods?

A. I'm not sure if I follow a difference, and what specifically are you referring to?

Q. Is it your understanding that it took 158 hours to get the Turkey Point Unit 3 up or 100 percent, I believe as you put it, was because they had to repair a rod?

COMMISSIONER SKOP: Ms. Bradley, I think that what I was asking was for you to restate your question not to the witness but to Ms. Helton so we can rule on the objection. Sorry.

MS. HELTON: Well, it sounds like, if I'm understanding the discourse that has happened here, that the reason why this witness has answered this discovery propounded to him was because it was laid out by staff in this way. So I'm not sure that he made the connection between the reason why the different sets of hours were laid out. So it seems to me then that it would be outside the scope of his cross-examination or his direct testimony.

COMMISSIONER SKOP: So staff's recommendation is to sustain the objection; is that correct?

MS. HELTON: Yes.

COMMISSIONER SKOP: Okay. Ms. Bradley, before I rule.

MS. BRADLEY: I'd like to make a proffer then because I think I have the right to ask him about discovery that he did and presented to staff regardless of who did that.

COMMISSIONER SKOP: Let me, let me, let me sustain the objection and I'll allow you to make the proffer.

MS. BRADLEY: Thank you.

BY MS. BRADLEY:

Q. Sir, is it your understanding that the reason it took 158 hours to get Turkey Point 3 up to full power was because they had to do a repair of a rod?

MR. BUTLER: Same objection.

COMMISSIONER SKOP: Ms. Helton.

MS. HELTON: She's proffering the witness to answer the question. So I think to lay out the record for her to preserve this issue for appeal, then the witness would need to answer the question.

COMMISSIONER SKOP: Yeah.

THE WITNESS: Okay. It is my understanding that a --

MR. BUTLER: I'm sorry. Mr., Mr. Yupp, no, don't answer it. I am confused. I thought --

MS. BRADLEY: Objection.

MR. BUTLER: -- there was an objection that was sustained to the question. And what Ms. Bradley is doing is proffering that question into the record so that it would be preserved for appeal as opposed to being a live question to the witness.

COMMISSIONER SKOP: That was my understanding also. Ms. Bradley, I always --

MS. BRADLEY: I was doing a proffer to have him answer so it's preserved for the record.

COMMISSIONER SKOP: The proffer would be stated for the record. I don't believe the witness would respond.

Ms. Helton, am I correct?

MS. HELTON: I think, Mr. Chairman, when we have looked at this question in the past, there's several ways to, for the proffering party to preserve the record. I believe that one of the ways and an appropriate way is for Ms. Bradley to ask the question and for the witness to answer the question. And it would be part of the record only for purposes of appeal if she were to decide to go forward with an issue with respect to that line of questioning, but it's not a part of the record for the purposes of you making your decision.

COMMISSIONER SKOP: Okay. Very well. The objection, previous objection was sustained. Ms. Bradley, I'll allow you to make the proffer. I'll allow the witness to answer the question on the advice of advisory legal staff, and you may proceed.

MS. BRADLEY: I think he already has answered that, and I don't know whether they're going to object to the rest of my questions, but I'll proceed as though we're back on the record.

COMMISSIONER SKOP: Okay. Very well.

BY MS. BRADLEY:

Q. Is it also your understanding that but for this outage that caused the nuclear plant to trip, that they would have replaced the rod or repaired the rod at their next scheduled shutdown?

MR. BUTLER: I'm going to object again to this as being outside the scope of Mr. Yupp's, excuse me, direct testimony.

COMMISSIONER SKOP: Ms. Bradley to the objection.

MS. BRADLEY: I think it goes back. These were interrogatories and part of the record, something he prepared and responded to.

COMMISSIONER SKOP: Mr. Butler, with respect to Mr. Stall coming back for rebuttal testimony, does he

address the, this specific issue such that Ms. Bradley will have the opportunity to ask these questions on rebuttal?

MR. BUTLER: It was in his direct and he did address it, but we don't have an objection to his, you know, clarifying that testimony in his rebuttal.

COMMISSIONER SKOP: Okay. Very well. Ms. Bradley, does that make your comfortable asking Mr. Stall on his rebuttal testimony to address the question subject to objection?

MS. BRADLEY: I'll be happy to save it for then. But I guess I misunderstood. I thought he said direct.

MR. BUTLER: If I -- he did address it in his direct. What I said is we would not object to having you ask your questions at the time that he appears for his rebuttal testimony.

COMMISSIONER SKOP: Are you comfortable with that? I think what they're, what they're -- if I understand FPL correctly, is that the opportunity to ask the questions would have been on the direct examination of Witness Stall. However, Witness Yupp is indicating that he's not the appropriate witness to answer the questions, and I think what FPL has just advised is that when Witness Stall comes back for rebuttal testimony,

he'll be able to clarify and provide answers to the questions you have regarding the, the replacement of the control rod indicator.

MS. BRADLEY: Well, let me ask one clarifying question for him. Maybe I misunderstood.

BY MS. BRADLEY:

Q. But did you or Mr. Stall prepare the answer to staff's Interrogatory Number 42, those calculations?

A. I prepared the answer to this interrogatory. However, this interrogatory had already laid out the scenarios, so I, I did -- the only thing I did in this was take the scenarios that staff had requested in terms of outage duration, whether it be 48 hours, 158 or 107, depending on the unit and depending on the scenario, I took those and ran the calculations. So there was no need for me to have any understanding of why Turkey Point 4 was off for 107 hours, why Turkey Point 3 was off for 158 hours. I was only answering the question that staff had laid out the scenario already directly for me.

Q. And you didn't have any information as to the difference in the calculations or what they were based upon?

A. The calculations are based upon running a production cost model with four different scenarios that

have varying levels of outage duration. That is the only information I needed to run the calculation because, as I stated previously, in our production cost model and as what is laid out in the answer here we took actual unit conditions prior to the outage, actual load forecast for the time period, actual fuel prices for the time period, actual net interchange for the time period, we plugged that into the model. We ran a base case, which was an optimized case giving us production costs as if nothing had occurred on the system, and then we slowly, one by one, case A through D, we set an outage duration as requested by staff for each Turkey Point 3 and Turkey Point 4. That gave us another production cost answer. Taking the difference between that in each case and the base case yielded the replacement fuel cost result.

So, again, any detailed information as to what work was done or everything that encompassed the amount of time that each unit was off is not necessary to answer this question.

Q. So even though -- so you essentially just did the number crunching and Mr. Stall would be the one that could answer questions about the exhibit you prepared as far as background information?

MR. BUTLER: I object to that

characterization. I object to that characterization strenuously. The interrogatory, you know, prescribed certain scenarios to which Mr. Yupp responded by doing calculations per those scenarios, and it's a gross distortion to be characterizing that somehow Mr. Yupp didn't do his job because he didn't go behind the scenarios that were prescribed to him.

COMMISSIONER SKOP: Ms. Bradley, could you either respond or reframe the question in a --

MS. BRADLEY: I'm just trying to find out if he can answer questions about this exhibit and the differences in the numbers. And if that's Mr. Stall, then --

COMMISSIONER SKOP: Okay. I believe -- okay. Mr. Yupp, if you're able to answer that question or, Ms. Bradley, if you can reframe your question, and we'll see if we still have the same objection and then I'll rule.

BY MS. BRADLEY:

Q. Is it your testimony that you just crunched the numbers that somebody gave you and that Mr. Stall would be the person to ask about the difference in the numbers and what affected that?

A. No. I can tell you why the numbers are different in each scenario. Mr. Stall would have

really -- it has nothing to do with this interrogatory. This was an interrogatory that asked us to calculate replacement costs based on a production cost model given different scenarios of outage length.

So I can tell you why the numbers are different between case 42D and case 42A. I can easily explain to you why that final dollar figure is different, so I am the appropriate witness for that.

As far as why Turkey Point 3 was off for a total of 158 hours before it reached full power, that is a nuclear plant question that is, should be answered by Mr. Stall, and I believe he did in his original direct testimony.

Q. Well, let me try a couple of more questions, and if you can't answer them and want to defer to Mr. Stall, then I'll let you do so. But --

COMMISSIONER SKOP: Ms. Bradley, may I stop you for one moment just to clarify something so I think that we're all on the same page?

Mr. Yupp, is it correct to understand that basically you performed your financial analysis on the replacement power costs solely based on inputs and relying on those inputs provided by others in terms of the scenarios?

THE WITNESS: Yes. That is correct.

COMMISSIONER SKOP: Okay. Thank you.

Ms. Bradley, you may continue.

BY MS. BRADLEY:

Q. What is the significance of the 48 hours? What does that signify?

A. Again, staff, staff asked us to do this scenario. So as to the significance of the 48 hours in this particular interrogatory, I think that is probably better addressed by staff. But I can surmise that the 48-hour question was asked to us because of testimony that Mr. Stall gave that that is a typical time frame that a nuclear unit can be brought back after it has been shut down. And so I'm assuming that what Commission staff wanted to see in that case was what would the replacement power costs have been had each unit returned in that 48-hour period, which is a typical time frame to return a unit?

Q. And the 158 hours was the time actually that it took you to get it back up?

A. I believe, as Mr. Stall testified to, that 158 hours for Unit 3 was the total duration of the time from trip, from the time that the unit tripped 'til the time that it reached 100 percent power. Yes, that is correct.

Q. And for Turkey Point 4 it's 107 hours?

A. That is my understanding. Yes.

Q. And do you have any understanding of why it took 158 hours for Turkey Point 3 versus 107 at Turkey Point 4, or is that a question for Mr. Stall?

A. That is a question for Mr. Stall.

MS. BRADLEY: Okay. I guess I will reserve those questions for Mr. Stall on rebuttal.

COMMISSIONER SKOP: Very well. Thank you, Ms. Bradley.

Ms. Kaufman, you're recognized for cross-examination.

MS. KAUFMAN: Thank you, Commissioner.

CROSS EXAMINATION

BY MS. KAUFMAN:

Q. Mr. Yupp, if you'd turn to Page 3 of your direct testimony.

A. Yes.

Q. And I want to ask you about your statement that starts on Line 1, it goes Lines 1 through 3.

A. Okay.

Q. You say that, in those lines, it would be unfair to FPL and serve as a major disincentive to construction and operation of low fuel-cost generating technologies, and I'll just paraphrase the rest, if the Commission were to accept the position of Intervenors.

Is that your testimony?

A. That is my testimony referencing the testimony of Witness Avera. I, that is included in my testimony to set the backdrop for why the calculations were performed as they were for this direct testimony. As I stated in my summary, Witness Stall and Witness Avera provide in their testimony the rationale and the support for the approach that FPL has taken in this. I referenced Witness Avera on this line just to set the backdrop for why my calculations were done as they were done.

Q. So is it correct then that this isn't your opinion, but you're simply relying on a statement that Mr. Avera makes in his testimony?

A. I am referencing -- yes. I am referencing the statements that he makes in his testimony to make it clear why our calculations were done in the manner that they were done. And, yes, he, he is the witness for FPL that is sponsoring that support.

Q. Do you have any information to suggest that FPL will operate its nuclear plants in a different manner if the Commission does not accept your calculations?

A. No. I have no knowledge that FPL would operate any differently. No.

Q. And so your comments about this disincentive are, are simply based on what Mr. Avera has said.

A. Yes. I am referencing Mr. Avera.

Q. Sorry. I keep mispronouncing his name.

I think you've testified that you were the witness in charge of doing the calculations to figure out what the appropriate replacement fuel cost would be; correct?

A. That is correct.

Q. And you presented those in your testimony obviously; correct?

A. Yes, I did.

Q. Did you conduct any, other than the response to Interrogatory Number 42 we've already discussed, did you conduct any other calculations based on any other methodologies for determining replacement power costs?

A. Yes. I have done numerous calculations, mostly in response to interrogatories. If I can recall off the top of my head, not only 42B, which was the production cost model interrogatory, but we were also asked to do two additional interrogatories with four cases apiece identical to 42B, one being the methodology that was used in the drilled hole case. And I believe the other one was not designated how we should exactly do it, so we did it twice using nuclear avoided cost and

using system average cost, again for these identical four scenarios that were laid out in Interrogatory 42B.

So all told, probably I've done upwards near 18 to 20 different calculations based on questions from staff, mostly in determining what the replacement fuel costs would be.

Q. Prior to filing your testimony and sponsoring the calculation that you suggest to the Commission, did you do any other calculations or utilize any other different methodologies to take a look at what replacement fuel costs should be?

A. Yes. Very early, or I should say in the fall, subject to check, of 2008, I responded to an interrogatory on this same question as to the impact of the Flagami transmission event and replacement fuel costs. Given that was the initial stages of, of, I guess I'll call it, this whole proceeding to a certain extent, our initial calculation through my conversations with counsel were that we developed a, basically a 48-hour case pretty much along the lines of what Witness Stall, Mr. Stall has testified to that it's pretty typical that after a unit comes off the line, that it could be returned to service within 48 hours.

And so our initial take on this in responding to that interrogatory was to run a case of 48 hours for

each unit based on nuclear avoided cost. And that is the answer that we submitted in response to Interrogatory 70, I believe, subject to check, in the 08 docket.

Q. So just so I'm clear, I think you'd agree that this issue was spun out from the ongoing fuel case; correct?

A. That is my understanding. Correct.

Q. And in that case you provided some information and calculations in which you used a 48-hour time period and you used only the nuclear replacement cost; correct?

A. That is correct.

Q. And I guess -- would I be correct that that correlates to Scenario 42A on Interrogatory Number 42?

A. Yes, it does, except with one just minor difference. 42A was run with a production cost model. One could say that that gets a little bit more exact as it's an actual model that's dispatching the system economically around the different parameters it has.

But, yes, you are correct, that would be an identical case to the case that we supplied or the answer that we supplied in Interrogatory 70. However, Interrogatory 70 was done as a manual calculation.

Q. Thank you for that explanation. And in Interrogatory 70 that you provided in the fuel

adjustment case, you didn't use system average costs there, you used only the nuclear power replacement costs; correct?

A. That is correct.

Q. And the other difference I guess is that in that case you used only 48 hours for the time period of the outage rather than using, for example, the 158; correct?

A. That is correct.

MS. KAUFMAN: Okay. Thank you, Mr. Yupp. Appreciate it.

COMMISSIONER SKOP: Thank you, Ms. Kaufman. Staff.

MR. YOUNG: Thank you, sir.

CROSS EXAMINATION

BY MR. YOUNG:

Q. Mr. Yupp, I have a series of questions to ask you and we're going to take it one at a time because I just want to, I have to fill my mind in terms of certain fill in the gaps.

The issue in this case revolves around how much FPL should refund for the Flagami transmission event that occurred on February 26th, 2008; correct?

A. That is correct.

Q. But for February 26th, 2008, the Flagami

transmission event, Turkey Point would not have shut down for 158 hours beginning on, beginning that day; correct?

MR. BUTLER: I'm going to object to the question similarly to, with my objection to Ms. Bradley's questions. Mr. Yupp has made it pretty clear that he's given the inputs as to the time periods involved, not really the expert on the details of the nuclear unit outages.

COMMISSIONER SKOP: Mr. Young, to the objection.

MR. YOUNG: I can rephrase it.

COMMISSIONER SKOP: All right.

BY MR. YOUNG:

Q. Mr. Yupp, when you were preparing your testimony, did you speak to anybody as relating to the, what your directions were?

A. When I prepared my testimony, yes, I did. I was advised by legal counsel on the approach that FPL was going to take in this case, given the circumstances or the unique circumstances surrounding the event. So, yes, I did talk to counsel about FPL's approach, and then subsequent to that developed a methodology that would support that approach.

Q. Okay. I can move on.

FPL's position in this docket is that the Commission should require -- FPL's position in this docket is that the Commission should require FPL to refund the customers for eight hours for the Flagami event; correct?

A. That is correct.

Q. And FPL wants the Commission to calculate that cost using the, using what we call the system average approach; correct?

A. That is correct.

Q. And using that system average approach, for eight hours FPL calculates that it owes customers $2.6 million in refunds; correct?

A. That is correct.

Q. But --

A. I'm sorry. I want to make sure I heard you right. $2 million you said.

Q. 2.6. Is it 2 million or 2.6?

A. It's 2.024 million.

Q. 2.024 million.

A. Yes.

Q. Okay. But the actual total, but the total actual cost for FPL for replacement power for the full time for the Turkey Point Units 3 and 4 were, were outwards of 15.9 million; correct?

A. No. I would say not correct. And I understand that that is, that is Witness, Dr. Dismukes' calculation. If I were going to give you an answer of what the --

Q. I'm sorry. 14.5.

A. 14 -- yes. As described in Interrogatory 42D, that would be my answer.

Q. All right. And OPC's, OPC's position and the Intervenor's position is that FPL should be responsible for the entire time each plant was out, and that's 158 hours for Turkey Point Unit 3 and 107 hours for Turkey Point Unit 4; correct?

A. That is my understanding of their testimony. Yes.

Q. And OPC's position is that the incremental cost for replacement should be used; correct?

A. I'm sorry. The incremental cost for replacement?

Q. The cost of replacing the nuclear power plants versus, instead of the system average.

A. I'll answer it this way. My understanding is that OPC's argument is that as opposed to system average costs being used against an incremental cost, the, they propose to use a nuclear avoided cost against a system incremental cost.

Q. And that cost is 15.9 million; correct?

A. That is correct.

Q. So it appears that both OPC and FPL's position, FPL agree or are very close to agreeing mathematically that the cost of replacement due to the Flagami transmission event was in between 14.5 to 15.9 million; correct?

A. Yes. I, I -- with one clarification. And, again, I think we talked about this, the major difference being the -- while computing a manual calculation, what gets left out is the ascension power that occurred for that 12- to 14-hour period until the units achieved 100 percent power. And in this case it's a significant amount of energy, I think totaling, subject to check, about 11,600 megawatt hours between both units from the time that they closed the breaker until the time they reached full power. And so that is why you see -- I know we're describing it as a small difference between 14.5 and 15.9, but, but it is a significant difference.

Q. Okay. Now let's walk through in terms of OPC's position as it relates to avoided, avoided, avoided cost based on Turkey Point's 3 and 4 and the system cost that FPL, FPL is advancing.

Now would you agree that generation costs on a

megawatt-hour basis for Turkey Point Units 3 and 4 for the months of, for the month of February was approximately $4.44 per megawatt hour?

A. I would agree that's a good approximation. Yes.

Q. And you would, and you would agree that FPL's adjusted system average cost for, per megawatt hour is 52 -- 51.3 -- $51.32 per megawatt hour.

A. Correct. Or the adjusted system average costs that I calculated, yes, 51.32 per megawatt hour.

Q. And if you can turn to your Exhibit Number 7, GJY-7.

A. Okay. I'm there.

Q. Would you agree that you have calculated the replacement generation costs based on FPL's annual natural, based on FPL's natural gas and all generation, all generation?

A. Yes, I have. In adjusting the system average cost to reflect the time that Turkey Point Units 3 and 4 were off at the end of February, which is not, well, which is included in the original A3 data, I felt it was appropriate to go back and recalculate a system average cost that would reflect both units being on in the month. And in order to do that, I did use a blended cost of really the exact proportions of gas, oil and

light oil that we used during the month, which I would consider to be basically FPL's marginal cost. So outside of coal, outside of nuclear, generally gas, oil and light oil to a much lesser extent are on the margin for FPL.

Q. So the thought is that when Turkey Point, Turkey Point Units 3 and 4 were offline, they were replaced by natural gas, oil and light oil generation, generators; correct?

A. That is correct.

Q. All right. Therefore the power production that cost $77.55 per megawatt hour, per megawatt hour is replacing the power production costs of $4.44; correct?

A. That is correct.

Q. But in this case FPL is proposing that the Commission assume that the $77.55 per megawatt hour is replacing a power production cost of 51, $51.32 per megawatt hour; correct?

A. That is correct.

Q. Okay. Has the Commission ever required a refund using a system average cost approach that FPL is proposing?

A. I, I am not aware of any time that the Commission has used that to order a refund. No.

Q. But the Commission has required a refund using

the incremental cost approach proposed by OPC, correct, the avoided cost approach?

A. Yes. I am aware of, of one in particular, which was, I think we referred to it earlier as the drilled hole case in the Turkey Point outage, extension of its outage.

Q. And since you mentioned drilled hole, let me, let me ask you a question on the drilled hole case. Now in the drilled hole case -- and do you have a copy of the drilled hole case?

A. Of the order or --

Q. Of the order. Do you have an order -- a copy of the order in the drilled hole case?

A. I do not have it in front of me.

MR. YOUNG: May we approach, sir?

COMMISSIONER SKOP: You may.

Mr. Young, you're recognized.

MR. YOUNG: Thank you, sir.

BY MR. YOUNG:

Q. Mr. Yupp, before we get to that drilled hole case, let me ask you a question. Based on our line of questioning just now, the Commission has not required a system average approach to FPL's proposed, what FPL proposed; correct? It can be quick because you just stated that.

A. That they have not in the past?

Q. Yes.

A. Yes. Not that I am aware of. No.

Q. But the Commission required to refund on the system incremental cost approach; correct?

A. In the drilled hole case, yes.

Q. Okay. Now so the Commission's decision in this docket is how much of the $14.5 to $15.9 million should FPL be responsible for paying and how much should the ratepayers be responsible for paying; correct?

A. Yes. Well, I believe that the Commission's decision in this case of how much should FPL credit back to customers from the $2 million that it has filed in its direct case, I'm assuming all the way up to the 15.9 that OPC has filed in this case.

Q. And so my, so am I correct to understand that FPL's argument is really a policy argument; right?

MR. BUTLER: I'm going to object to this line of questions as being appropriate to Dr. Avera. As Mr. Yupp made pretty clear early on, you know, he took the policy decisions, the implications of it from Dr. Avera and then did the calculation. It seems like this is straying pretty far from the calculations that Mr. Yupp prepared.

COMMISSIONER SKOP: Mr. Young to the

objection, specifically to Page 3 of the direct testimony, Lines 1 through 6, where the witness refers to FPL Witness Avera.

MR. YOUNG: Mr. Chairman, it's my understanding that he, he is proposing that FPL -- he is, he is aiding FPL's case that we should use a system approach, a system average approach. It's my understanding that the Commission has never done that. And since he's proposing those, that we use a system average approach instead of an avoided cost or an incremental cost approach, he, he is qualified to answer the question because it relates to his testimony.

Now if he, if FPL is arguing that he is not the witness to, to make any statements as it relates to which approach, then to me it seems like FPL's argument is flawed. Then why are they sponsoring Mr. Yupp as it relates, as it relates to arguing for a system average approach?

MR. BUTLER: FPL is sponsoring the testimony of Mr. Yupp to perform the calculation. Dr. Avera didn't perform the calculation; Mr. Yupp did. His role is to sponsor the calculation. It's a reasonably complicated technical calculation which he prepared, and he's certainly prepared to address and support how he did the calculation. But the policy questions being

asked really would be much more productively directed to Dr. Avera.

MR. YOUNG: But, Mr. Chairman, if I -- and I hate to belabor this point.

COMMISSIONER SKOP: Mr. --

MR. YOUNG: On Page 3 of this testimony --

COMMISSIONER SKOP: Mr. Young, briefly.

MR. YOUNG: On, on 3, on Page 3 of his testimony he, he, he also, I guess he agreed with Mr. Avera, said it would be unfair for FPL and serve as a major disincentive in the construction and operation of low fuel-generation technologies such as nuclear, solar and wind if FPL were to be penalized for the replacement costs using, using the avoided cost approach.

To me he is arguing for a system average cost approach. Thus, I can ask him if it's a policy -- since the Commission has never adopted that approach -- whether it's a policy argument or whether it's some concrete argument in terms of FPL providing some documentation to show that.

COMMISSIONER SKOP: All right. Before I go to Ms. Helton, Mr. Butler, is it, are you contending FPL's position is that the witness is merely performing financial analysis based on inputs provided by others

and is not taking a position as to the correctness of the policy that came into those inputs?

MR. BUTLER: That's a very succinct statement of the position. Thank you.

COMMISSIONER SKOP: Ms. Helton. Ms. Helton, to the objection.

(Pause.)

MS. HELTON: I hear what Mr. Butler is saying with respect to this witness is being offered simply to perform certain calculations, and the parameters for those calculations were given to him by others, either by counsel or by other persons involved in putting forward this case.

However, I think Mr. Young does have a point. When I, when I go back and I look at the line of testimony that Mr. Young quoted from Page 3, it does, he is expressing an opinion that it would be unfair to Power & Light to serve as a major, and serve as a major disinventive -- I'm sorry -- disincentive to the construction and operation of low-cost generating technologies such as nuclear, solar and wind if FPL were to be penalized for replacement power costs associated uniquely with Turkey Point Units 3 and 4 that are not a result of any imprudence in the operation of those units. So it seems to me that he does have an opinion

about what type of methodology should be used to determine the appropriate replacement cost.

So I guess I'm a little bit confused. Are you suggesting that this particular line of testimony should be struck then and he's only offering calculations or -- I'm having a hard time getting to why that's offered.

MR. BUTLER: No, ma'am. What's been left out of each of the quotes of that particular testimony is the introductory clause for the reasons discussed by FPL Witness Avera. And immediately preceding it is another statement about the nuclear outages as discussed by FPL Witness Stall. My apologies if it was not made clear enough in the way we set out the testimony.

But the point here is that he's simply summarizing briefly what is said by FPL's other witnesses, setting the stage, as he described earlier, for the calculation that he performs. He's here to perform the calculation. Mr. Stall is here to explain the nuclear operations. Dr. Avera is here to explain the policy of FPL's position and will be happy to address Mr. Young's questions at that time.

COMMISSIONER SKOP: Mr. Helton, does Mr. Butler's response change advisory staff's opinion as to the objection?

MS. HELTON: With, with that explanation, I do

think that Mr. Young's cross-examination is outside the scope of the witness's testimony, and his prefiled testimony should be read in that light as well.

COMMISSIONER SKOP: Okay.

COMMISSIONER STEVENS: Mr. Chairman.

COMMISSIONER SKOP: Commissioner Stevens.

COMMISSIONER STEVENS: Chairman, I'm sorry. I was trying to follow. Mr. Butler, where does it say that Mr. Yupp's testimony followed -- is based on Dr. Avera's testimony? I missed that. I'm on Page 1 of Mr. Yupp's introduction.

MR. BUTLER: No. It's on Page 2, Commissioner. If you look at the, starting on Line 21 on Page 2 there are two sentences that really are intending to set the stage and also specifically refer to the testimony of others. The first, "As discussed by FPL witness Stall," and it goes on to talk about the nuclear units remaining offline. And then the next one is "For the reasons discussed by FPL witness Avera," and then goes into the policy arguments.

COMMISSIONER STEVENS: Okay. Thank you. Thank you very much.

MR. BUTLER: Certainly.

COMMISSIONER SKOP: Okay. Based on the discussion, I'm going to sustain the objection.

Mr. Young, if you would refer that question to the appropriate witness when they come up for direct testimony. I believe that witness is Dr. Avera.

MR. YOUNG: Yes, sir.

COMMISSIONER SKOP: Thank you.

BY MR. YOUNG:

Q. Well, with that said, Mr. Yupp, you have the order in front of you, correct, from the drilled hole incident?

A. Yes, I do.

Q. Let me ask you this before I start this line of questioning.

Are you familiar with FPL's arguments in this, in this case, for the drilled hole incident?

A. I am somewhat familiar at least with the calculations that were done to yield the 6.1 million, I believe it was, in replacement fuel costs in this case. As -- I'm somewhat familiar, not, not 100 percent familiar with all of the arguments, no.

Q. So I guess -- let me ask you, who would be, who do you believe would be more familiar with this document in terms of the drilled hole incident, or maybe FPL, Mr. Butler can point me to someone who can be able to talk about this, this case, this order.

MR. BUTLER: Well, Dr. Avera is familiar with

the policy arguments on it. Honestly, for the calculation of the replacement power costs, if anyone remembers differently, please correct me, but I believe there was a stipulation of the $6.13 million figure in that case. So actually at hearing it wasn't much of a topic of discussion. The hearing was about whether or not the amount was going to be disallowed. So I don't think that we have anybody that has any more familiarity than Mr. Yupp does with the details of the calculation that were done in that docket.

MR. YOUNG: Okay. No further questions. We'll wait for Dr. Avera.

COMMISSIONER SKOP: Thank you.

Commissioners?

Commissioner Stevens, you're recognized.

COMMISSIONER STEVENS: Mr. Yupp, do you know how many hours customers were without power?

THE WITNESS: I do not specifically know how many hours customers were without power. No.

COMMISSIONER STEVENS: Okay. Mr. Yupp, do you know what source provided the power when the plant, two plants went down?

THE WITNESS: Source from the, the replacement units on our system?

COMMISSIONER STEVENS: Yes, sir. Yes, sir.

THE WITNESS: Or the purchase, purchases we bought?

COMMISSIONER STEVENS: Both.

THE WITNESS: Both? Units on our system, at least a partial replacement was in the form of our peaking units, our aircraft gas turbines, as well as our, I'll call them, industrial gas turbines on the west coast of Florida made up a fairly significant piece of the replacement power.

COMMISSIONER STEVENS: And how are those, I'm sorry, how are those turbines powered? How does that --

THE WITNESS: The 36 aircraft gas turbines that we have on the east coast of Florida are powered, our dual fuel unit's primary fuel is natural gas. Generally we will only run distillate or jet fuel in those units if we are having a gas supply issue or pressure issues.

I don't recall specifically that day whether we had to run jet fuel in those units. But if we did, looking at the total of jet fuel that we ran throughout the month of February, it was very minimal.

The other -- the additional 12 units on the west coast of Florida at our Fort Myers facilities run all distillate fuel oil.

From a standpoint of the purchases that we

made in the market, given the, the prices that we paid for that power, I would say that most of it probably came from peaking units, probably upper end peaking units, potentially -- I know for sure the power that we bought from the DeSoto facility in DeSoto County was, those are GE 7FA combustion turbines, and we bought that output on distillate fuel oil. So it was high end peaking units mostly.

COMMISSIONER STEVENS: Okay. Thank you. And one further question, if I may, Mr. Chairman.

COMMISSIONER SKOP: Go ahead.

COMMISSIONER STEVENS: Do you know where the eight hours came from on the FPL calculation?

THE WITNESS: Yes. In supporting Witness or Dr. Avera in the policy issues of this and tying this to the transmission event itself, and what I have written in my testimony is that that eight-hour period is the time period during which FPL had the most difficulty operating its generating system because of all of the generation that had come off the line at that one point in time.

And so where the calculation ended, I'll call it maybe to say that the transmission event was, was over and the system was back to stable was after that eight-hour period when all of the gas turbines that I

just described were shut down and all of the purchased power that we just talked about that we had bought in response to the event had been sent back. We were starting to return and almost had returned most of the gas-fired units that came off the line in response to the event at that time. And so that, that eight-hour period kind of designates this is the time that the transmission event had the impact on our system. After that the system was in a stable configuration again.

COMMISSIONER STEVENS: Okay. So the system -- if I may, Mr. Chair.

COMMISSIONER SKOP: Continue.

COMMISSIONER STEVENS: The system was in a state, it was stable, but we were using a higher cost fuel.

THE WITNESS: Yes. Again, the system was stable, the, the response to the transmission event I guess I'll call as in my understanding was over, and I'm, I'm watching our generation screen. So it's an estimation that I'm making that once I have shut down all of my peaking facilities, sent back all the purchased power that I needed, that the system has now become stable and that transmission event is, quote, unquote, over for that period because I'm stable again.

But to answer your question, yes, even after

the eight-hour period the nuclear units were off, again as we have talked about for the duration. And I think we did have a couple more combustion turbines as part of our gas-fired combined cycle fleet that still needed to be returned, but they returned within a couple of hours.

COMMISSIONER STEVENS: Thank you, Mr. Yupp. Thank you, Mr. Chair.

COMMISSIONER SKOP: Commissioners, any further questions?

Mr. Yupp, just two quick questions. On Page 2 beginning on Line 24 and continuing on to Page 3 through Line 9 of your prefiled direct testimony, again you adopt the reasoning by Witness or Dr. Avera that'll be coming later in this proceeding. But you don't have a specific opinion, do you, as to the appropriateness or the disincentive of looking at the lower cost fuel or penalizing, as the other witness will testify to?

THE WITNESS: No, I don't have an opinion on that specifically, Commissioner Skop.

COMMISSIONER SKOP: Okay. And in relation to how FPL calculated its replacement fuel cost, I believe on Line 7 of Page 3 it uses the eight-hour period that Commissioner Stevens referred to. I assume that was a number provided to you and you just ran your analysis based on that specific number; is that correct?

THE WITNESS: Yes. As far as using the eight-hour period, yes. And in understanding what FPL's approach was going to be on this, that the intent was to try to -- because of the uniqueness of this situation, try to isolate it to the transmission event itself, I felt that, as far as what I could see happen that day, that in that eight-hour period was really the greatest impact of the transmission event in and of itself. After that the system had returned to a stable state.

COMMISSIONER SKOP: Okay. So I'm going to ask a question to you, and I'll ask in fairness the same question to OPC's witness, and I'm sure I'll hear differing opinions. But am I correct to understand that for that eight-hour period essentially what FPL did to calculate its replacement power cost would be to take the spot market price of replacement fuel and power less the marginal cost of production on a systemwide basis, that net cost differential being the amount that FPL should refund to its customers? Is that holistically in a nutshell --

THE WITNESS: Yes. I think in a general sense that's correct. I could just a little bit maybe clarification is we took the cost of all of the peaking units that I just described based on their actual fuel prices for the month. We calculated what the cost of

all of that generation was from the time they started 'til the time they shut down. We added in all of the purchased power that we bought on a, on a total dollar basis.

And I think the total was slightly over 16,600 megawatt hours between the peaking units we ran and the purchased power we bought. From that, as you described, we subtracted the system average cost times that exact same amount of megawatt hours, the net differential.

COMMISSIONER SKOP: Okay. Like I said, I could have got in deeper detail, but I was trying to say it concisely. So it's correct to understand then that basically the ascension power was completely omitted from that calculation.

THE WITNESS: Correct. It would have been because during that eight-hour period the units were still off the line.

COMMISSIONER SKOP: Okay. And you merely performed the financial analysis based on the inputs and you're taking no opinion as to the appropriateness to the dollar value of the replacement fuel cost; is that correct?

THE WITNESS: From the direct -- from the $2 million? Yeah. That is correct.

COMMISSIONER SKOP: All right. Thank you.

Okay. Any other questions from the bench?

All right. Mr. Butler, redirect.

MR. BUTLER: Briefly. Before I do, let me note one thing. Commissioner Stevens has asked a couple of our witnesses now the question about how long customers were out of, out of service, and Dr. Avera is prepared to address that point when he comes to the stand. So at that time it would be appropriate to ask him that question, if you choose.

REDIRECT EXAMINATION

BY MR. BUTLER:

Q. Mr. Yupp, a couple of brief redirect questions for you. You were asked by Mr. Young a question as I recall it to the effect that FPL and OPC, Intervenors, agree that the replacement power costs are between $14.5 million and $15.9 million. Do you remember that?

A. Yes, I do.

Q. Okay. What are the conditions under which FPL would agree that that is the replacement power cost calculation?

A. I'm not sure I follow.

Q. For what scenario of outage time is that appropriate?

A. Both of those numbers, the 14.5 and the 15.9, correlate to an outage time duration of 158 hours for

Turkey Point Unit 3 and 107 for Turkey Point Unit 4.

Q. And so this would be the appropriate calculation only if the Commission were to decide that that's the outage duration for which it would be disallowing replacement power costs; is that correct?

A. That is correct.

Q. Okay. You mentioned the, one of the differences between the $15.9 million calculation and the $14.5 million calculation of the replacement power costs for the full unit outages as being the inclusion or consideration of power ascension in the system simulation approach that yields the $14.5 million figure. Are there any other differences that are responsible for, differences in methodology that are responsible for the differences in the dollars shown in those calculations?

A. There probably is, and I should say there is one other benefit as opposed to doing a manual calculation and using a production cost model. The manual calculation is looking straightforward at a blend of, in this case, gas, oil and light oil as we have described.

In the production cost model where the program is trying to optimize system dispatch around the parameters that it has, that blended cost will not

always be the case. So, in other words, it won't be a mixture of gas, oil and light oil that's always being referenced against system average or nuclear avoided -- at night, for example, when load is lower and units regulate down. It may be looking at combined cycles sitting close to their low limits as being the units that, that are replacing the nuclear. It could even be, depending on how low load goes that night, it could even be a little bit of coal power.

So I think to a certain extent the manual calculation tends to overstate because you're using a static marginal value against, as I said, either system average or nuclear; whereas, the production cost model is really looking at how should the system have dispatched what units really were on the margin? It may not be a mix; it may be gas, it may be a little coal. And so that would tend to lower what the replacement fuel value would be, correctly lower it.

Q. Mr. Yupp, you were asked by Mr. Young whether you were aware of any cases from this Commission previously in which it has used the system average approach that FPL proposes for calculating replacement power costs, and I believe you said you were not aware of any. Are you aware of any instances where this Commission has addressed the circumstance of a nuclear

unit outage having resulted from an event external to the plant?

A. No, I am not. And that's partly the answer on the drilled hole case and understanding the methodology that was used there. Again, a different case than what, than what we face here today, and Dr. Avera will testify to that. But the circumstances surrounding this, I have not, I have not seen a case such as this before.

MR. BUTLER: Thank you. That's all the redirect that I have.

COMMISSIONER SKOP: Okay. Mr. Butler, I just want to speak briefly before we get to the exhibits. Again, Mr. Yupp came real close to opening a door there. I just want to clarify that I sustained the previous FPL objection on the basis that Dr. Avera would be the appropriate witness to answer staff's line of questions, and it was not intended to impede staff's ability to get the answers to its questions. So, again, let staff ask those questions when they have the appropriate witness onboard. But if we don't get the answers, then again I think staff still reserves the right to ask these questions again even if they're not, the witnesses aren't able to answer them. But, again, I just want to make the parties clear as to the objection was sustained based on the representations that he was not the

appropriate witness.

MR. BUTLER: Understood. And that's, that, that is certainly fair. And if by some chance their questions lead to something about calculation, we certainly wouldn't object to Mr. Yupp being asked those questions when he comes back for rebuttal.

COMMISSIONER SKOP: Okay. Well, like I say, just in the rebuttal he gave, came real close to offering an opinion as to policy. So I didn't want to have that door opened if he's not the appropriate witness.

With respect to -- if that concludes your redirect, I guess we need to address exhibits.

MR. BUTLER: Thank you. Yes. We would move the admission of Exhibits 2 through 10.

COMMISSIONER SKOP: Okay. Any objection from the parties? Okay. I'm showing no objection. Exhibits 2 through 10 will be entered into the record.

(Exhibits 2 through 10 admitted into the record.)

And, staff, any additional matters before we call the next witness?

MS. BENNETT: No, sir.

COMMISSIONER SKOP: Okay. Mr. Butler, if you could call your next witness.

MR. BUTLER: We would call Dr. Avera.

(Pause.)

COMMISSIONER SKOP: And to our court reporter, Linda, are you doing all right or do you need to take a break any time soon? Okay. Thank you.

Mr. Butler, you're recognized.

MR. BUTLER: Thank you. Dr. Avera has been previously sworn.

WILLIAM E. AVERA

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

DIRECT EXAMINATION

BY MR. BUTLER:

Q. And I would ask that he state his name and business address for the record.

A. William E. Avera, 3907 Red River, Austin, Texas.

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

A. I am the President of FINCAP, Incorporated, an economic and financial consulting firm.

Q. Have you prepared and caused to be filed in this proceeding 13 pages of prefiled direct testimony on January 13, 2010?

A. Yes.

Q. Do you have any changes or corrections to make to your prefiled direct testimony?

A. No, I do not.

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

A. Yes.

MR. BUTLER: Okay. Commissioner Skop, I'd ask that Dr. Avera's prefiled direct testimony be inserted into the record as though read.

COMMISSIONER SKOP: The prefiled testimony of the witness will be entered into the record as though read.

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

FLORIDA POWER & LIGHT COMPANY

TESTIMONY OF WILLIAM E. AVERA

DOCKET NO. 090505-EI

January 13, 2010

Q. Please state your name and address.

A. My name is William E. Avera, 3907 Red River, Austin, Texas, 78751.

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

A. I am employed by Financial Concepts and Applications, Inc. ("FINCAP"), a firm engaged in financial, economic, and policy consulting to business and government. I am the President of FINCAP.

Q. Please describe your educational background and professional experience.

A. I received a B.A. degree with a major in economics from Emory University and a Ph.D in economics and finance from the University of North Carolina at Chapel Hill. I have held the Chartered Financial Analyst (CFA®) designation for 30 years. Upon receiving my Ph.D., I joined the faculty at the University of North Carolina and taught finance in the Graduate School of Business. I subsequently accepted a position at the University of Texas at Austin where I taught courses in financial management and investment analysis.

In 1977, I joined the staff of the Public Utility Commission of Texas ("PUCT") as Director of the Economic Research Division. During my tenure at the PUCT, I managed a division responsible for financial analysis, cost allocation and rate design, economic and financial research, and data processing systems, and I testified in cases on a variety of financial and economic issues. Since leaving the PUCT I have been engaged as a consultant. I have participated in a wide range of assignments involving utility-related matters on behalf of utilities, industrial customers, municipalities, and regulatory commissions. I have previously testified before the Federal Energy Regulatory Commission ("FERC"), as well as the Federal Communications Commission ("FCC"), the Surface Transportation Board (and its predecessor, the Interstate Commerce Commission), the Canadian Radio-Television and Telecommunications Commission, and regulatory agencies, courts, and legislative committees in 42 states. I have testified in over 300 regulatory cases, including several before the Florida Public Service Commission ("FPSC" or "the Commission").

In 1995, I was appointed by the PUCT, with the approval of the Governor, to the Synchronous Interconnection Committee to advise the Texas legislature on the costs and benefits of connecting Texas to the national electric transmission grid. In addition, I served as an outside director of

Georgia System Operations Corporation, the system operator for electric cooperatives in Georgia.

I have served as Lecturer in the Finance Department at the University of Texas at Austin and taught in the evening graduate program at St. Edward's University for twenty years. In addition, I have lectured on economic and regulatory topics in programs sponsored by universities and industry groups. I have taught in hundreds of educational programs for financial analysts in programs sponsored by the Association for Investment Management and Research (now the CFA Institute), the Financial Analysts Review, and local financial analyst societies. These programs have been presented in Asia, Europe, and North America, including the Financial Analysts Seminar at Northwestern University. I was elected Vice Chairman of the National Association of Regulatory Commissioners ("NARUC") Subcommittee on Economics and appointed to NARUC's Technical Subcommittee on the National Energy Act. I have also served as an officer of various other professional organizations and societies.

I have extensive experience with issues of fuel and purchased power recovery, having led the PUCT staff review of the fuel adjustment clauses in Texas. Since leaving PUCT I have been involved in a variety of issues

relating to fuel and purchased power recovery as a consultant and expert witness for regulatory agencies, consumer groups, and utilities.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to examine the proper regulatory treatment of the Replacement Power Cost ("RPC") arising from the February 26, 2008 transmission event at Florida Power & Light Company's ("FPL" or "the Company") Flagami substation (the "Flagami Transmission Event"). My analysis is based on my education and experience in areas of regulatory policy, finance, and economics.

Q. Please summarize the conclusions of your testimony.

A. My testimony demonstrates that, from the perspective of sound economics and regulatory policy, the calculation of RPC should recognize that FPL recovers power costs without profit and avoid creating any disincentive to invest in generation alternatives that have low fuel costs, such as nuclear, solar and wind. Basing the net cost of replacement fuel exclusively on the Turkey Point nuclear units would be unfair and result in adverse incentives for energy efficient technologies. The RPC calculation proposed by FPL witness Gerard J. Yupp is fair to FPL's customers and investors while avoiding disincentives for utilities to invest in energy efficient and environmentally beneficial generation alternatives.

Mr. Yupp's calculation is consistent with the economic logic of fuel recovery based on system average costs. His approach would also avoid

penalizing FPL for investing in nuclear power with its lower fuel cost, the benefits of which are passed on to FPL's customers. As described in the testimony of FPL witness J. A. (Art) Stall, the Flagami Transmission Event caused Turkey Point Units 3 and 4 to automatically come offline as they are required to do. Turkey Point's costs should not be used exclusively in calculating the RPC, because 100% of the benefits of low nuclear fuel costs are passed on to FPL's customers. If this low nuclear fuel cost is used as a backdoor way to penalize FPL for an outage that was unrelated to its nuclear operations, a clear message will be sent to investors in FPL and other Florida electric utilities that investing in low fuel cost alternatives has become a more risky, asymmetrical proposition.

If low nuclear fuel costs are used exclusively to calculate the RPC for an outage that is entirely *unrelated to nuclear operations*, the *larger the cost differential from the system average*, the greater the penalty of disallowance to shareholders. Moreover, this increased risk does not just apply to nuclear capacity, but would apply equally to any generating resource with fuel costs significantly below the system average. This is obviously a perverse incentive given the efforts of the FPSC and Florida leaders to encourage energy-efficient and renewable technologies due to their benefits for the environment and economy of Florida. A balanced approach to RPC recovery based on system average costs is consistent with Florida's policy that encourages utilities to invest in the high capital

cost alternatives of nuclear, wind, and solar, which have lower energy costs and environmental benefits. This energy efficiency policy benefits FPL's customers as well as the environment and the economy of Florida.

Mr. Stall explains that the outage of Turkey Point was triggered by the Flagami Transmission Event, and was consistent with Nuclear Regulatory Commission ("NRC") requirements for plant operations and not the result of any improper or inappropriate actions in the operation of these units. FPL then took appropriate, prudent actions to return the units to service as promptly as possible. Therefore, Mr. Yupp's calculation of RPC properly includes only the outage time related to the Flagami Transmission Event. It would be both unfair and create additional disincentives to invest in nuclear generation if the additional outage time required to address equipment issues at Turkey Point were included in the calculation of the RPC.

Regulatory Policy on Power Cost Recovery

Q. Are there established regulatory policies related to the recovery of replacement power costs?

A. Yes. A fundamental tenet of the regulatory compact is that the utility is entitled to an opportunity to recover from customers all reasonable and necessary costs prudently incurred in providing service. Under regulatory policy in Florida (as in most state and federal jurisdictions), a utility is

allowed to recover prudently incurred fuel and purchased power costs without profit or loss.

Under Florida's fuel and power adjustment clauses, a utility has an opportunity to recover its actual fuel costs. The best outcome for the utility is that the dollars it has paid are fully recovered from customers, with no opportunity for gain. On the other hand, if some of the utility's expenditures are deemed to have been imprudent, then those costs are not recovered from customers. Thus, utility investors see an asymmetric risk exposure in clause recovery, with no upside opportunity and a potentially large downside.

Q. Has the FPSC recognized the importance of the economic incentives inherent in fuel and purchased power recovery?

A. Yes. This Commission has been a national leader in recognizing that the rules for fuel and purchased power recovery create economic incentives for efficient utility behavior. In 1979, when I was leading an effort at the PUCT to introduce incentives into the fuel and purchased power mechanism, I visited with senior staff and commissioners in Florida to learn from the policies implemented here. The FPSC has continued to be a leader in mobilizing incentives.

Q. What is the effect of Florida's power cost recovery mechanism on the economics of generation alternatives that have low fuel cost?

A. The asymmetry of the risk exposure I described earlier is heightened. The benefits of low fuel costs are passed on directly to consumers by reducing the average power cost in the bills they pay. However, the low fuel costs of those generating resources increase the economic exposure of the utility and its investors to a disallowance if the FPSC finds that one of those resources was not operating due to imprudence. Moreover, since the most fuel-efficient generating alternatives have high capital costs, utility shareholders are especially sensitive to any increased risk of disallowance since they have huge amounts of money on the line. In other words, the same low fuel costs that benefit customers may also heighten the risk associated with power cost disallowances for investors. This is because the potential differential between the cost of replacement power and the lost low-cost generation source is large, which exposes shareholders to the potential for greater disallowed energy costs than from a higher fuel cost alternative.

Exposure to high replacement power costs when the utility is found to have operated a low fuel cost resource in an imprudent manner is an accepted part of the regulatory compact under which utilities in Florida operate. Investors understand that they are exposed to this risk when plant operations fail the prudence test. However, if the benefits associated with low fuel cost resources were used to increase the RPC when there is an outage unrelated to the operation of the generating

plants -- such as an outage caused by a transmission disturbance (as Mr. Stall explains was the case in the Flagami Transmission Event) -- then shareholders would be exposed to an additional risk due to the very energy efficiency that the FPSC regulatory policy favors. In short, the more fuel-efficient the resource, the steeper the RPC penalty from an outage unrelated to plant operations. Investors have not included the additional risk of disallowances unrelated to plant operations in the return they require from securities issued by FPL. If investors are sent a signal that they are exposed to large disallowances from events unrelated to the operations of low fuel cost generation resources simply due to the spread between the fuel-efficient cost and replacement power, the cost of capital associated with investment in low fuel cost generation will increase.

If the RPC for a transmission outage were calculated based exclusively on the low fuel cost generating resources that happened to be affected by the outage, then investors' risk exposure would be increased even in those cases where there has been no imprudence in operating those resources. This would create a clear disincentive to invest in fuel-efficient generation alternatives because their low cost would increase the potential penalty from unrelated outages. For example, using the low fuel cost of Turkey Point Units 3 and 4 as the sole basis to compute RPC in this case would unfairly increase the penalty for the Flagami Transmission Event even though that outage was unrelated to the

operation of the nuclear units. In contrast, calculating the RPC based on system average costs, as Mr. Yupp has done, does not focus the penalty on FPL's investment in low fuel cost generation and thus avoids a disincentive to the development of these important resources.

Q. Is the use of system average power costs consistent with FPSC power cost recovery policy?

A. Yes. Under FPSC regulatory policy, customers' bills reflect system average power costs. When customers use more or less electric energy, their bills go up or down by system average power costs. Consistent with this policy, the RPC from a transmission outage that causes a generating plant to become unavailable should also be based on system average power costs. The fact that the Flagami Transmission Event happened to affect the operation of a nuclear generating unit with low fuel cost does not justify ignoring system average power cost and instead focusing the RPC calculation exclusively on the operating costs for those nuclear units.

Q. What would be the effect of focusing on the low fuel cost resource, rather than using system average power costs, in calculating RPC?

A. Utilities would be discouraged from investing in nuclear and other low fuel-cost generation because investors would be exposed to RPC refunds whenever those facilities are forced offline for reasons unrelated to their operations. As indicated earlier, such an outcome would increase the risk exposure of investors beyond those ordinarily associated with

operating low cost generating resources because they would be subject to increased disallowances due to transmission disturbances and other events unrelated to the specific operations of these generating facilities. This disincentive to efficiency is contrary to the regulatory policy of the FPSC fuel and purchased power recovery.

Reasonableness of FPL's Proposed RPC Calculation

Q. Why is it important not to penalize FPL for the time Turkey Point Units 3 and 4 were unavailable due to the Flagami Transmission Event?

A. As explained by Mr. Stall, FPL responded prudently to return Turkey Point Units 3 and 4 to service as promptly as possible. The circumstances that extended the outages were not related to the Flagami Transmission Event and were not the result of any improper or inappropriate actions on FPL's part. It would be unfair to FPL and serve as a major disincentive to the construction and operation of low fuel-cost generating technologies such as nuclear, solar and wind if FPL were to be penalized for replacement power costs that are not a result of any imprudence in the operation of Turkey Point Units 3 and 4.

As discussed earlier, adding to the risk of disallowances associated with fuel efficient generating resources creates disincentives that are contrary to sound regulatory policy. Similarly, increasing the penalty because of

legitimate operational issues unique to Turkey Point and unrelated to the triggering transmission disturbance, would heighten the disincentive and would unfairly penalize investors. Therefore, FPL has calculated replacement fuel costs for the 8-hour period during which the Flagami Transmission Event had a significant impact on the company's ability to operate its generation system and based that calculation on what its system average fuel costs would have otherwise been during that period if all generating resources were available and able to operate.

Q. Have customers been well-served by FPL's investment in Turkey Point Unit's 3 and 4?

A. Yes. FPL's customers have enjoyed the benefits of the low fuel cost associated with the Turkey Point nuclear units for many years in the lower fuel adjustment they have paid in their bills. As explained by Mr. Stall, Turkey Point Units 3 and 4 have performed in a safe and reliable manner, exceeding industry averages for nuclear capacity factor and equivalent availability in 2008 even with the outage triggered by the Flagami Transmission Event and the equipment issues unrelated to the triggering transmission disturbance.

Q. Do consumers and the economy of Florida benefit from avoiding disincentives for investing in low fuel cost alternatives?

A. Yes. The policy of the FPSC and other agencies of Florida State Government has been to encourage investment in nuclear power and other energy-efficient generation alternatives. Development of low fuel

cost alternatives helps moderate the fuel and purchased power costs that customers pay in their bills. Since Florida is remote from conventional fuel sources, avoiding the cost of purchasing and transporting these fossil fuels is an obvious and direct benefit to customers. In addition, minimizing the burning of fossil fuels helps protect and improve the environmental quality that brings visitors and new residents to this beautiful state. Moreover, since low energy cost alternatives generally require extensive upfront capital investment in facilities located inside the state, these energy-efficient alternatives generate economic activity so badly needed by Florida workers and communities. The efforts of the FPSC and other leaders in Florida to encourage fuel-efficient investment in the state would be undermined if investors are exposed to unwarranted RPC penalties when an outage is caused by circumstances other than imprudent plant operations.

Q. Does this conclude your testimony?

A. Yes.

MR. BUTLER: And Dr. Avera's testimony, direct testimony does not have any exhibits, so at this point I would ask him to summarize his testimony.

THE WITNESS: Good afternoon, Commissioners. My testimony examines the proper regulatory treatment of the replacement power costs from the February 26th, 2008, transmission event. Basing the cost of replacement fuel exclusively on the Turkey Point nuclear units would be unfair and would undermine incentives for energy-efficient technologies. The replacement cost calculation presented by Mr. Yupp recognizes that this outage was triggered by a transmission event and not plant imprudence. It is fair to FPL's customers and avoids disincentives for utilities to invest in energy-efficient and environmentally beneficial generation alternatives.

As described in the testimony of FPL witness Stall, the transmission event caused the Turkey Point units to automatically trip offline as they were designed to do. Turkey Point's costs should not be used exclusively in calculating the replacement cost because 100 percent of the benefits of nuclear fuel cost are passed on to FPL's customers. If this low nuclear fuel cost is used to penalize FPL for an outage that was not caused by nuclear operations, a clear message will be

sent to investors and FPL and other Florida electric utilities that investing in low fuel cost alternatives has become a more risky, asymmetrical proposition. The larger the cost difference from the system average, the greater the penalty from a disallowance unrelated to plant operations.

Investors understand when they invest in a low fuel cost alternative that they are exposed to the risk of high replacement cost when plant operations are imprudent. But what is new and what is not built into investor expectations is that they would be exposed to high replacement costs from an outage that is unrelated to plant operations. That increases the risk and it would undermine the state's policy of encouraging energy-efficient, environmentally beneficial and economically necessary investment. That completes my summary.

MR. BUTLER: Thank you, Dr. Avera. I tender the witness for cross-examination.

COMMISSIONER SKOP: Very well. Thank you, Mr. Butler.

Mr. McGlothlin, you're recognized for cross-examination.

MR. McGLOTHLIN: Thank you, Commissioner.

CROSS EXAMINATION

BY MR. McGLOTHLIN:

Q. Hello, Dr. Avera. I'm Joe McGlothlin with OPC.

A. Hello, Mr. McGlothlin. Good to see you again.

Q. Thank you, sir. I first want to refer you to Page 7 of your direct testimony.

A. Yes, sir.

Q. Since the last time you and I had a conversation on the record, I've traded my old lenses in for some new ones, and so I have to bounce back and forth between my spectacles and you. The difference is I can see you without the spectacles now. That was not possible before. But please pardon as I, as I deal with that little situation.

But I want to refer you to Page 7, Line 4 through 11, and the statement by you that, "Under Florida's fuel and power adjustment clauses, a utility has an opportunity to recover its actual fuel costs. The best outcome for the utility is that the dollars it has paid are fully recovered from customers, with no opportunity for gain. On the other hand, if some of the utility's expenditures are deemed to have been imprudent, then those costs are not recovered from customers. Thus, utility investors see an asymmetric risk exposure in clause recovery, with no upside

opportunity and a potentially large downside." My question refers to the statement about an asymmetric risk exposure in clause recovery.

Now on the prior page, Page 6, you refer to a fundamental tenet of what you would characterize as a regulatory compact is that the utility is entitled to an opportunity to recover from customers all reasonable and necessary costs prudently incurred in providing service, do you not?

A. Yes.

Q. And would you agree with me that the recovery of fuel costs through a clause is a subpart of that larger picture fundamental tenet?

A. That is correct. That the -- unless there has been a finding of prudence, imprudence by the Commission, the utility ought to be able to recover that cost.

Q. And would you agree that it also follows that if a utility has incurred unreasonable costs, it is not entitled to recover those from customers?

A. That is correct. And as happens with some frequency, the utility does not recover those costs and, therefore, its return, its profit suffers.

Q. And translating that fundamental tenet that you describe on Page 6 to what I would be, characterize

as the counterpart mathematical equation that we see in, for instance, revenue requirement cases, you are familiar, are you not, with the equation that says the total revenues a utility is going to collect is a function of its reasonably incurred expenses plus a fair return on prudently invested capital?

A. That is correct. That's a good summary.

Q. Referring to the rate case scenario by analogy, isn't it true that with respect to what we characterize as operations and maintenance costs, O&M, the best that the utility can do is to recover what it incurred and there's some downside in the event the Commission deems a portion of those costs as imprudent or unreasonable?

A. Well, as a technical matter, Mr. McGlothlin, that's not correct. Because generally for at least fixed O&M costs they are established at the time of the rate case. And if those O&M costs go down because of economic conditions or because of management efficiency, it is possible for management to actually benefit because its actual O&M costs are different than those that are built into the base rates.

So as to those O&M costs that are impounded in the base rates, there is not a dollar-for-dollar recovery as occurs for fuel costs and those variable O&M

costs that might be recovered through a clause.

Q. That variance though is a function not of any action by the Commission to mark up O&M, but is instead a function of the different frequency with which base rates are adjusted to track actual costs; isn't that correct?

A. Well, it's a function of many things, Mr. McGlothlin. It's a function of what happens to those costs relative to what is built into base rates. Those costs could go down because of economic circumstances beyond the control of management or they could go up because of those same reasons. They could also go down because management has found new efficiencies, better and cheaper ways of doing things. So there are any number of reasons why the O&M expenses that are actually incurred can vary from those that are built into base rates.

Q. Yes. I agree with your characterization which says that over time the actual experience can depart either above or below what was assumed or incorporated in the, in the calculation of revenues.

But focusing for a moment on the ratemaking exercise itself and using the example, for instance, of wages, labor rates that, that are not capitalized as part of construction, just straightforward labor rates,

at the time those are quantified in the revenue requirements case, there's no markup or profit added to those costs, are there?

A. That is correct. And the Commission reviews those and it may find them, some are imprudently high and it adjusts them down and builds into the base rates the number, the prudent -- that the Commission believes is representative of reasonable and prudent management going forward.

But the profit that the utility gets is built into the fair rate of return on rate base. But it's important to understand that whenever there's a disallowance of an expense that the company actually incurred like a fuel expense, then the effect is to lower the rate of return.

As Mr. Beck, I think, might have incorrectly stated, if, if there are expenses that aren't recovered, it does affect the rate of return of the company.

Q. And that is because the company and not the ratepayers are absorbing those costs that have been deemed unreasonable by the Commission; correct?

A. That is correct. Those that have been paid but aren't ultimately recovered from customers, then management pays those out of shareholder funds, so to speak.

Q. Then you agree with me that focusing on the ratemaking exercise specifically in the context of the revenue requirements case, the manner in which the Commission treats wages, copier paper, the gasoline that is burned in the utility's trucks does not differ from the way that fuel costs are covered in that those are quantified as precisely as the base rate mechanism allows without profit, and the best that the utility can do is recover what it actually incurs, and there is the corresponding downside as, as there is with the fuel in the event the regulator determines that any of those was imprudent?

A. Mr. McGlothlin, I can't agree with you for the reasons we've discussed. The base rates are set. The company collects the base rates. Whatever its expenses are are what they are. And to the extent that those deviate from what is built in base rates, the company comes out ahead or behind. This is very different in my mind from the fuel part of the collections where there is a reconciliation of what the company actually paid. So if fuel prices have gone down since the fuel factor was set, then the reconciliation will return money to the customers, just as if they've gone up, it will collect extra money for the customers. So there is a dollar-for-dollar reconciliation.

The only exception as I understand it, now there's like the GPIF and a few other things to the side, but in the main the company either gets to collect its fuel cost or it doesn't if they're found to be imprudent. It can't get extra dollars to contribute to its profit from those fuel expenditures.

Q. You did agree with me that at the time the Commission sets base rates, those O&M costs are quantified with as much precision as possible to be reflective of what the utility is going to incur; correct?

A. That's right.

Q. Okay. That's my --

A. But once the base rates are set, the world spins.

Q. One step at a time, Dr. Avera, please.

A. Yes, sir.

Q. You also agree that at that point in time during the ratemaking exercise no profit is added to O&M such as wages, gasoline, copier paper; correct?

A. That is correct.

Q. And you agreed with me that at the time those base rates are set, the Commission does review those expenses to determine whether any should be disallowed by virtue of being unreasonable in amount; correct?

A. Unreasonable or unnecessary or any number of other reasons, yes.

Q. So with respect to those aspects of the base rate exercise and those aspects of the fuel cost recovery exercise, those are treated in a similar manner, are they not?

A. That is correct as to the initial setting. It's what happens later that makes the difference.

Q. Now you referred to the aspect of Florida's fuel cost recovery clause that enables the utility to recover dollar for dollar, and that is by virtue of the true-up mechanism, is it not?

A. Yes, sir.

Q. Because absent the true-up mechanism, as is the case with base rates, the actual experience may very well depart from what is incorporated in the fuel cost recovery factor per se.

A. It may, and often does sometimes dramatically, because fuel prices are volatile.

Q. But under Florida's fuel cost recovery clause, the utility has the opportunity to demonstrate that it has collected either more or less than was projected and the difference is added to the, or subtracted from that amount with interest taken into account; correct?

A. That is correct. So that the best that can

happen is it recover what it actually spent ultimately after the reconciliation and the subsequent periods except to those specific items that had been disallowed.

Q. Would you agree with me then that with respect to fuel cost recovery in Florida, from the investor's standpoint, the investor sees less downside risk with respect to fuel than it does in the base rate mechanism because there's no true-up mechanism there?

A. No, I can't agree. I think it depends on what the investor believes about the ability of management to manage its O&M costs and the other costs that are in base rates relative to its exposure on the fuel side to disallowances. So -- and the fuel is, is much bigger than O&M. It, it's a huge part of the cost of service. So it's a very big pot, so that a small difference can make a big difference to investors.

Q. But you do acknowledge that with respect to the base rate mechanism, that ratemaking exercise does not incorporate a true-up aspect.

A. It does not.

Q. Now you alluded to the fact that with respect to the utility's opportunity to make a profit or return, that is associated with the part of the equation that says revenue requirements shall include a fair return on prudently invested capital; correct?

A. That's correct. That is the profit that's built in the base rates. The actual profit that the utility earns depends on how the world turns out, how its expenses relate to what is in base rates and whether or not it's able to collect all of its fuel expenses, and of course its investment and capital costs change over time.

Q. Let's focus on the -- that half of the equation. Take the hypothetical example of a utility that spends $8 billion to build a new nuclear unit and then approaches the Commission to place that in rate base, and assume that the Commission determines that it should have cost only $7 billion. In that scenario what amount of the investment would be placed in the company's rate base? What would it return?

A. Well, the Commission would put into rate base that investment that they regard to have been prudently incurred. So irrespective of what the company actually spent, what is put in rate base, and I think in your hypothetical it was $6 million, what was the number, billion?

Q. The investment was eight and the Commission determines that seven was --

A. If the Commission determines that 7 billion is the prudent amount, that's what goes in the rate base

and that's what the company is allowed to earn on.

Q. So even with respect to the profits half of that equation from the investor's standpoint there is the potential of what you referred to as a downside, and that is the possibility that the company, the company may not see the entire investment placed in rate base where it's going to earn a return.

A. That is correct. That is one of the risks that goes with being a utility, that you have to invest as wisely and carefully as possible because this Commission has the ability to review what you've done. And if this Commission finds that you have not spent all of those dollars prudently, then the customers will not be responsible for them.

Q. So also in that regard there is a parallel to be drawn between the base rate function on the one hand and fuel cost recovery in that in both instances the Commission performs a screening function to protect customers from unreasonable amounts, and in both situations the best that the company and its investors can, can do is to see 100 percent of the amount spent reflected in rates.

A. That's the best they can do. Now their actual earnings of course depend on how events turn out. But this Commission's role in the world, and it's a hard

world -- a hard role but an extremely important one, is to review the expenditures that utilities make and make sure that they are reasonable and prudently incurred. And then for those expenditures and for those investments, set rates that gives the company a reasonable opportunity to earn a fair rate of return.

Q. With respect to your testimony on the fuel cost issue in this case, you have referred to that as an asymmetrical risk exposure, do you not?

A. Yes.

Q. Let's take another simple hypothetical, and the hypothetical is that the utility has expended $100,000 on fuel costs and the Commission has determined that $10,000 of that $100,000 was imprudently incurred and unreasonable in amount and allows the utility to pass through to the customers only $90,000. And so that would keep it as simple as possible. Let's say there's no, there's no issue about the finding of imprudence. That's not contested, it's certain, and the disallowance is made. Would you agree that in that situation the investors cannot expect the customers to collect, to pay the entire $100,000?

A. No. If, if an expenditure is found imprudent, then the effect is that the company can only collect the $90,000. Its investors absorb the ten, the customers

only pay the 90.

Now it's really important that the Commission consider the consequences of its prudent decision because it will affect the behavior of the utility and others. So it needs to make sure that in finding this imprudence it has properly considered the facts and has not created any perverse incentives that have unintended consequences that end up hurting the customers.

COMMISSIONER SKOP: Mr. McGlothlin, do you have -- how much longer of cross-examination do you have? This may be a good breaking point otherwise.

MR. McGLOTHLIN: Possibly another 30 minutes or so.

COMMISSIONER SKOP: Okay. If you wouldn't mind, it looks like we're about ready to switch out court reporters, so I'd like to take a brief break and we'll come back at 3:15.

(Recess taken.)

(Transcript continues in sequence with Volume 2.)

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

I, LINDA BOLES, RPR, CRR, Official Commission Reporter, do hereby certify that the foregoing proceeding was heard at the time and place herein stated.

IT IS FURTHER CERTIFIED that I stenographically reported the said proceedings; that the same has been transcribed under my direct supervision; and that this transcript constitutes a true transcription of my notes of said proceedings.

I FURTHER CERTIFY that I am not a relative, employee, attorney or counsel of any of the parties, nor am I a relative or employee of any of the parties' attorneys or counsel connected with the action, nor am I financially interested in the action.

DATED THIS 29th day of March, 2010.

Linda Boles

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STATE OF FLORIDA)

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COUNTY OF LEON)

I, JANE FAUROT, RPR, Chief, Hearing Reporter Services Section, FPSC Division of Commission Clerk, do hereby certify that the foregoing proceeding was heard at the time and place herein stated.

IT IS FURTHER CERTIFIED that I stenographically reported the said proceedings; that the same has been transcribed under my direct supervision; and that this transcript constitutes a true transcription of my notes of said proceedings.

I FURTHER CERTIFY that I am not a relative, employee, attorney or counsel of any of the parties, nor am I a relative or employee of any of the parties' attorney or counsel connected with the action, nor am I financially interested in the action.

DATED THIS 29th day of March, 2010.

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