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FPSC - COMMISSION CLERK

BEFORE THE

FLORIDA PUBLIC SERVICE COMMISSION

In the Matter of:

DOCKET NO. 150009-EI

NUCLEAR COST RECOVERY CLAUSE.
_____ /

VOLUME 3

Pages 334 through 491

PROCEEDINGS: HEARING

COMMISSIONERS
PARTICIPATING:CHAIRMAN ART GRAHAM
COMMISSIONER RONALD A. BRISÉ
COMMISSIONER JULIE I. BROWN
COMMISSIONER JIMMY PATRONIS

DATE: Tuesday, August 18, 2015

TIME: Commenced at 5:00 p.m.
Concluded at 10:35 p.m.PLACE: Betty Easley Conference Center
Room 148
4075 Esplanade Way
Tallahassee, FloridaREPORTED BY: MICHELLE SUBIA, CCR, RPR
Premier Reporting
(850)894-0828

APPEARANCES: (As heretofore noted.)

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2

3

WITNESSES

4 NAME :

PAGE NO.

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1 P R O C E E D I N G S

2 (Transcript follows in sequence from
3 Volume 2.)

4 MS. BARRERA: I believe you all have the
5 exhibits that we're planning to use on this
6 conversation.

7 Thereupon,

8 STEVEN D. SCROGGS

9 was called as a witness, having been previously duly
10 sworn, was examined and testified as follows:

11 EXAMINATION

12 BY MS. BARRERA:

13 Q Mr. Scroggs, can you turn to your March
14 testimony, Page 15, Lines 13 through 16?

15 A Page 13?

16 Q Page 15.

17 A Page 15, sorry.

18 Q And then Lines 13.

19 A Yes, I'm there.

20 Q Okay. There you explained that FP&L found it
21 necessary to revise the project schedule. Can you
22 please briefly explain under what circumstances the
23 question of revising the project schedule arose in
24 2014.

25 A We received two new pieces of information

1 from the NRC, a revised schedule for review of the
2 safety analysis, and a revised schedule for review of
3 the environmental analysis. Those set new dates for
4 events leading up to the combined license in the first
5 quarter of 2017, so we wanted to incorporate that.

6 We also wanted to incorporate some of the
7 lessons that we've been learning through observation of
8 the Vogtle and Summer projects, and we wanted to
9 include the effects of the amendments to the Nuclear
10 Cost Recovery Statute in 2013. Those were the three
11 major changes that warranted a revised project
12 schedule.

13 **Q Okay. And did the revision include a change**
14 **or new information regarding the AP1000 technology?**

15 A No, ma'am, there was no updated change to
16 that technology.

17 **Q Okay. And did some other event, change or**
18 **new information regarding the Turkey Point site require**
19 **revision?**

20 A Not coming to mind.

21 **Q Okay. Can you please turn to the exhibit**
22 **identified as Hearing Exhibit Number 8, which is**
23 **Exhibit SDS-7, to your March testimony.**

24 A Yes, I have SDS-7.

25 **Q Okay. Can you please identify which of the**

1 **cost categories in your exhibit include the cost for**
2 **the 2014 project review.**

3 A The project review would have been largely
4 conducted under the licensing costs category.

5 **Q And let me ask you some questions about**
6 **initial assessment studies. How does FP&L define**
7 **initial assessment studies? In other words, what are**
8 **they?**

9 A The studies are those necessary to help us
10 refine the schedule estimate by looking at very
11 specific construction activities. There's some 20, 25
12 different individual activities that as a result of the
13 2014 project schedule, CB&I, Chicago Bridge & Iron, who
14 is the constructor on the Summer and Vogtle projects,
15 specifically identify in order to improve your schedule
16 accuracy, you will want to do additional studies on
17 these areas. So that's how we came up with the list of
18 initial assessment studies that would help us improve
19 our schedule accuracy.

20 **Q And can you describe the type of activities**
21 **that need to be performed to develop the studies?**

22 A Yes. There's a number of activities related
23 to determining a rough site layout so that that site
24 layout could be used to determine how many logistical
25 moves are necessary for certain activities. Designs

1 related to slurry walls and other specific construction
2 that is unique to the Turkey Point 6 and 7 sites, or
3 construction items, construction events such as
4 concrete batch plant development and implementation
5 that would help us understand what the true critical
6 path and necessary coordination and timing of these
7 events are to have the most efficient schedule.

8 **Q And can you state what the objective for**
9 **these studies are; what is the main objective to**
10 **conduct them?**

11 A The main objective is to refine the project
12 schedule so that when we conduct the feasibility
13 analysis in 2016, we're doing that with the best
14 schedule information that's available.

15 **Q Okay. And FP&L estimates that the combined**
16 **operating license will be issued about March 2017; is**
17 **that correct?**

18 A Yes, ma'am.

19 **Q And isn't it true that if there were**
20 **emergents that delayed the issuance of the combined**
21 **operating license beyond March 2017, FP&L will have**
22 **prematurely undertaken the initial assessment studies?**

23 A I don't believe that's the case, ma'am, no.

24 **Q Why?**

25 A These initial assessments include information

1 that won't change over time. It's about the sequence
2 in which you do certain construction, the type of
3 equipment and material and labor that you need to do
4 the activities. That won't change. Items that would
5 change are the specific costs of the materials or labor
6 rates. Those aren't a part of the initial assessment
7 studies.

8 So the life, the shelf life, shall we say,
9 maybe you could say, of the initial assessment studies
10 is considerable. I would expect them to be relevant
11 for several years.

12 **Q Now, please turn to Exhibit 43, which is**
13 **identified as a late-filed exhibit to your deposition,**
14 **and it consists of a slide presentation.**

15 A I have it.

16 **Q Okay. Please turn to Slide Number 5.**

17 A I'm there.

18 **Q Okay. And my question is, what is the**
19 **difference between a complete study and a final report?**

20 A A complete study is essentially the project
21 that the consultant would provide to us for our review.
22 Then we weigh in with our thoughts, our questions, our
23 amendments, perhaps, to reflect what we believe is more
24 accurate or just information that the consultant didn't
25 cover, and that is then turned into a final study. So

1 the final study is a joint product consultant in FP&L,
2 whereas a complete study would be the initial input
3 from the consultant.

4 **Q And does FP&L plan to file this final report**
5 **with the Commission?**

6 A Yes, the study will be available for review.
7 In response to your question, I don't know of a
8 specific reason why we would file it in this docket
9 next year, but it's certainly information that would
10 inform my testimony and would be available for the
11 Staff and the Commission.

12 **Q And then this final report would not be used,**
13 **I'm imagining, to support your petition for**
14 **pre-construction work, to begin pre-construction work?**

15 A Yes, it would. It would be part of a body of
16 work that would inform the schedule for the feasibility
17 analysis.

18 **Q Okay. And does FPL plan to file this final**
19 **report with the NRC in support of its license**
20 **application?**

21 A No, there's no entry point for this
22 particular study in the NRC part.

23 **Q And do the initial assessment study reports**
24 **discuss potential and different timeline scenarios and**
25 **constraints?**

1 A Yes.

2 **Q Okay. Now, please turn to Slide Number 6 and**
3 **7 from your presentation, Exhibit Number 43. Isn't it**
4 **true that several of the items under Category A titled**
5 **"Module, Submodual, Assembly," are activities to be**
6 **undertaken after the receipt of the COLA and after a**
7 **decision has been made to proceed with post-licensure**
8 **work?**

9 A There will be activity similar to all of
10 these done in pre-construction to develop the final
11 plan. Again, the purpose of those activities, the
12 purpose of those studies would be to result in a
13 schedule that we would go get a bid on. That's not the
14 purpose and scope of these studies.

15 These studies are to inform and refine the
16 project schedule estimate so that we know that when we
17 provide a feasibility analysis based on a certain
18 project schedule, that we have the best information
19 possible within this time frame to support that
20 feasibility analysis.

21 **Q And isn't it true that the initial assessment**
22 **studies implement the post-licensure activities?**

23 A No.

24 **Q And why not?**

25 A Again, their purpose, objective and scope is

1 not to implement post-licensure activities. They are
2 not sufficiently detailed and do not result in a bid
3 specification that could be then used to obtain binding
4 bids. So they are an increase in the level of detail
5 that we currently have, but they are not the
6 implementable schedule that will be created in
7 pre-construction work to support bids.

8 **Q And are these study items intended to address**
9 **factors such as supply chain performance and quality**
10 **assurance performance that could impact either cost or**
11 **schedule?**

12 A To the extent that these areas of study, the
13 results of the first wave of construction, particularly
14 module, subassembly and logistics plant. Some of the
15 delays seen in the first wave is based on how they
16 moved modules, how they constructed them, how they
17 moved them on site for assembly.

18 So these are really the first steps in
19 taking -- or some of the first steps in taking the
20 information we observed in the first wave of
21 construction, incorporating that so that we don't make
22 those mistakes in the second wave of construction.

23 **Q Does the scope of work for initial assessment**
24 **studies include issuing notices to proceed with site**
25 **clearing work or any post-licensure work?**

1 A No. No.

2 **Q Okay. Please turn to Slide Number 12. And**
3 **that's the 2015 Increased Estimate Due to COL and**
4 **Engineering Challenges. What are the combined**
5 **operating license and engineering challenges referenced**
6 **here?**

7 A In the combined operating license, it's a
8 combination of additional fees that we'll be paying to
9 NRC for the continued completion of the safety review,
10 mostly seismic in nature, and our contractor, Bechtel,
11 who is compiling those additional pieces of
12 information, additional costs for Bechtel to do that.

13 In the engineering and construction, it's
14 primarily the increase in the annual fee to participate
15 as one of the AP1000 owner group members.

16 **Q Can you please go back to Slide 5. And**
17 **according to this timeline, FP&L will make the**
18 **information in the final reports for Category A, B and**
19 **C generally available for review by the Commission,**
20 **Staff and others not later than the first quarter of**
21 **2016; is that correct?**

22 A That's correct.

23 **Q And the remaining Category D report would not**
24 **be available for review until 2017, correct?**

25 A That's correct.

1 **Q Are the Category D assessments interdependent**
2 **on the results of Category A, B or C assessments?**

3 A Yes.

4 **Q And has FP&L finalized the scope and issued**
5 **bids on any of the four categories?**

6 A We've issued an award, a contract on
7 Category A. We've issued an RFP for Categories B and
8 C. And we are evaluating those bids now. We have not
9 issued an RFP for Category B work.

10 **Q Thank you.**

11 I would like you to now please turn to
12 Exhibit 38, and in particular, the FP&L response to
13 OPC's Interrogatory Number 19.

14 A I'm not sure I have that.

15 **Q It should be part of the -- Exhibit 38.**

16 MR. SAYLER: It's paper clipped together with
17 the others.

18 THE WITNESS: I do have it.

19 BY MS. BARRERA:

20 **Q Okay. All right. And in Interrogatory**
21 **Number 19, were the discussion regarding lessons**
22 **learned factored into the current cost estimate and**
23 **project schedule for Turkey Point Units 6 and 7?**

24 A Yes, to the extent that they're reflected in
25 the revised project schedule.

1 **Q In Exhibit 30 -- we're going to be going back**
2 **and forth to exhibits, and I'm sorry about that, but**
3 **that's the way it is.**

4 Can you please turn to Exhibit 30, FP&L
5 response to Interrogatory Number 3. In that
6 interrogatory, FP&L stated that there are issues that
7 are expected to be resolved by October of 2015 and are
8 not expected to impact the NRC's review schedule for
9 FP&L's COL.

10 FP&L's -- this response concerning matters
11 that surfaced in 2014 in other projects that could
12 affect the Turkey Point Units 6 and 7, FPL identified
13 certain items. And does FPL currently expect these
14 issues to be resolved without adverse impact to the
15 review schedules?

16 A At present time, yes, we do expect them to be
17 resolved without impact to our schedule.

18 **Q Okay. If you can turn to your May testimony,**
19 **Page 24. At Line 18, you begin a discussion concerning**
20 **initial assessment studies. You state that the studies**
21 **are to inform a decision to proceed to begin**
22 **pre-construction work.**

23 What is your definition of the phrase
24 "pre-construction work" as used in this context?

25 A As my understanding of the use of the term in

1 the revised NCRC Statute, I believe the Statute is 3C,
2 pre-construction work are those activities to be
3 accomplished after receipt of a COL.

4 Q And in Exhibit 31, if you can turn, which are
5 FP&L's response to Staff's Interrogatory Number 9, if
6 you can go to that.

7 A I'm there.

8 Q Okay. Is it correct that FP&L's filings do
9 not list any contracts associated with implementing the
10 initial assessment studies?

11 A That's correct.

12 Q Okay. And when does FP&L plan to begin to
13 make expenditures on the initial assessment studies?

14 A We have begun. We initiated the studies in
15 June of this year.

16 Q Okay. And can you explain why none of the
17 contracts listed on 7A and 7B schedules include the
18 work for the initial assessment studies?

19 A Because the contract was not issued until
20 after the May 1 filing. They did not appear on the
21 schedules.

22 Q And in your May testimony, back on Pages 24
23 and 25, you associate the initial assessment studies
24 activity of preparation of a 2016 analysis of the
25 feasibility of completing Turkey Point 6 and 7; is that

1 **correct?**

2 A Yes, ma'am.

3 **Q And is FP&L's annual analysis of feasibility**
4 **of completing Turkey Point 6 and 7, is that work that**
5 **the NRC requires in its review of FP&L's COL?**

6 A It's work that's related to it. It is not
7 specifically -- the feasibility analysis is not
8 specifically required for the NRC for the combined
9 license.

10 **Q Do you provide any -- does FP&L provide any**
11 **information to the NRC based on the information**
12 **contained in the feasibility studies?**

13 A In the broad sense, FPL represents to the NRC
14 that we are in compliance with all state and local
15 regulations related to the pursuit of the combined
16 license. So in that in respect, yes.

17 **Q Okay. Now, the initial assessment studies is**
18 **work that the NRC requires in its review of FPL's COL**
19 **application?**

20 A Explicitly, no. They don't require a study
21 called an initial assessment. However, they require us
22 to comply with the conditions and conform with the
23 license requirements.

24 These studies are being done to make sure we
25 know what it's going to take in terms of time and

1 effort to comply and conform with the combined license.
2 So in that respect, they are related to compliance with
3 the combined license.

4 **Q And does the NRC require updates of the total**
5 **cost to complete the Turkey Point project as part of**
6 **its application review?**

7 A As a part of our annual update to the
8 combined license, we provide current cost information
9 for the project.

10 **Q Does the NRC require FP&L to seek binding**
11 **bids prior to COL approval?**

12 A No, the NRC makes no commercial requirements
13 of the applicant.

14 **Q Okay. Can we turn to your May testimony at**
15 **Page 11, and that would be Line 19.**

16 A I'm there.

17 **Q Okay. And there you describe the impact of**
18 **the 2013 Nuclear Cost Recovery Statutory Amendments.**

19 As a lay person, is it your understanding
20 that the 2013 amendments prohibit FP&L from undertaking
21 any activity not required by the NCRC in its review of
22 the COL application?

23 A That's not my understanding, no.

24 **Q What is your understanding?**

25 A My understanding is that the NCRC Amended

1 Statute talks about costs that are related to obtaining
2 or maintaining the combined license, and that because
3 these costs are related to the combined license through
4 the cost recovery process, by which pursuit of that
5 combined license is funded, that these initial
6 assessments are therefore related to the combined
7 license.

8 Q Okay. Can you turn to Pages 24 and 25 of
9 your May testimony?

10 A I'm there.

11 Q Okay. And in there you discuss a plan for
12 2016 filings with the Commission.

13 Is it true that those plans depend on the NRC
14 completing its review process?

15 A Yes.

16 Q I would like you now to turn to Exhibit 31,
17 and that's Interrogatory Number 6.

18 A I'm there.

19 Q Okay. And in this, FP&L indicates key
20 milestones.

21 Is it true that the NRC plans to complete its
22 environmental review in February of 2016?

23 A That's correct.

24 Q And does the NRC plan to complete a safety
25 review in October of 2016?

1 A That's correct.

2 Q And isn't it true that the NRC's process
3 allows for hearings subsequent to these reviews and
4 before the ultimate decision on COL issuance?

5 A That's correct.

6 Q So isn't it true then that the certainty of
7 the combined operating license is a key factor
8 affecting FP&L's timeline for filing a request to begin
9 post-licensure work?

10 A That's correct. In Exhibit SDS-12, we
11 provide our best estimate of how the ASLB hearing will
12 be sequenced following the safety and environmental
13 review and prior to the COL decision.

14 Q Is it FP&L's position that initial assessment
15 studies are necessary to prepare the feasibility
16 analysis for the 2016 NCRC proceedings?

17 A Yes, they are necessary to prepare the best
18 informed feasibility analysis.

19 Q So isn't it true that there's a possibility
20 that the plan for 2016 Commission filings as presented
21 in your testimony could change?

22 A That's a possibility, yes.

23 Q Can you please turn to Exhibit 35. It's a
24 document entitled "PTN Units 6 and 7 Level 1 Baseline."
25 It's the big spreadsheet that we gave you. The one

1 **that was filed with the Commission was 8-by-11, and I'm**
2 **an old woman and I cannot see that clearly.**

3 A I have the schedule in front of me.

4 Q **So we made it bigger.**

5 This document is about FP&L's current
6 critical path timeline, correct?

7 A Yes.

8 Q **And in formulating your May testimony, did**
9 **you rely on this information in your document?**

10 A Yes, I did.

11 Q **The second activity listed on this chart is**
12 **the initial assessments and has a finish date of**
13 **12/31/2016, correct?**

14 A That's correct.

15 Q **And the sixth activity listed is perform**
16 **pre-construction activities.**

17 Is the start date projected to take place
18 after the receipt of the COL? What is that date?

19 A Yes. In this schedule, the receipt is the
20 earliest practicable date, which is 12/31/2016.

21 Q **And does the start date of the sixth activity**
22 **depend on the results of the initial assessment**
23 **studies?**

24 A Yes. They will inform the pre-construction
25 activities.

1 **Q And please turn to Exhibit 31, response to**
2 **Interrogatory Number 43. This exhibit is a composite**
3 **of FP&L's response to Staff's second set of**
4 **Interrogatories Number 43 and data FP&L attached to its**
5 **response.**

6 Can you please state what these documents
7 show.

8 A I'm sorry, can you help me again.
9 Exhibit 31?

10 **Q Exhibit 31 would be Interrogatory 43.**

11 A Unfortunately, Interrogatory 43 is not
12 attached to it. Let me see if I can find it somewhere
13 else. It's not attached to it.

14 **Q It's 38, I'm sorry.**

15 A Yes, I have it. Thank you.

16 **Q I'm sorry. Can you please state what these**
17 **documents show.**

18 MS. CANO: I am sorry, can you please repeat
19 that back, what documents are you looking at.

20 CHAIRMAN GRAHAM: Interrogatory 43.

21 MS. BARRERA: Yes, sir.

22 MS. CANO: If I may direct the witness, that
23 was the loose interrogatory not with the cover.

24 Thank you.

25 THE WITNESS: I have it.

1 BY MS. BARRERA:

2 Q Okay. Can you explain what these documents
3 show exactly?

4 A At request of Staff, we've compared the
5 results of the overnight capital cost and break-even
6 cost estimates over time. And essentially the green in
7 my copy, green bands relate to the capital cost
8 estimate range, and the light blue bands estimate to
9 the break-even cost ranges.

10 Q Okay. And is it true that one of the results
11 of the initial assessment studies could be a decrease
12 in the high-low range of estimated overnight capital
13 expenses?

14 A The impact of the cost of the initial
15 assessments is to address schedule. So because the
16 capital cost estimate range is an overnight cost and
17 doesn't specifically speak to schedule, because it's
18 just a point in time, no. But it will, the initial
19 assessment studies, if they change the project
20 schedule, it would affect the overall project cost.

21 Q Thank you.

22 MS. BARRERA: I have no further questions.

23 CHAIRMAN GRAHAM: Commissioners?

24 Commissioner Brown.

25 COMMISSIONER BROWN: Thank you, Mr. Scroggs.

1 I know you've been here for a few hours, so I just
2 have one or two questions for you.

3 THE WITNESS: Yes, ma'am.

4 COMMISSIONER BROWN: In your testimony, you
5 talk a lot about the Nuclear Cost Recovery Statute
6 and the development that led up to implementation
7 of the Nuclear Cost Recovery Statute. You also
8 state in your testimony that the delays that
9 occurred with Turkey Point 6 and 7 in the project
10 schedules is a result of the NRC delays as well as
11 the Amended Nuclear Cost Recovery Statute, right?

12 THE WITNESS: Yes, ma'am.

13 COMMISSIONER BROWN: Can you say exactly what
14 the direct costs are as a result of the amendment
15 to 366.93., the amendments to that?

16 THE WITNESS: Because they're combined with
17 the NRC delay I think would be challenged to
18 divide those up separately. They are sequential,
19 so the two-and-a-half years that result from the
20 Nuclear Cost Recovery Amendment decoupling our
21 ability to simultaneously do pre-construction and
22 construction activities adds two-and-a-half years.

23 COMMISSIONER BROWN: And I've been wanting to
24 ask this question of the IOU's for a long time, so
25 this is a good opportunity to do it, with regard

1 to the amended statute. With the additional
2 interim review steps, do you think that the
3 amended 366.93 really hinders an IOU from pursuing
4 new nuclear development?

5 THE WITNESS: I would say, no, it doesn't
6 hinder us. It does add delay and it adds time in
7 it and it adds complexity. But it wouldn't
8 prevent us from continuing forward.

9 COMMISSIONER BROWN: I expected that answer,
10 but I just figured I would ask it.

11 Thank you, very much.

12 CHAIRMAN GRAHAM: Commissioner Brisé.

13 COMMISSIONER BRISÉ: Thank you, Mr. Chairman.
14 I have a couple of questions for you, Mr. Scroggs.
15 And Commissioner Brown touched a little bit on the
16 impact of time on the cost, so I wanted to address
17 the impact of time affecting the feasibility of
18 the overall project.

19 And from FPL's perspective, at what point, if
20 that time continues to move and there isn't --
21 let's say we get past 17 and we don't have a
22 license and so forth or aren't in a better
23 position with the license -- when does the project
24 lose its feasibility and viability?

25 THE WITNESS: That would be very difficult to

1 say with respect to all of the other factors,
2 natural gas price in the future, emissions
3 compliance. The good news is as we get further
4 out there, we get a better understanding and
5 higher certainty about what those values would be.

6 It's remarkable at this stage that over eight
7 years of time, the cost estimate and the
8 feasibility analysis continues to show the
9 benefits of this project for our customers even
10 though combined cycle plants are getting more
11 efficient, natural gas is at an all time low. So
12 it would be difficult for me to project.

13 There would be potentially a point in the
14 future, if natural gas prices were to remain low,
15 emissions compliance costs never come about, that
16 a delay could be the critical deciding factor in
17 feasibility analysis.

18 COMMISSIONER BRISÉ: Okay. So the following
19 question is if we didn't have the advanced cost
20 recovery clause, would FPL be pursuing this
21 project today the way it's pursuing it?

22 THE WITNESS: Certainly not the way it's
23 pursuing it today. We believe that the cost
24 recovery clause provides customers with the
25 significant benefits for the interest aspect of it

1 and it provides FPL the reliability of regulatory
2 consistency so that we can go out to the market
3 and obtain market support for the capital project.

4 Absence that signal of support, FPL is out,
5 you know, trying to obtain financing for a very
6 expensive project without a clear demonstration of
7 the state's support.

8 COMMISSIONER BRISÉ: Okay. So at what point
9 would it have stopped pursuing the project without
10 the clause?

11 THE WITNESS: Quite early on.

12 COMMISSIONER BRISÉ: Okay. Thank you.

13 CHAIRMAN GRAHAM: Any other Commissioners?

14 (No response.)

15 CHAIRMAN GRAHAM: Redirect?

16 MS. CANO: I have a couple questions. Thank
17 you.

18 EXAMINATION

19 BY MS. CANO:

20 Q Mr. Scroggs, Ms. Christensen asked you a few
21 questions repeatedly using the term pre-construction
22 phase or pre-construction. What is your understanding
23 of pre-construction as that term or variations of that
24 term is used as it applies to the project?

25 A Pre-construction includes the time frame

1 between the end of site selection and the end of site
2 clearing.

3 **Q Okay. Thank you.**

4 Ms. Méndez, on behalf of the City of Miami,
5 asked you some questions about the timing of
6 pre-construction of transmission lines for the project
7 and asked whether you're aware of any testimony that
8 those transmission lines might be constructed earlier
9 than you testified to here today. Do you recall that
10 line of questions?

11 A I do.

12 **Q Okay. To the extent prior years' testimony**
13 **supported earlier in-service dates than we're talking**
14 **about here today, would that also have impacted**
15 **transmission construction timing?**

16 A Yes, that could be part of it, as well as
17 there are other transmission projects ongoing at
18 different points in time. And during the site
19 certification process, some of those additional
20 projects, not this Turkey 6 and 7 transmission, but
21 other similar projects were being discussed.

22 **Q Ms. Méndez also asked you a couple of**
23 **questions about the cooling canals at Turkey Point and**
24 **issues related to those. What is the relationship**
25 **between the existing Turkey Point cooling canals and**

1 **the Turkey Point 6 and 7 project?**

2 A The only interface between the 6 and 7
3 project and the cooling canal system would be
4 stormwater runoff from the physical Turkey Point 6 and
5 7 into the cooling canals themselves.

6 Q And lastly, the City of Miami asked you about
7 consideration of potential co-ownership arrangements
8 for the Turkey Point 6 and 7 project. Could you please
9 explain the process of considering potential
10 co-ownership arrangements, as FPL may do so.

11 A Yes. As I described, the need determination
12 and subsequent analysis has assumed that our customers
13 will make use of 100 percent of the output and
14 therefore 100 percent of the value. If we were to
15 enter into some agreement where a portion of that value
16 and project was shared with another entity, we would
17 expect some levels of fair compensation for what FPL
18 customers have invested to get to the project at this
19 point.

20 MS. CANO: I have one final redirect, but
21 it's only appropriate or necessary, I should say,
22 if an exhibit of OPC's is entered into the record
23 over objection. So I would like to reserve my
24 right to ask one more question to the extent that
25 exhibit is admitted.

1 CHAIRMAN GRAHAM: Restate that. You lost me.

2 MS. CANO: It is Exhibit 72.

3 CHAIRMAN GRAHAM: Okay.

4 MS. CANO: I plan to object to the extent OPC
5 plans to move it into the record, and they may not
6 even be planning to do so. And if it is,
7 nonetheless, moved into the record, then I do have
8 one redirect question on it.

9 CHAIRMAN GRAHAM: Why don't you just go ahead
10 and ask your redirect.

11 MS. CANO: Sure.

12 BY MS. CANO:

13 **Q Mr. Scroggs, OPC and FIPUG asked you at a**
14 **very high level some questions about the cost**
15 **experience at Levy Nuclear Power project. How do FPL's**
16 **pre-construction period activities compare to the**
17 **pre-construction period activities of the Levy project?**

18 MS. CHRISTENSEN: I'm going to object. I
19 think that's a little bit beyond the scope of what
20 the question was.

21 MR. MOYLE: Plus I'm not sure that he had
22 much information about the Duke-Levy concept. He
23 followed it from afar. But now she's asking him
24 to get into detail that I don't think he has.

25 MS. CANO: That's fine. I'll withdraw the

1 question and remember that when we talk about
2 exhibits.

3 CHAIRMAN GRAHAM: Okay. We'll talk about
4 exhibits.

5 Florida Power & Light.

6 MS. CANO: Yes. Thank you. FPL moves
7 Exhibits 2 through 13.

8 CHAIRMAN GRAHAM: Two through 13.

9 (Exhibit Nos. 2 through 13 were received in
10 evidence.)

11 MS. CHRISTENSEN: I would go ahead and move
12 Exhibits 72, 73 and 74. Although, I would note 72
13 is an order, so the necessity of moving it into
14 the record seems a little bit moot, but I would do
15 it for convince sake. But if it's going to create
16 a problem --

17 CHAIRMAN GRAHAM: I was just going to say
18 since it's a final order, I don't think we even
19 need to move it. We'll just move 73 and 74.

20 MS. CHRISTENSEN: Thank you.

21 (Exhibit Nos. 73 and 74 were received in
22 evidence.)

23 MS. MÉNDEZ: Could we take judicial notice of
24 72 just since it's an order, just for the record?

25 CHAIRMAN GRAHAM: Yeah.

1 MS. MÉNDEZ: Thank you.

2 MS. HELTON: And, Mr. Chairman, can we ask
3 the parties if they're going to object to the
4 exhibit, the better time to do it would be when
5 the exhibit is first presented for cross
6 examination purposes?

7 CHAIRMAN GRAHAM: Why is that?

8 MS. HELTON: So that all the parties have
9 notice of that to that effect, and so that they
10 may reply to the objection as necessary. And then
11 potentially so you could go ahead and rule on it
12 at that time instead of waiting until the end when
13 no one is aware or on notice that there's an
14 objection to the exhibit.

15 CHAIRMAN GRAHAM: Duly noted.

16 Do we have any other exhibits?

17 MS. MÉNDEZ: The City of Miami, Exhibit 75.

18 CHAIRMAN GRAHAM: Okay.

19 MS. MÉNDEZ: That was marked.

20 CHAIRMAN GRAHAM: If there's no objection to
21 Exhibit 75, we'll move that into the record as
22 well.

23 (Exhibit No. 75 was received in evidence.)

24 CHAIRMAN GRAHAM: Okay. Are there any other
25 exhibits?

1 MS. BARRERA: No.

2 CHAIRMAN GRAHAM: Okay. Would you like to
3 excuse your witness for now?

4 MS. CANO: For now. But he'll be reappearing
5 for rebuttal.

6 CHAIRMAN GRAHAM: Let's move on to Diaz,
7 Dr. Diaz.

8 MS. CANO: All parties have agreed to
9 stipulate to Dr. Diaz's testimony and his one
10 exhibit into the record, and he's been excused
11 from appearing. So at this time, FPL moves or
12 requests that the prefiled direct testimony of
13 Dr. Diaz's testimony be inserted into the record
14 as read.

15 CHAIRMAN GRAHAM: We will enter Dr. Diaz's
16 direct testimony into the record as though read.

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1 **BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION**

2 **FLORIDA POWER & LIGHT COMPANY**

3 **DIRECT TESTIMONY OF NILS J. DIAZ**

4 **DOCKET NO. 150009-EI**

5 **March 2, 2015**

6

7 **Q. Please state your name and business address.**

8 A. My name is Nils J. Diaz. My business address is 2508 Sunset Way, St.
9 Petersburg Beach, Florida, 33706.

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

11 A. I am the Managing Director of The ND2 Group (ND2). ND2 is a consulting
12 group with a strong focus on nuclear energy matters. ND2 presently provides
13 advice for clients in the areas of nuclear power deployment and licensing, high
14 level radioactive waste disposal and storage issues, and advanced security systems
15 development.

16 **Q. Please describe your other industry experience and affiliations.**

17 A. I presently conduct policy advising and consulting for governments and industry,
18 and hold board memberships in private institutions. I recently chaired the
19 American Society of Mechanical Engineers Presidential Task Force on Response
20 to Japan Nuclear Power Plant Events and two major reviews of the Safety Culture
21 and the Quality Assurance Program for the Hanford Waste Treatment Plant. I
22 previously served as the Chairman of the United States Nuclear Regulatory
23 Commission (NRC) from 2003 to 2006, after serving as a Commissioner of the

1 NRC from 1996 to 2003. Prior to my appointment to the NRC, I was the Director
2 of the Innovative Nuclear Space Power and Propulsion Institute for the Ballistic
3 Missile Defense Organization of the U.S. Department of Defense, and Professor
4 of Nuclear Engineering Sciences at the University of Florida. I have also
5 consulted on nuclear energy and energy policy development for private industries
6 in the United States and abroad, as well as the U.S. Government and other
7 governments. I have testified as an expert witness to the U.S. Senate and House
8 of Representatives on multiple occasions over the last 30 years. I also served as a
9 Commissioner on Florida's Energy and Climate Commission from 2008 to 2010.
10 Additional details on my background and experience are provided in my resume,
11 which is attached as Exhibit NJD-1.

12 **Q. Are you sponsoring any Exhibits in this case?**

13 A. Yes. I am sponsoring Exhibit NJD-1 - Summary Resume of Nils J. Diaz, PhD.

14 **Q. What is the purpose of your testimony?**

15 A. The purpose of my testimony is to review the prudence of Florida Power & Light
16 Company's (FPL's) continued pursuit of a Combined Operating License (COL)
17 for the Turkey Point Nuclear Units 6 and 7 (Turkey Point 6 & 7) project in 2014,
18 in accordance with applicable nuclear industry and regulatory considerations.

19 **Q. How have you prepared for your review of FPL's approach to the licensing
20 of Turkey Point 6 & 7?**

21 A. I continue to be well-informed of FPL's Combined Operating License Application
22 (COLA) for the Turkey Point 6 & 7 project, since participating in the Need
23 Determination proceedings and in subsequent Nuclear Power Plant Cost Recovery

1 proceedings for these units. I am also well-informed on the subject of the
2 Westinghouse AP 1000 reactor referenced by FPL in its COLA, beginning with
3 its Design Certification review when I was on the NRC, and continuing reviews
4 after I left the Commission. I have reviewed FPL's project approach to the
5 management and licensing of the Turkey Point proposed units, as described in
6 detail in the Direct Testimony of Steven Scroggs, FPL's Senior Director for
7 Project Development for the Turkey Point 6 & 7 project, filed with the
8 Commission prior to 2015 and on this date. I have also discussed FPL's licensing
9 approach and related project management issues with Mr. Scroggs, Mr. Maher
10 (Senior Director Licensing), and other FPL personnel, including reviewing
11 correspondence from the NRC to FPL related to the schedules of its
12 environmental and safety reviews for the Turkey Point 6 & 7 project. Finally, I
13 am cognizant of past and ongoing NRC reviews of other COL applications, and of
14 key regulatory issues important to the timely licensing of the Turkey Point Units 6
15 and 7.

16 **Q. Was FPL's approach to the continued pursuit of a COL for the Turkey Point**
17 **6 & 7 project in 2014 prudent?**

18 A. Yes. Based on my review, the decisions and management approaches used by
19 FPL during 2014 were prudent and consistent with a reasonable strategy for
20 pursuing the licensing of the proposed Turkey Point 6 & 7 project.

21 **Q. Please discuss what major events or issues have recently challenged the**
22 **NRC's capability to conduct their licensing processes?**

1 A. Since March 2011, there have been three major issues that have challenged the
2 NRC's capability to orderly discharge their licensing obligations for nuclear
3 power plants. These three major events or issues are: Japan's Fukushima multi-
4 reactor event following a beyond-design-basis tsunami and the subsequent follow-
5 up by the NRC to use a Lessons Learned approach for assuring the continuing
6 safety of U.S. nuclear power plants; the suspension of licensing and the major
7 generic environmental work conducted to respond to the U.S. Court of Appeals
8 for the D. C. Circuit's order on the safety of spent fuel storage and the so-called
9 Waste Confidence Rule; and the suspension and re-activation of the Yucca
10 Mountain licensing proceedings. Each of these issues required significant
11 redirection of NRC staff and Commission involvement and, therefore, challenged
12 the effective and efficient licensing processes for nuclear power plants. A short
13 summary of the status of each one of these issues is provided below.

- 14
- 15 • Status of NRC regulatory actions related to Fukushima: The vast majority of the
16 NRC regulatory actions on the Fukushima Lessons Learned concerned operating
17 reactors. The impacts on new reactor licensing are more easily addressed, and are
18 mostly restricted to areas of seismic and flooding protection, blackout protection,
19 fuel pool instrumentation and emergency response. The overriding criteria are to
20 maintain cooling to the core, the containment, and the spent fuel pool. The NRC
21 continues to recognize that the AP 1000 passive-safety reactor selected for the
22 Turkey Point Units have significant safety enhancements inherent to the design
23 addressing the safety criteria, and would only require appropriate improvements

1 in well-defined areas. Presently, the action matrix to address the Fukushima-
2 related issues for the AP 1000 appears completed and no further licensing
3 schedule impacts are expected from this issue for Turkey Point.

4

- 5 • Status of the Waste Confidence Rule: As anticipated, the NRC issued a final rule
6 on the remanded Waste Confidence Rule on August 26, 2014. The ruling, made
7 effective after publication in the Federal Register on September 19, 2014,
8 effectively resolves the issues on the storage of spent fuel and ends the power
9 reactor licensing suspension. The new rule, re-named the “Continued Storage of
10 Spent Nuclear Fuel Rule”, adopts the findings from the NRC generic
11 environmental impact statement; it establishes that spent nuclear fuel can be
12 safely managed in dry casks for the short term (up to 60 years), the long term
13 (another 100 years), and for indefinite time frames. The new rule does not rely on
14 the availability of a repository for the safe storage of spent fuel. Therefore, the
15 regulatory issue is presently resolved and no longer presents an impediment for
16 the licensing of Turkey Point Units 6 and 7.

17

- 18 • Status of the Yucca Mountain Licensing Review: Since 2010, the review of the
19 Yucca Mountain licensing application has been stopped and then restarted, with
20 complex legal and budgeting issues complicating progress, and consequently
21 caused instabilities in NRC’s staffing assignments. On October 16, 2014, the
22 NRC issued the very important Volume 3 of the Yucca Mountain Safety
23 Evaluation Report (“SER”), “finding that the Department of Energy’s repository

1 design meets the requirements that apply after the repository is permanently
2 closed, including but not limited to the post-closure performance objectives in
3 NRC's regulations" (NRC News, 10/16/2014). On December 18, 2014, the staff
4 issued Volume 4 (Administrative and Programmatic Requirements) of the SER,
5 and on January 29, 2015 the staff issued the final parts of the review, Volume 2
6 (Repository Safety Before Permit Closure) and Volume 5 (Proposed Conditions
7 and License Specifications), which completed the SER. Although the future of
8 Yucca Mountain is still in doubt, the work done resolved a significant part of the
9 overload on the NRC staff, and allows for the resumption of more standard review
10 schedules.

11

12 In summary, the above-discussed regulatory issues are resolved to the point that
13 they no longer present a challenge to the licensing of Turkey Point Units 6 and 7.

14 **Q. Is the new NRC estimated schedule for the issuance of the Turkey Point**
15 **Units 6 and 7 COL license reasonable?**

16 A. Yes. The NRC staff had previously identified issues affecting staff's ability to
17 complete its safety review in areas of geology, seismology and geotechnical
18 engineering, and in identifying alternative sites as an issue impacting the
19 environmental review. FPL committed to address these concerns, performed
20 pertinent site investigations supporting their RAI responses and developed an
21 approach addressing the alternative site issues to conform to requirements by the
22 NRC and USACE. With letters on April 17, 2014 and August 26, 2014, the NRC
23 notified FPL that the Staff had received sufficient information to proceed with the

1 COLA and to provide new schedules for the safety and environmental reviews.
2 Upon evaluation of the proposed safety and environmental review schedules, and
3 the diligence of the FPL staff in closing out key areas of interest raised by the
4 NRC staff, it is my opinion that these schedules are presently on track to meet the
5 milestones. The new schedules call for a final EIS issued to the Environmental
6 Protection Agency by February 2016 and a final SER by October 2016. Both
7 dates are supportive of an estimated December 2016 - March 2017 issuance of the
8 COL. I believe that it is reasonable to expect issuance of a COL to FPL's Turkey
9 Point Units 6 and 7 by those dates.

10 **Q. Are there other NRC regulatory issues that FPL is monitoring?**

11 A. Yes. FPL continues to monitor progress on the design finalization, and especially
12 on issues that could require review and approval by the NRC prior to issuance of
13 the COL. FPL's COLA application is part of the AP 1000 Design Centered
14 Review Process, with the Levy project as the lead COL. Presently, issues with
15 Interim Staff Guidance 11 design changes to the control room and the condensate
16 return feature are being analyzed, as well as how FPL can benefit from this work
17 for the Levy COL. Another issue that is being monitored for the potential to
18 impact regulatory licensing or inspection activities within the AP 1000 Design-
19 Centered Working Group is the Instrumentation and Control (I&C) Systems
20 Design Acceptance Criteria (DAC). The I&C systems at both the Vogtle and
21 Summer reactor projects will be first-of-a-kind; it is expected that the issues
22 resolved by their DAC would be complete enough to benefit the Turkey Point
23 units. However, the complexity of the I&C systems and the lengthy regulatory

1 reviews for its acceptance deserve the consistent attention being given by the FPL
2 staff. Finally, the NRC staff is trying to make improvements to 10 CFR Part 52
3 and specifically to the clarity of AP 1000 Design Certification Document
4 information, reducing ambiguity that could impact the extent of NRC review
5 during construction. FPL staff continues to monitor these issues to increase the
6 predictability of the Turkey Point 6 & 7 COL issuance.

7 **Q. Is it feasible for FPL to receive a COL to pursue construction and operation**
8 **of Turkey Point 6 & 7?**

9 A. Yes. I am confident that FPL will receive a COL license by March 2017,
10 satisfying NRC requirements for public health and safety, the environment and
11 the common defense and security.

12 **Q. Does this conclude your direct testimony?**

13 A. Yes.

1 MS. CANO: And then I will also move
2 Exhibit 14.

3 CHAIRMAN GRAHAM: And seeing no objections,
4 we'll enter Exhibit Number 14 into the record as
5 well.

6 (Exhibit No. 14 was received in evidence.)

7 CHAIRMAN GRAHAM: That brings us to Reed.

8 MR. DONALDSON: At this time, FPL calls John
9 Reed to the stand.

10 Thereupon,

11 JOHN J. REED

12 was called as a witness, having been previously duly
13 sworn, was examined and testified as follows:

14 EXAMINATION

15 BY MR. DONALDSON:

16 Q Good evening, Mr. Reed.

17 A Good evening.

18 Q You were here when the witnesses were sworn?

19 A Yes, I was.

20 Q Would you please state your name and business
21 address.

22 A My name is John J. Reed. My business address
23 is 293 Boston Post Road West, Marlborough,
24 Massachusetts.

25 Q By whom are you employed and in what

1 **capacity?**

2 A I'm the Chairman and CEO of Concentric Energy
3 Advisors.

4 Q **Have you prepared and caused to be filed 38**
5 **pages of prefiled direct testimony in this proceeding**
6 **on March 2nd, 2015?**

7 A Yes.

8 Q **Do you have any changes or revisions to your**
9 **prefiled direct testimony?**

10 A No, I do not.

11 Q **If I were to ask you the same questions**
12 **contained your prefiled direct testimony, would your**
13 **answers be the same?**

14 A Yes, they would.

15 MR. DONALDSON: Chairman Graham, FPL asks
16 that we insert Mr. Reed's prefiled direct
17 testimony into the record as though read.

18 CHAIRMAN GRAHAM: We will enter Mr. Reed's
19 testimony into the record as though read.

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1 **BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION**
2 **FLORIDA POWER & LIGHT COMPANY**
3 **DIRECT TESTIMONY OF JOHN J. REED**
4 **DOCKET NO. 150009**
5 **March 2, 2015**

6

7 **Section I: Introduction**8 **Q. Please state your name and business address.**9 A. My name is John J. Reed. My business address is 293 Boston Post Road West,
10 Marlborough, Massachusetts 01752.11 **Q. By whom are you employed and what is your position?**12 A. I am the Chairman and Chief Executive Officer of Concentric Energy Advisors,
13 Inc. (“Concentric”).14 **Q. Please describe Concentric.**15 A. Concentric is an economic advisory and management consulting firm
16 headquartered in Marlborough, Massachusetts. Concentric provides consulting
17 services related to energy industry transactions, energy market analysis, litigation,
18 and regulatory support.19 **Q. Please describe your educational background and professional experience.**20 A. I have more than 38 years of experience in the energy industry, having served as
21 an executive in energy consulting firms, including the position of Co-Chief
22 Executive Officer of the largest publicly-traded management consulting firm in
23 the United States and as Chief Economist for the largest gas utility in the United
24 States. I have provided expert testimony on a wide variety of economic and

1 financial issues related to the energy and utility industry on numerous occasions
 2 before administrative agencies, utility commissions, courts, arbitration panels and
 3 elected bodies across North America. I also have provided testimony on behalf
 4 of FPL in its Nuclear Cost Recovery Clause (“NCRC”) proceedings for the last
 5 seven years. A summary of my educational background can be found on Exhibit
 6 JJR-1.

7 **Q. Are you sponsoring any exhibits in this case?**

8 A. Yes. I am sponsoring Exhibits JJR-1 through JJR-4, which are attached to my
 9 direct testimony.

10	Exhibit JJR-1	Résumé of John J. Reed
11	Exhibit JJR-2	Expert Testimony of John J. Reed
12	Exhibit JJR-3	PTN 6 & 7 Organization Charts

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

14 A. The purpose of my testimony is to review the benefits of nuclear power and the
 15 appropriate prudence standard to be applied to Florida Power & Light Company’s
 16 (“FPL” or the “Company”) decision-making processes in this NCRC proceeding
 17 before the Florida Public Service Commission (the “FPSC” or the “Commission”).
 18 In addition, I provide a review of the system of internal controls used by the
 19 Company in 2014 in creating the opportunity to construct two new nuclear
 20 generating units at FPL’s existing Turkey Point (“PTN”) site (the project to
 21 develop two new nuclear units is referred to herein as “PTN 6 & 7” or the
 22 “Project”). Finally, I provide an opinion on whether the PTN 6 & 7 expenditures
 23 for which FPL is seeking recovery in this proceeding have been prudently incurred.

1 **Q. Please describe your experience with nuclear power plants, and specifically**
 2 **your experience with major construction programs at these plants.**

3 A. My consulting experience with nuclear power plants spans more than 30 years. My
 4 clients have retained me for assignments relating to the construction of nuclear
 5 plants, the purchase, sale and valuation of nuclear plants, power uprates and major
 6 capital improvement projects at nuclear plants, and the decommissioning of
 7 nuclear plants. In addition to my work at FPL's plants, I have had significant
 8 experience with those activities at the following plants:

- | | | |
|----|-------------------|------------------|
| 9 | • Big Rock Point | • Oyster Creek |
| 10 | • Bruce Power | • Palisades |
| 11 | • Callaway | • Peach Bottom |
| 12 | • Darlington | • Pilgrim |
| 13 | • Duane Arnold | • Point Beach |
| 14 | • Fermi | • Prairie Island |
| 15 | • Ginna | • Salem |
| 16 | • Hope Creek | • Seabrook |
| 17 | • Indian Point | • Vermont Yankee |
| 18 | • Limerick | • Wolf Creek |
| 19 | • Millstone | • Vogtle |
| 20 | • Monticello | |
| 21 | • Nine Mile Point | |

22

23 I have been active on behalf of a number of clients in pre-construction
 24 activities for new nuclear plants across the United States and in Canada.
 25 Preconstruction activities I have supported include state and federal regulatory
 26 processes, raising debt and equity financing for new projects, and evaluating the
 27 costs, schedules and economics of new nuclear facilities. In addition, I have
 28 provided nuclear industry clients with detailed reviews of contracting strategies,
 29 cost estimation practices, and construction project management.

1 **Q. Please summarize your testimony.**

2 A. The remainder of my testimony covers five main topic areas. Section II contains
3 an introduction to the Project and a brief discussion of the benefits of nuclear
4 power to Florida. Section III describes the appropriate prudence standard that
5 should be applied in this case, and discusses precedent with respect to the
6 prudence standard in Florida. In Section IV, I discuss the internal controls,
7 processes, and procedures that were the focus of Concentric's review. In Section
8 V, I discuss Concentric's review of the PTN 6 & 7 Project. My conclusions are
9 provided in Section VI. Each of those topics is summarized below.

10 FPL's four existing nuclear reactors in Florida have provided, and continue
11 to provide, substantial benefits to Florida customers. Those benefits include
12 virtually no air emissions, increased fuel diversity, reduced exposure to fuel price
13 volatility, fuel cost savings, highly reliable base load capacity, and efficient land use.
14 Additional nuclear capacity that is being developed through the PTN 6 & 7 Project
15 would provide more of those same benefits to Florida.

16 The rule that governs the Commission's review of FPL's nuclear projects
17 calls for an annual prudence determination. The prudence standard encapsulates
18 three main elements. First, prudence relates to the reasonableness of decisions
19 and actions, not costs incurred by a utility. Second, the prudence standard includes
20 a presumption of prudence with regard to the utility's actions. Absent evidence to
21 the contrary, a utility is assumed to have acted prudently. Third, the prudence
22 standard excludes the use of hindsight. Thus, the prudence of a utility's actions
23 must be evaluated on the basis of information that was known or could have been
24 known at the time the decision was made.

1 Concentric has reviewed the processes and procedures that were used to
2 manage and implement the PTN 6 & 7 Project in 2014. That review has focused
3 on the Company's internal controls that are in place to provide assurance that the
4 Company meets its strategic, financial, and regulatory objectives related to the
5 Project. Our review is premised on a framework developed by Concentric when
6 advising potential investors in new nuclear development projects and our recent
7 regulatory experience.

8 **Q. What are your conclusions with regard to the costs at issue in this**
9 **proceeding?**

10 A. Concentric has concluded that all of the 2014 costs for which FPL is seeking
11 recovery have been prudently incurred.

12

13 **Section II: Introduction to the Project and Benefits of Nuclear Power to Florida**

14 **Q. Please generally describe PTN 6 & 7.**

15 A. The PTN 6 & 7 Project remains focused on obtaining the licenses and permits
16 that will provide FPL and its customers the option to construct two new nuclear
17 units at the existing PTN site. Specifically, through PTN 6 & 7, FPL continues to
18 create the opportunity to construct approximately 2,200 MWe of new nuclear
19 capacity. The Company's project management strategy remains focused on
20 preserving flexibility and maintaining periodic hold points and off-ramps during
21 which PTN 6 & 7's progress can be deferred for further analysis or progressed to
22 more advanced stages of development. At each major hold point a decision on
23 whether to move forward with development will be made based on the Project's
24 ability to achieve a balance of high value to customers and decreased exposure to

1 risk. Once the Project has obtained all relevant permits and its Combined License
2 (“COL”) from the Nuclear Regulatory Commission (“NRC”), the option to
3 construct will last for a period of at least 20 years.

4 **Q. Has nuclear power benefited FPL customers?**

5 A. Yes it has. Nuclear power continues to play a crucial role in FPL’s power
6 generating fleet. The four reactors at FPL’s existing St. Lucie and PTN sites have
7 been in operation for an average of over 39 years. For nearly four decades, these
8 units have provided numerous and substantial benefits to Florida customers by
9 reliably producing carbon-free energy, enhancing fuel diversity, and insulating
10 customers from commodity price spikes.

11 **Q. Is it prudent to continue the development of additional nuclear capacity in
12 Florida?**

13 A. Yes. It is prudent to continue the development of additional nuclear capacity in
14 Florida to the degree that the capacity can be developed on an economic basis over
15 its full life-cycle.

16 **Q. What are the advantages of using nuclear power as a base load energy
17 source?**

18 A. One of the greatest advantages to additional nuclear power is that it has virtually
19 no carbon dioxide, nitrogen oxide or sulfur dioxide emissions. Unlike alternative,
20 base load sources in Florida, nuclear energy does not burn fossil fuels and,
21 therefore, emits no greenhouse gases (“GHG”) or other combustion
22 byproducts. Based on Energy Information Administration (EIA) data, the four
23 nuclear units FPL operates in Florida currently avoid approximately 13 million
24 tons of CO₂ emissions per year compared to an average natural gas-fired,

1 combined cycle generating station.¹ The magnitude of avoided emissions is even
2 greater when compared to other carbon-based fuels (*e.g.*, oil, coal) assuming each
3 fuel is used to produce the same amount of energy.

4 In addition to its environmental benefits, nuclear power provides a vital
5 source of diversification to the electric generation mix. In recent years, Florida
6 has become increasingly dependent on natural gas as a fuel source for electric
7 generating facilities. According to the Florida Reliability Coordinating Council's
8 2014 Load and Resource Plan, natural gas generated approximately 59% of
9 Florida's electrical energy in 2013 – more than all other fuels combined. Over the
10 next decade, natural gas is expected to increase its share of the state's primary fuel
11 sources for electric generation. In order to mitigate the incremental dependence
12 on natural gas, utilities in the state should continue to develop alternatively-fueled
13 facilities. This will help limit the state's exposure to natural gas price spikes and
14 potential supply disruptions.

15 **Q. How does the current price of natural gas compare with recent trends in**
16 **natural gas prices?**

17 **A.** Although the price of natural gas is currently on the low end of what we have
18 observed in recent years, it is naturally subject to price changes. From 2002
19 through 2008, spot natural gas prices at Henry Hub rose from approximately \$2.50
20 to over \$14.00 per million British Thermal Units (“MMBtu”)² before falling to
21 current levels in response to new supply discoveries and advances in technologies
22 used to recover gas from shale formations. The price of natural gas at the Henry
23 Hub, a common trading location, fell to approximately \$2 per MMBtu in July 2012
24 but then increased to an average of \$4.37 per MMBtu in 2014.³ While even the

1 current wholesale price of natural gas remains below historical levels, it is
2 important to consider the long-term outlook when evaluating the benefits of
3 resource diversity over the anticipated 60-year life-span of a nuclear facility.

4 **Q. Does natural gas price volatility remain a relevant concern today?**

5 A. Yes, it does. For example, in the first three months of 2014, several regions around
6 the US experienced a “Polar Vortex,” an extreme winter weather event that was
7 marked by significant spikes in the price of natural gas and electricity as a result of
8 temporary gas supply constraints. In New England, natural gas prices in 2012
9 averaged \$3.76/MMBtu, with a high of \$9.82/MMBtu over the first three months
10 of that year. However, due to extreme weather and supply shortages, gas prices
11 averaged \$20.33/MMBtu, with spikes as high as \$77.60/MMBtu in the same
12 period in 2014.

13 Electricity markets experienced similarly substantial effects as a result of
14 the fact that New England relies on natural gas for over 45% of its generation.
15 While two years earlier New England’s electricity prices averaged \$31/MWh from
16 January through March with a peak of \$58/MWh, in 2014 prices over the period
17 averaged \$142/MWh and reached \$334/MWh in late January.

18 The difference in the wholesale price of electricity between the first three
19 months of 2012 and the same period in 2014 totaled \$3.5 billion for the New
20 England states. In addition, the increase in gas prices is estimated to have added
21 hundreds of millions of dollars, if not billions, to the bills of gas consumers. These
22 effects dramatically increased customers’ bills, and have proven to be long-lasting.

1 While I recognize that there are distinct differences between the market
2 structures that apply in Florida and New England, the difference in exposure to
3 unexpected costs is one of degree, not susceptibility.

4 **Q. What factors could affect the market for natural gas?**

5 A. There are several factors that could have a significant impact on the market for
6 natural gas, including the export of natural gas in the form of liquefied natural gas
7 (“LNG”). There are a number of LNG export facilities at various stages of
8 permitting and development in North America. These export terminals are being
9 developed to serve the considerable demand for natural gas from markets outside
10 the country. If and when the terminals enter service, the volume of gas flowing
11 through them could significantly affect the domestic market for gas both as a
12 source of home heating and for power generation and industrial use.

13 It is conceivable that incremental demand from export terminals can be
14 met by increases in the development of natural gas resources in the shale
15 formations throughout the United States. However, at this early stage we are
16 already seeing changes in the flow of gas along major interstate pipelines, which
17 could affect the regional market for natural gas. Natural gas to serve Florida
18 currently comes largely from resources in Texas and the Gulf of Mexico, but is
19 expected to come from resources in the Marcellus Shale in the near future as
20 additional infrastructure to bring gas resources to the state come online.

21 **Q. How does resource diversity benefit customers in Florida?**

22 A. Resource diversification provides numerous benefits to Florida residents by
23 mitigating exposure to any single fuel source. This concept, as explained in
24 modern portfolio theory, is based on the idea that a group of diverse assets

1 collectively lower the risks relative to holding any individual asset or type of asset.
2 Diversification of fuel sources—through added nuclear power and additional
3 renewables—insulates consumers from commodity price fluctuations and reduces
4 the risk profile of Florida’s electric generation mix.

5 Diversification through pursuit of the option to construct new base load
6 alternatives to natural gas is particularly important in the wake of decisions to
7 permanently retire nuclear facilities and to halt development of new nuclear units
8 in the Southeast region, but outside of FPL’s system.

9 **Q. Is it appropriate for the Commission to continue to allow recovery of costs,**
10 **including carrying costs, through the annual NCRC process?**

11 A. Yes. It is appropriate to allow for cost recovery through the annual NCRC process
12 given the magnitude of the potential benefits of additional nuclear capacity. The
13 NCRC is important for both the Company and its customers. It provides FPL’s
14 debt and equity investors with some measure of assurance concerning cost
15 recovery if their investments are used prudently. In addition, by permitting
16 recovery of carrying costs associated with construction, the NCRC eliminates the
17 effect of compound interest on the total project costs, which will reduce customer
18 bills when the facilities are fully implemented.

19 **Q. Are there benefits of nuclear power other than those that quantitatively**
20 **affect the price of electricity?**

21 A. Yes. One benefit of nuclear generation that is often overlooked is its relatively
22 small footprint compared to other clean, emissions-free technologies. Nuclear
23 power plants require less land, and thus limit the degree of forest clearing, wetlands

1 encroachments, and other environmental impacts associated with siting other
2 kinds of generating facilities.

3

4 **Section III: The Prudence Standard**

5 **Q. Please generally describe the prudence standard as you understand it.**

6 A. The prudence standard is captured by three key features. First, prudence relates
7 to actions and decisions. Costs themselves are neither prudent nor imprudent. It
8 is the decision or action that must be reviewed and assessed, not simply whether
9 the costs are above or below expectations. The second feature is a presumption
10 of prudence, which is often referred to as a rebuttable presumption – the burden
11 of showing that a decision is outside of the reasonable bounds falls, at least initially,
12 on the party challenging the utility’s actions. The final feature is the total exclusion
13 of hindsight. A utility’s decisions must be judged based upon what was known or
14 knowable at the time those decisions were made by the utility.

15 **Q. What test for prudence has been adopted by the Commission?**

16 A. The Commission has prohibited the use of hindsight when reviewing utility
17 management decisions and has instead chosen to strictly follow the standard I
18 described above. As it has in prior years, in 2014, the Commission reaffirmed this
19 approach (Order No. PSC-14-0617-FOF-EI):

20 “Traditionally, we regulate by examining the prudence of utilities’
21 management, financial, and operational activities prior to allowing
22 cost recovery for those actions...Speculation and hindsight review
23 are not consistent with the prudence standard recognized by this
24 Commission, and has been rejected as a basis for finding
25 imprudence.”

26

1 **Section IV: Framework of Internal Controls Review**

2 **Q. What is meant by the term “internal control” and what does it intend to**
3 **achieve?**

4 A. Internal control is a process used by organizations to provide a reasonable
5 assurance of the effectiveness of operations, the reliability of financial reporting,
6 and compliance with applicable laws and regulations. Internal controls inform
7 decision-making by tracking the organization’s performance relative to its various
8 objectives. Internal control is a process that responds to the dynamic nature of
9 organizations and projects over time. Finally, internal control can provide only
10 reasonable assurance. Expectations of absolute assurance cannot be achieved.

11 **Q. Please describe the framework Concentric used to review the Company’s**
12 **system of internal control as implemented by the PTN 6 & 7 Project in 2014.**

13 A. As in prior years, Concentric focused on six elements of the Company’s internal
14 controls:

- 15 • Defined corporate procedures;
- 16 • Written project execution plans;
- 17 • Involvement of key internal stakeholders;
- 18 • Reporting and oversight requirements;
- 19 • Corrective action mechanisms; and
- 20 • Reliance on a viable technology.

21 Each of these elements was reviewed for the following five processes:

- 22 • Project estimating and budgeting processes;
- 23 • Project schedule development and management processes;

- 1 • Contract management and administration processes;
- 2 • Internal oversight mechanisms; and
- 3 • External oversight mechanisms.

4 Concentric's work in this proceeding is additive to our work reviewing the Project
5 in prior years. In other words, Concentric's review of PTN 6 & 7's 2014 activities
6 incorporates the information and understanding of the Project gained during
7 Concentric's reviews of FPL's activities from 2008 through 2014.

8 **Q. Please describe how Concentric performed this review.**

9 A. Concentric's review was performed over the period from December 2014 to
10 February 2015. We began by reviewing the Company's policies, procedures and
11 instructions with particular emphasis placed on those policies, procedures or
12 instructions that may have been revised since the time of Concentric's previous
13 review. In addition, Concentric reviewed the current project organizational
14 structures and key project milestones that were achieved in 2014. Concentric then
15 reviewed other documents and conducted in-person interviews of more than a
16 dozen FPL personnel to make certain that PTN 6 & 7's policies, procedures, and
17 instructions were known by the Project teams, were being implemented by the
18 Project, and have resulted in prudent decisions based on the information that was
19 available at the time of each decision.

20 Concentric's interviews included representatives from each of the
21 following functional areas:

- 22 • Project Management;
- 23 • Project Controls;
- 24 • Integrated Supply Chain Management ("ISC");

- 1 • Employee Concerns Program;
- 2 • Quality Assurance/Quality Control (“QA/QC”);
- 3 • Internal Audit;
- 4 • Transmission;
- 5 • Environmental Services; and
- 6 • Licensing and Permitting.

7 **Q. Please describe why you believe it is important for FPL to have defined**
8 **corporate procedures in place throughout the development of the Project.**

9 A. Defined corporate procedures are critical to any project development process as
10 they detail the methodology with which the project will be completed and make
11 certain that business processes are consistently applied to the project. To be
12 effective, these procedures should be: (1) documented with sufficient detail to
13 allow project teams to implement the procedures; (2) clear enough to allow project
14 teams to easily comprehend the procedures; and (3) revisited and revised as the
15 project evolves and as lessons are learned. It is also important to assess whether
16 the procedures are known by the project teams and adopted into the Company’s
17 culture, including a process that allows employees to openly challenge and seek to
18 improve the existing procedures and to incorporate lessons learned from other
19 projects into the Company’s procedures. Within PTN 6 & 7, the Project Controls
20 staff is primarily responsible for ensuring the Company’s corporate procedures are
21 applied consistently by the various FPL and contractor staff members who are
22 working on the Project. However, it is acknowledged that this is a shared
23 responsibility held by all Project team members, including the project managers.

1 **Q. Please explain the importance of written project execution plans.**

2 A. Written project execution plans are necessary to prudently develop a project. These
3 plans lay out the resource needs of the project, the scope of the project, key project
4 milestones or activities and the objectives of the project. These documents are
5 critical as they provide a “roadmap” for completing the project as well as a
6 “yardstick” by which overall performance can be monitored and managed. It is
7 also important for the project sponsor to require its large-value contract vendors
8 to provide similar execution plans. Such plans allow the project sponsor to
9 accurately monitor the performance of these vendors and make certain at an early
10 stage of the project that each vendor’s approach to achieving key project
11 milestones is consistent with the project sponsor’s needs. These project plans
12 must be updated to reflect changes to the project scope and schedule as warranted
13 by project developments.

14 **Q. Why is it important that key internal stakeholders are involved in the project
15 development process?**

16 A. One of the most challenging aspects of prudently developing a large project is the
17 ability to balance the needs of all stakeholders, including various Company
18 representatives and the Company’s customers. This balance is necessary to make
19 certain that the maximum value of the project is realized. By including these
20 stakeholders in a transparent project development process and by continuing to
21 engage stakeholders throughout the execution of the project, key project sponsors
22 will be better positioned to deliver on high-value projects.

1 Q. Why is it important to have established reporting and oversight
2 requirements?

3 A. Effective internal and external communications enable an organization to meet its
4 key objectives, and allow employees to effectively discharge their responsibilities.
5 By having an established reporting structure and periodic reporting requirements,
6 the project sponsor's senior management will be well-informed of the status of the
7 project's various activities. Reporting requirements give senior management the
8 information it needs to use its background and previous experience to prudently
9 direct the many facets of the project. In addition, established reporting
10 requirements ensure that senior management is fully aware of the activities of the
11 respective project teams so management can effectively control the overall project
12 risks. In the case of PTN 6 & 7, this level of project administration by senior
13 management is prudent considering the large expenditures required to complete
14 the Project and the potential impact of the Project on the Company overall.

15 In order to be considered robust, these reporting requirements should be
16 frequent and periodic (*i.e.*, established weekly, and monthly reporting
17 requirements) and should include varying levels of detail based on the frequency
18 of the report. The need for timely and effective project reporting is well
19 recognized in the industry. A field guide for construction managers notes:

20 Cost and time control information must be timely with little delay
21 between field work and management review of performance. This
22 timely information gives the project manager a chance to evaluate
23 alternatives and take corrective action while an opportunity still
24 exists to rectify the problem areas.⁴

1 Q. What is the purpose of corrective action mechanisms and why are they
2 important to ensure the Company is prudently incurring costs?

3 A. A corrective action mechanism is a defined process whereby a learning culture is
4 implemented and nurtured throughout an organization to help eliminate concerns
5 that can interfere with the successful completion of the project. Corrective action
6 mechanisms help identify the root cause of issues, such as an activity that is
7 trending behind schedule, and provide the opportunity to adopt mechanisms that
8 mitigate and correct the negative impact from these issues. A robust corrective
9 action mechanism assigns responsibility for implementing the corrective actions
10 and a means by which these activities are managed. In addition, a corrective action
11 mechanism educates the project team in such a manner as to ensure project risks
12 are prudently managed in the future.

13 Q. Are there any other elements of the Company's internal controls included
14 in your review?

15 A. No. There were no other elements of the Company's internal controls included
16 in my review.

17

18 **Section VI: PTN 6 & 7 Project Activities in 2014**

19 Q. How is this section of your testimony organized?

20 A. This section describes Concentric's review of the five key processes (*i.e.*, project
21 schedule development and management, project estimating and budgeting,
22 contract management and administration, internal oversight mechanisms, and
23 external oversight mechanisms) as they were applied to PTN 6 & 7 in 2014.

1 **Q. As a preliminary matter, what did your review lead you to conclude with**
2 **regard to the prudence of FPL's actions in 2014 on the PTN 6 & 7 Project?**

3 A. FPL's decision to continue pursuing PTN 6 & 7 in 2014 was prudent and was
4 expected to be beneficial to customers. In addition, Concentric's review indicates
5 that FPL's management of the PTN 6 & 7 Project over the course of 2014 has
6 resulted in prudently-incurred costs. During 2014, FPL continued its methodical
7 approach to achieving its licensing goals, and to identifying the costs and benefits
8 of pursuing the option to build new nuclear capacity for its customers.

9 **Q. How was PTN 6 & 7 organized in 2014?**

10 A. The 2014 PTN 6 & 7 organizational structure is depicted in Exhibit JJR-3. The
11 project continues to be developed primarily within two separate, but collaborative
12 business units ("business units" or "functions"): Project Development and New
13 Nuclear Projects. While these business units each report through the same
14 executive management chain, their objectives are tied to each group's respective
15 capabilities. That approach allows FPL to ensure the most qualified group is
16 utilized to accomplish the Project's objectives.

17 Mr. Scroggs, the Senior Director Development, is responsible for aspects
18 of the Project not related to the NRC in 2014, while Mr. Maher, the Senior
19 Director Licensing, remains responsible for submitting and defending the PTN 6
20 & 7 Combined License Application ("COLA"). Mr. Reuwer, the Senior Director
21 Construction, will be responsible for the engineering, procurement, construction,
22 and subsequent start-up of the Project.

1 While the Project remains in its current phase of development, Mr. Reuwer
2 is responsible for determining the proper sequencing of planning activities, which
3 directly informs Project cost expectations and, thus, the annual feasibility analysis.

4 **Q. Were there any changes in executive responsibility for the PTN 6 & 7**
5 **Project in 2014?**

6 A. Not in 2014. In March 2013, the New Nuclear Projects and Project Development
7 business units were moved from the Engineering and Construction organization
8 to the Nuclear Division within FPL, which is led by the Company's Chief Nuclear
9 Officer ("CNO"). This change was made to reflect the project's current focus on
10 licensing and development of the option to construct the new units.

11 **Q. In 2014, who was responsible for the New Nuclear Projects organization?**

12 A. The CNO was supported directly by a Development Director, a Licensing
13 Director and a Construction Director, who each manage a portion of the New
14 Nuclear Projects organization. The Licensing Director was supported by multiple
15 Licensing Engineers and Document Control personnel and the Construction
16 Director was supported by a staff of engineers. As a whole, the New Nuclear
17 Projects business unit received support from other business units within FPL
18 through matrix relationships.

19 **Q. What internal FPL departments supported these business units in 2014?**

20 A. These business units received support from FPL's Juno Environmental Services,
21 Law Department, and ISC, among others.

1 **Q. Did Concentric have any observations related to the PTN 6 & 7**
2 **organizational structure in 2014?**

3 A. Yes. Concentric believes the organizational structure appropriately assigned
4 responsibility to those employees best equipped to respond to the Project needs
5 and properly reflected the Project's focus on the licensing and permitting stage
6 that the Project is currently in.

7 **Q. What major milestones were achieved by PTN 6 & 7 in 2014?**

8 A. The main focus of the New Nuclear Project in 2014 was to continue to make
9 progress with federal and state licensing reviews. To that end, PTN 6 & 7 achieved
10 several important milestones during the year.

11 The Company continues to make progress on the Land Exchange
12 Agreement for the transmission corridor. The Everglades National Park Draft
13 Environmental Impact Statement ("EIS") for the Land Exchange was published
14 in January 2014 and was followed by a sixty day public comment period.
15 Negotiations are currently taking place, with a final EIS expected in mid-2015.

16 On May 19, 2014, the State of Florida Electrical Power Plant Siting Board
17 approved the Final Order of Certification for the Project, enabling it to pursue
18 development of the eastern and western transmission lines (*i.e.*, the East Preferred
19 Corridor and West Consensus Corridor). Four parties have filed appeals to the
20 Final Order, which the Third District Court of Appeal expects to address by April
21 2016.

22 At the federal level, the NRC released an updated environmental milestone
23 review schedule in April and issued a revised overall COLA milestone review
24 schedule in August 2014. FPL completed an initial schedule review for the

1 purpose of feasibility analyses based on the NRC's COLA review schedule in
2 December 2014. This assessment of the Project schedule was completed with the
3 assistance of Chicago Bridge and Iron ("CB&I"), which has a part in managing the
4 construction of both the VC Summer new nuclear facility in South Carolina and
5 the Plant Vogtle new nuclear project in Georgia. In addition, the Project
6 continued to respond to Requests for Additional Information ("RAIs") from the
7 NRC as that agency's staff reviews the PTN 6 & 7 COLA. FPL completed all
8 environmental RAIs in March 2014 and closed out the remaining RAIs related to
9 safety in June 2014. As of year-end 2014, there were no remaining open RAIs.

10 **Q. Were there changes in 2014 that affect expectations for the timing of future**
11 **regulatory approvals?**

12 A. Yes. As I mentioned above, the Project received an updated licensing review
13 schedule in 2014, after delays related to staffing challenges at the NRC and
14 litigation of the NRC's Waste Confidence ruling (discussed below), which was
15 addressed in September of 2014.

16 **Q. Do challenges facing the NRC still affect the PTN 6 & 7 Project?**

17 A. Yes. The NRC was presented with two significant challenges in 2011 that I have
18 discussed in prior years and that continue to affect the nuclear industry. In March
19 2011, the earthquake near Japan's Fukushima Daiichi Nuclear Generating Station
20 prompted the NRC to shift considerable resources to an emergency task force
21 assigned with ensuring that both existing and proposed U.S. nuclear facilities are
22 adequately protected from similar seismic events. An earthquake that struck
23 Virginia only months later caused additional reassignment of NRC engineering
24 staff members to an assessment of that incident.

1 As a result of these emergent priorities, members of the teams assigned to
2 review licensing applications for new nuclear projects were tasked with other
3 priorities, delaying technical reviews of new nuclear licensing applications. FPL is
4 not alone in having been affected by those staffing challenges. Exelon, Tennessee
5 Valley Authority, PSEG, and other project sponsors have also received revised
6 review schedules.

7 In addition, in June 2012 the United States Court of Appeals for the
8 District of Columbia Circuit overturned the NRC's 2010 update to its Waste
9 Confidence Rule, which determined that spent fuel could be safely stored at power
10 plants for 60 years beyond their operation. As a result, the NRC temporarily
11 refrained from granting licensing permits for new nuclear plants or renewing
12 licenses of existing facilities until sufficient environmental studies could be
13 concluded and the issue of how to store radioactive waste was sufficiently resolved.
14 In August 2014, the NRC issued its Continued Storage of Spent Nuclear Fuel Rule,
15 adopting findings from a supporting generic environmental impact statement
16 ("GEIS"), which concludes that spent nuclear fuel can be safely managed in dry
17 casks during short-term, long-term, and indefinite timeframes. While this decision
18 ends the two-year licensing suspension, challenges to the new rule have been filed
19 and are awaiting an NRC decision.

20 **Q. Please describe key 2014 decisions related to PTN 6 & 7.**

21 A. On the state level, FPL made a number of key decisions regarding stipulation
22 agreements with stakeholders in the SCA process. By working closely with other
23 parties, FPL was able to reach agreements that limited the scope of the SCA
24 appeals process, preventing an even more protracted schedule.

1 As it has in years past, FPL determined in 2014 that continuing to extend
2 PTN 6 & 7's reservation agreement with Westinghouse for reactor vessel head
3 ultra-heavy forgings presented the best value to customers. Constraints with
4 regard to ultra-heavy forgings have loosened considerably in recent years, and FPL
5 has continued to maintain flexibility with regard to the agreement by regularly
6 extending the terms while the Company evaluates the risks and benefits of
7 maintaining the reservation.

8 Lastly, FPL has begun to reevaluate its execution schedule for the new
9 units based on the NRC's new review schedule and other schedule-related
10 development constraints.

11 **Q. Was PTN 6 & 7 deemed feasible by the Company during the period of your**
12 **review?**

13 A. Yes. In the second fiscal quarter of 2014, the Company performed a feasibility
14 analysis regarding PTN 6 & 7, concluding that the project continued to be cost-
15 effective in seven of 14 scenarios. In six of the remaining seven scenarios, the
16 breakeven nuclear capital cost fell above the low end of FPL's non-binding
17 estimated range of capital costs for PTN 6&7, but below the high end of the range.
18 FPL revisits its feasibility analysis on an annual basis in accordance with NRC
19 requirements.

1

2 *Project Schedule Development and Management Processes*

3 **Q. Please describe how the PTN 6 & 7 Project team produced and managed**
4 **the schedule of 2014 Project activities.**

5 A. The initial PTN 6 & 7 Project schedule, which was developed early in PTN 6 & 7
6 life cycle, continues to be refined and managed using an industry standard software
7 package developed by Primavera Systems, Inc.

8 **Q. Who is responsible for reviewing and maintaining the Project's schedule?**

9 A. The PTN 6 & 7 project schedule is currently managed by the New Nuclear
10 Projects and Project Development business unit leaders.

11 **Q. What procedures or Project Instructions existed in 2014 to govern the**
12 **development and refinement of the PTN 6 & 7 schedule?**

13 A. New Nuclear Project - Project Instruction 100 continues to govern the
14 development, refinement and configuration of the project schedule. No
15 substantive changes were made to this Project Instruction in 2014.

16 **Q. What mechanisms were in place to ensure that the PTN 6 & 7 Project team**
17 **prudently managed its schedule performance?**

18 A. The PTN 6 & 7 Project team proactively monitored and managed its schedule
19 performance on a weekly and monthly basis. In addition, the PTN 6 & 7 Project
20 team has incorporated similar reporting requirements into its contracts with key
21 vendors, such as Bechtel, requiring them to submit monthly progress reports
22 detailing their progress to date including any projected delays.

1 **Q. Did FPL revise the overall PTN 6 & 7 Project execution schedule in 2014?**

2 A. Yes, it did. State policy and federal review schedules continue to evolve, which
3 has caused the Company to revise its schedule expectations for the Project.

4 As I discussed above, after FPL received an updated COLA review
5 schedule from the NRC, the Company conducted a detailed assessment of the
6 development sequence that would be needed to complete the Project. As a result
7 of this analysis, FPL has revised the commercial operation dates for the two new
8 units to 2027 and 2028.

9 **Q. What developments have contributed to this schedule revision?**

10 A. First, as a result of the resource constraints and scheduling delays that have
11 materialized throughout the NRC's COLA review process, the date by which FPL
12 currently expects to receive its COL is now March 2017, approximately two and a
13 half years later than initially expected.

14 In addition, revisions to Florida's NCRC limit the recovery of costs related
15 to preconstruction and construction work before the NRC grants a COL to the
16 Company. This limits FPL from undertaking certain stages of project
17 development in parallel. Under conservative schedule assumptions, this has the
18 effect of extending the overall Project timeline by an additional two and a half
19 years for a total of five years of delays outside of the Company's control.

20 **Q. Did Concentric have any observations related to risks the Project faces as a
21 result of these NRC and policy-based delays?**

22 A. Yes. The new timeline results in economic, financial, labor, weather, and nuclear
23 industry uncertainties related to the Project. Extending the commercial operation

1 date of the new PTN units to 2027 and 2028 leaves the Project exposed to these
2 various types of uncertainty for a longer period of time.

3 **Q. Can you further describe the risks that you have listed above that could**
4 **result from these NRC and policy-based delays?**

5 A. Yes. Economic risks are associated with the influence of macroeconomic factors,
6 such as load growth, inflation, and other events on the Project. Financial risks
7 include interest rate risk, capital availability risk, and stock market risk. Labor risks
8 pertain to the impact of changing workforce costs and skilled labor availability.
9 Weather risks refer to the potential for adverse weather conditions to cause
10 construction delays. Finally, nuclear risks, such as safety incidents at other nuclear
11 sites, licensing revisions, and mandated design changes could cause the NRC to
12 suspend licensing activities or create further regulatory requirements for nuclear
13 plants. Extending the development time of PTN 6 & 7 increases the odds of
14 these risks materializing, any one of which has cost and schedule implications.

15 **Q. Did Concentric have any observations related to how the PTN 6 & 7 Project**
16 **team managed and reported its schedule performance in 2014?**

17 A. Yes. Concentric believes the PTN 6 & 7 Project team has taken appropriate steps
18 to prudently manage and report on its schedule performance, which include
19 keeping executive management informed on the Project's progress against its
20 schedule plans and aware of the issues that have affected the Company's ability to
21 complete the Project on its original schedule.

22

1 Project Estimating and Budgeting Processes

2 **Q. Please describe how the project budgets were developed for PTN 6 & 7 in**
3 **2014.**

4 A. As in prior years, the PTN 6 & 7 budgets were developed based on feedback from
5 each department that supports the Project. Those budgets included a bottom-up
6 analysis that assessed the resource needs of each department during the year. A
7 15% contingency adjustment was applied to each request for undefined scope or
8 project uncertainties that could not be predicted at the beginning of the year.

9 **Q. Was the process used by PTN 6 & 7 to develop its budgets consistent with**
10 **the Company's policies and procedures?**

11 A. Yes, the process utilized by PTN 6 & 7 to develop its 2014 budgets was consistent
12 with FPL's corporate procedures, which outline the process to be used by each
13 business unit when developing annual budgets.

14 No changes were made to the procedures that govern the development of
15 project budgets during 2014.

16 **Q. What mechanisms did the PTN 6 & 7 Project team use to monitor budget**
17 **performance in 2014?**

18 A. The PTN 6 & 7 Project team used numerous reports to manage budget
19 performance. Those reports are more fully described by FPL Witness Scroggs in
20 Exhibit SDS-5. Throughout the year, on a monthly basis, the PTN 6 & 7 Project
21 Management team received reports detailing budget variances by department, with
22 explanations of the variances. Those reports included a description of all costs
23 expended in the current month and quarter as well as year-to-date and total
24 cumulative spending. In addition, the PTN 6 & 7 Project team published quarterly

1 “Due Diligence” reports for the Company’s senior executives. Further, project
2 management presented a status update to FPL’s senior management on a periodic
3 basis. Those presentations included a description and explanation of any budget
4 variances or significant challenges.

5 **Q. What are your observations regarding the Company’s Quarterly Risk**
6 **Assessments?**

7 A. The Quarterly Risk Assessments, which contain an assessment of key issues in six
8 areas (*i.e.*, COLA, Army Corps of Engineers Section 404b and Section 10 Permits,
9 State Site Certification, Underground Injection Control Permit, Miami Dade
10 County Zoning and Land Use, and Development Agreements), along with FPL’s
11 mitigation strategy, continue to be important tools to assist the Company in
12 analyzing, monitoring, and mitigating risks. The Quarterly Risk Assessments also
13 provide the Company with another method of tracking trends in key issues facing
14 the project, as well as the potential impacts to implementation, cost, and schedule.

15 The Quarterly Risk Assessments are one of the methods by which FPL’s
16 senior leadership is apprised of the PTN 6 & 7 Project’s status. The assessments
17 are, therefore, important to clearly communicate all risks and the full suite of
18 mitigation strategies being considered for the project.

19 **Q. Are those reporting mechanisms consistent with the PTN 6 & 7 Project**
20 **Execution Plan?**

21 A. Yes. Reporting mechanisms in place throughout 2014 were consistent with the
22 PTN 6 & 7 Project Execution Plan.

1 **Q. Within the PTN 6 & 7 Project team, who was responsible for tracking and**
2 **reporting project expenditures?**

3 A. Responsibility for tracking and reporting project expenditures was held by the
4 PTN 6 & 7 Project Controls Senior Financial Analyst. The Senior Financial
5 Analyst reviewed and approved significant vendor invoices and tracked the
6 Project's expenditures relative to its annual budget. The processes in place for
7 approving invoices and tracking project expenditures are contained in formal
8 procedures used by the PTN 6 & 7 Project team. These procedures are reviewed
9 regularly, and are updated as changes become necessary.

10 **Q. Did Concentric have observations related to the PTN 6 & 7 budget**
11 **processes?**

12 A. Concentric found that in 2014 the PTN 6 & 7 Project team acted prudently when
13 developing its annual budget and in tracking its performance relative to the annual
14 budget. As in years past, the PTN 6 & 7 Project team developed a series of reports
15 that track budget performance on a cumulative and periodic basis, along with a
16 process for describing variances in actual expenditures relative to the budget. The
17 PTN 6 & 7 budget processes continue to include a variety of mechanisms that
18 ensure that the Project's management and the Company's senior management are
19 well informed of the Project's performance.

20 **Q. Has FPL developed a cost estimate that is sufficiently detailed for the**
21 **current phase of the project?**

22 A. Yes, it has. FPL's cost estimates are currently indicative in nature, and will need
23 to be much more definitive before FPL commits to the construction phase of the

1 Project. The Company plans to obtain a more definitive cost estimate as the
2 Project progresses beyond the licensing phase.

3 **Q. Did FPL review its overnight cost estimate for the PTN 6 & 7 Project in**
4 **2014?**

5 A. Yes. After conducting a review of cost trends among other AP1000 projects, FPL
6 determined that no change in its cost estimate was warranted in 2014. Concentric
7 understands that the Company plans to continue monitoring cost trends among
8 the other utilities pursuing new nuclear units, and FPL will work with them and its
9 contractors to update cost estimates in the future, as appropriate.

10 **Q. Did FPL review its total project cost estimate for the PTN 6 & 7 Project in**
11 **2014?**

12 A. FPL began to reevaluate its non-binding estimate of total costs for the PTN 6 &
13 7 Project in 2014, but it has not yet completed this work. It would be reasonable
14 to expect that the significant expansion of the Project's development timeline will
15 result in an increase in the total Project cost estimate due to additional escalation
16 and financing costs that will accrue during a longer development period. FPL
17 plans to complete this assessment of its non-binding cost estimate as part of its
18 2015 feasibility analysis.

19

20 *Contract Management and Administration Processes*

21 **Q. Did PTN 6 & 7 require the use of outside vendors in 2014?**

22 A. Yes. In order to avoid the need to recruit, train and retain the significant number
23 of employees required to obtain a COL and Site Certification, to complete other
24 project activities, and to respond to interrogatories from federal, state, and local

1 agencies, FPL continued to use a number of outside vendors in 2014. Those
2 vendors were utilized to provide ongoing post-submittal support, among other
3 tasks. As has been the case in years past, FPL's use of outside vendors and
4 contractors is consistent with standard practices in the new nuclear industry.

5 **Q. How did the PTN 6 & 7 Project team make certain that it was prudently
6 managing and administering its procurement processes?**

7 A. FPL has a number of corporate procedures related to the procurement function.
8 In addition, ISC, which has overall responsibility for managing FPL's commercial
9 interactions with vendors, produced a desktop Procurement Process Manual that
10 provides more detailed instructions for implementing the corporate procedures
11 while also containing nuclear-specific procurement procedures. The corporate
12 procedures, along with the Procurement Process Manual, are sufficiently detailed
13 to ensure that ISC prudently manages the procurement activities that must take
14 place to support an endeavor such as PTN 6 & 7. Additionally, those procedures
15 clearly state a preference for competitive bidding except in instances where no
16 other supplier can be identified, in cases of emergencies, or when a compelling
17 business reason not to seek competitive bids exists.

18 **Q. Were any procedures used by the ISC team revised in 2014?**

19 A. In 2014 no changes were made to procedures governing contractor oversight and
20 management.

21 **Q. Did Concentric review examples of how these processes were implemented
22 throughout 2014?**

23 A. Yes. Concentric reviewed information related to new contracts, purchase orders
24 and change orders issued for the Project that involved at least \$50,000 of

1 contracting or expenditure. PTN 6 & 7 entered into only three such contracts in
2 2014. Of these, two were competitively sourced and one was single-sourced.

3 **Q. What processes were in place to ensure that PTN 6 & 7 received the full**
4 **value for the goods and services that were procured in 2014 and that**
5 **appropriate charges were invoiced to the project?**

6 A. In order to ensure that the Company and its customers received the full value of
7 the goods and services that were procured, the PTN 6 & 7 project directors and
8 their staffs were responsible for reviewing each invoice received from the major
9 PTN 6 & 7 vendors. To perform that review, the Project Control Senior Financial
10 Analyst received the invoices from each of the Project's vendors. Upon receipt,
11 an Invoice Review/Verification Form that detailed which technical or functional
12 representative was responsible for reviewing each section of the invoice was
13 attached to the invoice. That form and the respective invoice were then sent to
14 each reviewer to verify that the appropriate charges were included in the invoice
15 and that the work product met PTN 6 & 7's needs and contractual provisions prior
16 to payment. When discrepancies were identified, FPL sought a credit on a future
17 invoice or deducted the amount from the current invoice depending on
18 discussions with the vendor. Similar processes are utilized by the FPL departments
19 that support PTN 6 & 7.

20 **Q. Does Concentric have any observations related to FPL's management of the**
21 **contract management and administration processes?**

22 A. Yes. Concentric found that FPL managed the contract management and
23 administration process according to its corporate procedures and guidelines in
24 2014, and that these costs were prudently incurred.

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Internal Oversight Mechanisms

Q. What internal reporting mechanisms were used to inform the Company's senior management of PTN 6 & 7's status and key decisions?

A. The PTN 6 & 7 Project team continued to use a number of periodic reports in 2014 to inform the project management team and the Company's executive management of progress with PTN 6 & 7. Those reports are described in greater detail in the direct testimony of FPL Witness Scroggs and are used to make certain that the costs PTN 6 & 7 is incurring are the result of prudent decision-making processes.

Additionally, there were two active internal oversight and review mechanisms for PTN 6 & 7: the FPL Internal Audit Department and the FPL QA/QC department.

Q. Please describe the FPL Internal Audit Department and its function.

A. FPL's Internal Audit Department performs regular audits of PTN 6 & 7, not only focusing on the eligibility of the costs being recorded to the NCRC for recovery from customers, but also considering internal controls as part of its review process. Each year, the FPL Internal Audit Department performs an audit of PTN 6 & 7 to test whether charges billed to the project are appropriate and that those charges are being accounted for correctly.

Costs incurred by the New Nuclear Project in 2014 are currently being reviewed by the Company's Internal Audit Department. As of January 2015, a final report was expected to be issued by Internal Audit in April 2015.

1 **Q. Did the Internal Audit Group have any adverse findings related to PTN 6**
2 **& 7 in 2014?**

3 A. No, it did not.

4 **Q. Please describe the FPL QA/QC function and its purpose.**

5 A. The FPL QA/QC function is responsible for implementing the Company's QA
6 Program, which was mandated by the NRC in 10 CFR 50, Appendix B. Federal
7 regulations define a variety of criteria that guide QA programs for nuclear
8 programs. It was the responsibility of the QA/QC employees to ensure that FPL's
9 QA program met those criteria, and that the PTN 6 & 7 Project was being
10 implemented appropriately by the Project team and its vendors.

11 In 2014 the QA/QC function remained independent and separate from
12 the PTN 6&7 Project and reported to the Company's CNO through the Director
13 of Nuclear Assurance.

14 **Q. What QA activities related to the PTN 6 & 7 Project took place in 2014?**

15 A. The QA/QC function was responsible for reviewing certain activities by the
16 Project's vendors, both at the Project site as well as at vendor facilities. Activities
17 conducted by the QA/QC function on behalf of the Project included in-person
18 reviews of vendors' methodologies, qualifications, and QA programs.

19 **Q. Were any QA/QC issues found in 2014?**

20 A. The QA/QC surveillance audits produced only minor findings in its reviews.
21 These concerns were addressed to the satisfaction of the QA/QC team
22 immediately. In addition, one warranty claim was identified in 2014 with Rizzo
23 Associates for rework associated with RAI responses regarding geotechnical work.
24 This claim was resolved in October 2014.

1 **Q. Does the Company maintain other internal oversight and review**
2 **mechanisms for PTN 6 & 7?**

3 A. Yes. The Company maintains other internal oversight mechanisms that are
4 available to help ensure that PTN 6 & 7 is prudently incurring costs. The first of
5 those mechanisms is the FPL Corporate Risk Committee. This committee consists
6 of FPL director-level and other senior employees, and is charged with ensuring
7 that the project appropriately considers risks when making key project decisions.
8 That committee is available to the project when necessary as an additional
9 oversight tool.

10 **Q. Did Concentric have any observations related to PTN 6 & 7's internal**
11 **oversight mechanisms?**

12 A. Yes. Concentric has found that FPL's internal oversight mechanisms were
13 prudently and appropriately applied in 2014.

14

15 *External Oversight Mechanisms*

16 **Q. What external review mechanisms were used by the PTN 6 & 7 Project team**
17 **in 2014 to ensure the Company is prudently incurring costs?**

18 A. PTN 6 & 7 and FPL have been subject to several external reviews. These reviews
19 are utilized to make certain that industry best practices are incorporated into PTN
20 6 & 7 and to improve overall project and senior management performance. These
21 reviews include Concentric's review of the Company's activities and project
22 controls and the FPSC Staff's financial and internal controls audits.

1 **Q. Are there other external information sources relied upon by the PTN 6 & 7**
2 **Project team?**

3 A. Yes. In 2014, FPL maintained membership in several industry groups that relate
4 to the development of new nuclear projects. Those groups include APOG (the
5 AP1000 owners group), the Electric Power Research Institute, and Nuclear Energy
6 Institute, among others. Each of those groups provides the PTN 6 & 7 Project
7 team with access to a breadth and depth of information that can be used to
8 enhance the PTN 6 & 7 Project team's effectiveness.

9 **Q. Did Concentric have any observations related to the external oversight**
10 **mechanisms utilized by FPL in 2014?**

11 A. Based on Concentric's review to date, Concentric believes the PTN 6 & 7 Project
12 team is proactively seeking to incorporate best practices into the management of
13 PTN 6 & 7. That is being achieved by retaining outside experts to review and
14 comment on certain aspects of the project and by soliciting external information
15 sources that can provide useful guidance to the Project team.

16

17 **Section VII: Conclusions**

18 **Q. Please summarize your conclusions.**

19 A. It is my conclusion that FPL's decision making and management actions as they
20 related to 2014 costs for which FPL is seeking recovery were prudent, and it is
21 thus my opinion that FPL's 2014 expenditures on PTN 6 & 7 were prudently
22 incurred. FPL continued its methodical approach to achieving its licensing goals,
23 which will allow it to continue to create the option to build new nuclear capacity
24 for the benefit of its customers.

1 For nearly four decades nuclear power has provided substantial benefits to
2 utility customers in Florida. Those benefits include electric generation with no
3 GHG emissions, fuel cost savings, fuel diversity, reduced exposure to fuel price
4 volatility and efficient land use. As a result, it is prudent for FPL to develop
5 additional nuclear capacity for its customers. FPL continues to develop PTN 6 &
6 7 through capable project managers and directors that are guided by detailed
7 company procedures and appropriate management oversight.

8 **Q. Does this conclude your testimony?**

9 **A.** Yes, it does.

1 BY MR. DONALDSON:

2 Q Mr. Reed, are you also sponsoring Exhibits
3 JJR-1 one through JJR-3 to your direct testimony?

4 A Yes.

5 Q Do you have any changes to those exhibits?

6 A No, I do not.

7 Q Mr. Chairman, just for the record, those are
8 listed on Staff's Comprehensive Exhibit List as 15, 16
9 and 17.

10 CHAIRMAN GRAHAM: Duly noted.

11 BY MR. DONALDSON:

12 Q Please provide your summary to the
13 Commission, sir.

14 A Certainly. Good evening. The purpose of my
15 testimony is to review the benefits of nuclear power
16 and the appropriate prudence standard to be applied to
17 FPL's decision-making processes. I provide a review of
18 the system of internal controls used by the company in
19 2014 in developing and maintaining the opportunity to
20 construct two new nuclear units known as Turkey Point 6
21 and 7. Finally, I provide an opinion on whether the
22 2014 Turkey Point 6 and 7 expenditures were prudently
23 incurred.

24 With regard to the benefits of FPL's nuclear
25 fleet, I discuss the fact that nuclear power continues

1 to provide significant benefits to FPL's customers by
2 providing fuel diversity, low operating costs, and
3 emissions-free energy.

4 My testimony then progresses to prudent
5 standard, which is captured by three key futures.
6 First, prudence relates to actions and decisions.
7 Costs themselves are not prudent or imprudent.

8 Second, the standard incorporates a
9 presumption of prudence. And third, the standard
10 requires exclusion of hindsight. The utility's
11 decisions must be judged based upon what was known or
12 noble at the time the decision was made.

13 In order to develop my opinions, my staff and
14 I conducted document reviews and interviewed FPL staff
15 members between December 2014 and January 2015.
16 Concentric reviewed both the same assessments that we
17 had conducted annually since 2008.

18 My review indicates that FPL's policies and
19 procedures are thorough, well-documented and have been
20 adopted comprehensively by the relevant project teams
21 and incorporated into the company's culture.

22 My testimony next addresses how these
23 internal controls were implemented by Turkey Point 6
24 and 7 in its development activities. Throughout 2014,
25 the project successfully applied these processes to the

1 state level activities involved in the site
2 certification and the transmission of land exchange.

3 At the federal level, FPL continued to work
4 with the Nuclear Regulatory Commission to advance the
5 development of an updated licensing review schedule,
6 which was released in August of 2014. FPL now expects
7 to receive its COL by March of 2017 and has
8 appropriately applied its processes to revise the
9 commercial operation dates for Turkey Point 6 and 7 to
10 be 2027 and 2028.

11 The conclusions I present in my testimony
12 include: First, FPL's project management practices and
13 procedures for Turkey Point 6 and 7 are reasonable and
14 meet or exceed industry norms. Second, the appropriate
15 oversight of the project has included internal and
16 external project reviews to strengthen compliance with
17 the company's policies. And third, all of the 2014
18 Turkey Point 6 and 7 costs for which FPL is seeking
19 recovery in this case were prudently incurred.

20 That concludes my summary. Thank you.

21 MR. DONALDSON: FPL tenders the witness for
22 cross examination.

23 CHAIRMAN GRAHAM: Thank you. Welcome,
24 Mr. Reed.

25 THE WITNESS: Thank you.

1 CHAIRMAN GRAHAM: OPC.

2 MR. SAYLER: Good evening, Mr. Chairman.

3 Erik Saylor with OPC. I do have some exhibits for
4 use, I would like for someone to pass them out for
5 me. They are three different exhibits.

6 CHAIRMAN GRAHAM: They are heading your way.

7 MR. SAYLER: Yes, one of the exhibits is 73,
8 had been previously identified as Exhibit 73.

9 CHAIRMAN GRAHAM: Okay.

10 MR. SAYLER: So it doesn't need to be marked.
11 I wasn't sure how many exhibits would be passed
12 out between Ms. Christensen and I, so I figured it
13 would be easier to provide it to everyone again a
14 second time.

15 CHAIRMAN GRAHAM: That's fine.

16 MR. SAYLER: The other two exhibits are
17 excerpts from Southern Alliance versus Graham, a
18 Florida Supreme Court case. It's at your pleasure
19 if you want to mark it for identification. I
20 don't plan to move it into the record because it
21 is a Florida Supreme Court case.

22 And the same thing with the next case, which
23 is a Final Order PSC-14-0617. If you would like
24 to have it identified for the record or
25 convenience of people referring to it, but again

1 similar to the final order of this case, we don't
2 necessarily need to move it into the record.

3 CHAIRMAN GRAHAM: Let's go ahead and put a
4 number on it. So we'll do the Supreme Court Order
5 as 76 and we'll do the Final Order as 77.

6 (Exhibit Nos. 76 and 77 were marked for
7 identification.)

8 MR. SAYLER: All right, thank you.

9 CHAIRMAN GRAHAM: And the other one was
10 already identified as --

11 MR. SAYLER: Exhibit Number 73.

12 CHAIRMAN GRAHAM: Seventy-three. It's all
13 yours, Mr. Sayler.

14 MR. SAYLER: All right. Thank you,
15 Mr. Chairman.

16 MR. DONALDSON: Can you wait a second, I
17 haven't received it.

18 CHAIRMAN GRAHAM: I'm sorry, I didn't realize
19 it hadn't made it your way.

20 What happened to your extra helper, Staff?

21 MS. BARRERA: I have no idea.

22 MS. HELTON: She may have gone home. I know
23 she has a son that just started school this week.

24 MR. SAYLER: All right. Mr. Chairman, if
25 you're ready.

1 CHAIRMAN GRAHAM: Sure. Thank you, Lisa.

2 EXAMINATION

3 BY MR. SAYLER:

4 Q Good evening, Mr. Reed.

5 A Good evening.

6 Q My name is Erik Sayler, with the Florida
7 Office of Public Counsel. How are you doing today?

8 A I'm doing well. Thank you.

9 Q All right. You have been providing testimony
10 in this docket for a number of years; is that correct?

11 A Yes.

12 Q And generally it relates to the review of
13 FPL's plans for constructing this nuclear power plant
14 at Turkey Point 6 and 7?

15 A It has included that. Many of my prior
16 appearances also dealt with the uprate project.

17 Q All right. Thank you.

18 Just a series of just kind of high-level
19 background questions as it relates to construction of
20 mega projects.

21 You would agree that in any mega construction
22 project like Turkey Point 6 and 7, before it's being
23 built, it would be important for the project to be
24 economically beneficial to the company as well as to --
25 or in the case of utility projects, economically

1 beneficial to the customers?

2 A Yes.

3 Q And to determine that a project is
4 economically beneficial to the company or its
5 customers, a robust economic feasibility analysis of
6 some sort is usually performed, correct?

7 A That is correct.

8 Q And when conducting a robust economic
9 feasibility analysis, a company should use the best,
10 most current up-to-date information available; is that
11 right?

12 A Yes, it should.

13 Q For instance, if natural gas prices were a
14 data input, you would want to use a 2015 forecast for
15 natural gas as opposed to a 2010 forecast for natural
16 gas?

17 A Yes. Presumably the 2015 forecast is more
18 up-to-date and more consistent with current
19 expectations.

20 Q And you would agree that the overall total
21 project cost is a key input to the economic viability
22 analysis?

23 A It is, yes.

24 Q And because large amounts of money will be
25 incurred by FPL, once it moves from the COL phase to

1 the pre-construction phase, you would agree that FPL
2 should use realistic total project cost estimates in
3 its feasibility analysis?

4 A Yes, I agree with that.

5 Q And you would agree that in light of the
6 statutory changes to the Nuclear Cost Recovery Statute
7 that the Turkey Point 6 and 7 project must be shown to
8 be feasible before the project enters the
9 pre-construction phase?

10 A I agree, yes.

11 Q All right. Would you take a look at your
12 Concentric Energy Advisor's Update to AP1000?

13 A This is Exhibit 73?

14 Q Yes, sir.

15 A I have that.

16 Q And your company developed this report which
17 FPL submitted for use in this docket?

18 A That's correct.

19 Q All right. For the purposes of the
20 transcript, I'll refer to it as the AP -- or the
21 Concentric AP1000 Cost Update Report or the Concentric
22 Report. And you're generally familiar with this
23 report, correct?

24 A I am, yes.

25 Q All right. The Concentric AP1000 Cost Update

1 Report relied upon information that the Georgia Public
2 Service Commission's construction monitor provided; is
3 that correct?

4 A I think it mentioned it. It relied on a
5 series of information from the Georgia cases, but we
6 did mention, as I recall, the consultants monitoring
7 the construction project as well.

8 Q And that would be on Page 2, the third
9 paragraph down, second paragraph under project Vogtle;
10 is that correct?

11 A That is correct.

12 Q All right. And the consultants monitoring
13 this project for the Georgia Public Service Commission
14 indicated that there are schedule delays and ongoing
15 litigation between the Vogtle project owner and the
16 contractors which could materially affect the Vogtle's
17 overnight costs; is that correct?

18 A Are you reading from some portion of that
19 report or did I misunderstand what you were doing?

20 Q Basically I was reading that however
21 paragraph and just getting to the essence of it. Would
22 you agree that schedule delays and ongoing litigation
23 will affect the overnight cost for the project Vogtle?

24 A They could affect the overnight cost. I
25 don't think that statement is made there. They are

1 going to affect the actual cost.

2 Q Okay. Excuse me. So that schedule delays
3 and litigation will affect the actual cost?

4 A Yes.

5 Q Okay. And you would agree that while
6 schedule delays and potential litigation costs can
7 impact the total cost for the Vogtle project, you would
8 agree that this Concentric AP1000 Update Report did not
9 incorporate those potential costs in the analysis?

10 A No. What I would say is we incorporated all
11 of the information that was available as of the date of
12 the report, which is December of 2014. At that time,
13 the proceedings in Georgia indicated that the
14 consultants retained by the Commission expected that
15 costs would be higher, but that information was not yet
16 public. So as of the date of the report, I believe we
17 reflected all of the schedule information and cost
18 information that was public.

19 Q And according to your report in that however
20 paragraph, it discusses a schedule slippage; is that
21 right?

22 A It does, yes.

23 Q Okay. And then the last sentence of that
24 same paragraph says, "While developing issues can
25 materially affect the overnight cost, impact and delays

1 of ongoing litigation has not been reflected in Georgia
2 Power's reported figures"; is that correct?

3 A That's correct. It has not been reported and
4 therefore it was not incorporated into the data at that
5 time.

6 Q All right. And so these recent challenges,
7 as your report states, were not incorporated into the
8 analysis, correct?

9 A Right. They were unknown as of the end of
10 2014.

11 Q All right. Would you agree that your report
12 does not contain the full amount of the owner's costs
13 and contractor's costs for project Vogtle?

14 A It contains all of the information for the
15 owner's cost known as of that date. The contractor's
16 cost, whether they are higher or lower than the owner's
17 cost, is not public information.

18 Q All right. But you would agree that the
19 owner's cost plus the contractor's cost would be
20 additive and be reflected in the final cost of project
21 Vogtle?

22 A No, I don't agree with that. As I understand
23 your question, we may need to define contractor's cost.
24 The owner's cost are what the owners pay to the
25 contractors and for interest associated with

1 constructing the project. The contractor's costs are
2 their own internal costs, which would include cost of
3 subcontractors, cost of their own staff, and profit and
4 overhead.

5 **Q Okay. And to the extent that the**
6 **contractor's costs exceeded the amount that the owner's**
7 **costs are obligated for, that delta above and beyond**
8 **that contracted amount, someone is going to have to pay**
9 **for that, and would that be additive to the owner's**
10 **cost?**

11 **A** As I understood your question, if the
12 contractor lost money on the project, meaning its costs
13 were higher than the revenues it received from the
14 owner, would that cost be additive to the owner's cost
15 to determine the total project cost? The answer to
16 that is no. The total project cost is the owner's cost
17 and that is the cost to the owner.

18 What may be either the profit or loss of the
19 contractor is not something that one would factor into
20 the project cost. The project is defined by what
21 Georgia Power and its co-owners are paying for the
22 plant as they receive it.

23 **Q All right. Let me see if I understand it.**
24 **The total project cost for project Vogtle would be the**
25 **amount that the owners pay for, not the actual cost to**

1 **build the plant?**

2 Hypothetically speaking, say the owner's
3 cost, they are on the hook for \$10 billion, it costs
4 Chicago Bridge & Iron \$12 billion, so there's a
5 \$2 billion delta, what is the total cost of the
6 project? Is it 10 billion or the 12 billion that was
7 actually incurred by the contractor?

8 A No, it's 10 billion from the perspective of
9 Georgia Power and its co-owners. It's 12 billion from
10 the perspective of CB&I.

11 But when one examines and benchmarks one
12 plant against the other, whether the contractor is
13 earning a profit or deriving a loss is not something
14 that you build into the benchmark cost for that plant.

15 An example would be, again, with a combined
16 cycle plant, if the contractor you hire, let's say
17 Bechtel or anybody else, that builds a gas-fired
18 combined cycle plant derives a profit from it, that
19 doesn't mean you would deduct that profit from the cost
20 of the plant to determine -- in your words, the cost of
21 the plant -- anymore than you would add a loss to
22 determine the cost of the plant.

23 **Q All right. Thank you for that explanation.**

24 But you would also agree that if it costs
25 Chicago Bridge & Iron \$12 billion to build the plant,

1 then that \$12 billion cost would be reflected in the
2 cost that CBI would charge FP&L to build the plant?

3 A No, I totally disagree. And that's the
4 subject, actually, of my rebuttal testimony. But I
5 totally disagree that a loss on a prior project is
6 something that CB&I would either seek to charge FPL or
7 be able to charge FPL.

8 Q So is your testimony that the real actual
9 cost to build a nuclear power plant, an AP1000 project,
10 would not be reflected in the cost that that contractor
11 would charge FP&L?

12 A No. The contractor would charge FPL, or seek
13 to charge FPL, an amount for building Turkey Point 6
14 and 7 based upon everything that's different in that
15 project and based upon everything that was learned by
16 the contractor and by the industry in prior projects.
17 So whether there was a loss or a gain, all of that
18 would be factored into the bid that CB&I would submit
19 in terms of pricing its project to FPL for Turkey Point
20 6 and 7.

21 But the short answer is there is no recapture
22 or recovery of a prior loss. And I would expect, as
23 I've said in my rebuttal, all of the lessons learned
24 from the prior four units would in fact be reflected in
25 the quote that CB&I makes for Turkey Point.

1 **Q All right. Mr. Reed, that was a little bit**
2 **longer of an answer than I was expecting.**

3 Would you turn to Page 3 -- or excuse me.
4 With regard to the Summer project, would you agree that
5 the cost data in the Concentric Report doesn't include
6 the most current cost data associated with that
7 project?

8 A It includes all of the data -- current cost
9 data as of December of 2014.

10 **Q And on Page 1, it states the total cost**
11 **estimate has not changed in the last two years?**

12 A Right. What it says specifically is that the
13 owners/sponsors of the project have not changed the
14 forecast in that two-year period.

15 **Q So there are two years of potential costs**
16 **that either could be the same or increased that have**
17 **not been accounted for in your analysis, correct?**

18 A The owners/sponsors of Summer submit annual
19 cost updates.

20 **Q How about yes or no and then feel free to**
21 **elaborate?**

22 A Certainly. Why don't you restate the
23 question.

24 **Q Certainly. So if their total cost estimate**
25 **has not been updated in the last two years, there's the**

1 **potential that increased costs have occurred and those**
2 **costs are not reflected in your report; is that**
3 **correct?**

4 A No, that's not correct. Let's refer to the
5 sentence on Page 1. What it says is, "Total costs
6 described in an update SCANA filed with regulators in
7 September of 2014 indicate that the total cost estimate
8 has not changed in the last two years."

9 So there has been an update submitted. And
10 what it said is that the estimate that we had two years
11 ago is still our current estimate. So I would not
12 accept that there are increases that are not reflected
13 in that.

14 Q All right. Turn to Page 3 of your report.

15 A I have that.

16 Q All right. In that paragraph, the second
17 sentence says, "Duke will, however, continue its
18 efforts to obtain a construction and operating license
19 per a settlement agreement with the Staff of the
20 Florida Public Service Commission."

21 Do you see that?

22 A I do.

23 Q Were you aware that the settlement agreement
24 was between the Office of Public Counsel and FIPUG, FRF
25 and other intervenors and not Staff?

1 A I think I should stand corrected on that, I
2 think you're right.

3 Q **All right. Would you agree that the cost of**
4 **project Vogtle and the Summer project reported by the**
5 **owners is not the total cost being expended on those**
6 **projects?**

7 A I would agree that the cost being spent by
8 the owners, the sponsors, is not the same as the cost
9 being incurred by CB&I and its subcontractors.

10 Q **All right.**

11 A The two could be higher. One could be higher
12 or lower than the other.

13 Q **All right. And you would agree that it would**
14 **be important to incorporated the experiences of Vogtle**
15 **and Summer, including the total project costs,**
16 **including those incurred by the contractor but not**
17 **charged to the owners, in checking the reasonableness**
18 **of FPL's cost estimates for the project?**

19 A I agree that total project costs, as I have
20 defined the term, which are the costs incurred by the
21 owners/sponsors of the project, should be considered.
22 I don't think the losses or profits derived by the
23 contractors enter into the equation.

24 Q **And you would agree that the true cost or the**
25 **total project cost for Vogtle and Summer will be best**

1 reflected in the firm bids that FPL receives from the
2 contractors who will be performing the engineering,
3 procurement and construction for Turkey Point 6 and 7?

4 A No. I believe what will be reflected in the
5 bids that FPL receives for Turkey Point 6 and 7 are
6 costs to build 6 and 7, not the cost for Vogtle or
7 Summer.

8 Q So the costs for Vogtle and Summer will not
9 inform the bids that FPL receives?

10 A They will inform the bidders, as they will
11 inform FPL in evaluating the bids. But the two
12 projects have different scopes, different sites, and
13 the costs for the bidders that they submit for Turkey
14 Point 6 and 7 will reflect that project and not another
15 project.

16 Q All right. And you would agree that at this
17 stage of the project, it would be difficult for FPL to
18 obtain firm bids to construct Turkey Point 6 and 7?

19 A I would say impossible.

20 Q Okay. And you would agree the reason why it
21 would be difficult to obtain those bids is because of
22 uncertainties and risks associated with constructing
23 such a large mega project?

24 A Yes, I would say that there's uncertainty in
25 the schedule, in the scope. Both of those would make

1 providing a binding bid or a fixed price bid impossible
2 at this point.

3 Q Okay. I have a few questions about the
4 concepts of contingency in the use of construction
5 projects. Are you familiar with the term, sir?

6 A Yes.

7 Q All right. You would agree that in a
8 complicated mega construction project, such as
9 constructing a nuclear power uprate or a new nuclear
10 unit, the owner should include an appropriate amount of
11 contingency in the budget for things like undefined
12 scope or project uncertainties?

13 A Yes.

14 Q And when it comes to contingency in the
15 context of construction projects, you would agree that
16 a construction contingency is generally comprised of an
17 amount of money set aside for unforeseen items or
18 issues as they arise throughout a project?

19 A Contingency is for more than unforeseen
20 items. I'm having a hard time following the rest of
21 that.

22 Q Sure.

23 A So I couldn't agree with your definition.
24 Contingency covers much more than just unforeseen
25 items.

1 **Q Okay. What is your definition of**
2 **contingency?**

3 A Contingency, for a project of this magnitude,
4 includes, first of all, estimation uncertainty. That's
5 uncertainty with regard to the estimation of price and
6 costs of completing any component. It includes risks
7 and the value-adjusted risk matrix, if you will.

8 You typically would develop a list of risks
9 to the project schedule and scope, and you would then
10 probabilistically weight those into the cost forecast
11 and the contingency as well. And finally, it includes
12 what's referred to as a marginal reserve or a
13 contingency that represents unknown unknowns beyond
14 estimation uncertainty and beyond the risks that have
15 been probabilistically adjusted.

16 **Q All right. And you would agree that no**
17 **matter the size or complexity of a construction**
18 **project, more often than not items or issues that arise**
19 **due to unforeseen conditions, detail conflicts -- or**
20 **excuse me -- items or issues arise often for unforeseen**
21 **conditions, detail conflicts, design changes,**
22 **et cetera? Basically things happen during the course**
23 **of the project that increase the cost of the project?**

24 A Things happen during the course of the
25 project that change the price or the cost of the

1 project that can be either up or down.

2 Q All right. And you would agree that the
3 amount of contingency needed to adequately budget a
4 cost of a project is inversely proportional to the
5 level of design maturity?

6 A Yes. The level of contingency is directly a
7 function of the level of detailed engineering and
8 design that's done for the project. The lower the
9 level of detailed design engineering, the higher the
10 overall contingency between those three categories I
11 mentioned.

12 Q And the greater the uncertainty, the greater
13 the amount of contingency is needed?

14 A Yes.

15 Q All right. And you would agree that the true
16 cost of a project will not be known until the designs
17 are complete and market-based pricing is applied by
18 obtaining bids or receiving firm negotiated offers for
19 confirming the work?

20 A No, I don't think you would know the true
21 cost of the project even then. You only know the true
22 cost of the project when it's completed.

23 Q Okay. Until the designs are fully
24 engineered, the bids obtained and/or firm construction
25 contracts are priced, you would agree that it's very

1 **important to have the right amount of contingency in a**
2 **project budget to account for those uncertainties?**

3 A Yes, I agree it's very important to have the
4 right amount of contingency.

5 Q **And even after obtaining bids or negotiated**
6 **EPC contract, you would agree that some level of**
7 **contingency would still be needed?**

8 A I'm presuming the EPC contract is not a fixed
9 price contract, yes.

10 Q **Okay. And in your opinion, for an unlicensed**
11 **nuclear power plant project, how much contingency do**
12 **you think would be advisable? What percentage amount?**

13 A There is no answer to that question. You
14 can't answer it yes or no or any other number. As
15 Mr. Scroggs indicated earlier, the right way to develop
16 the contingency is by classification of the cost
17 elements of the plant, so that you have one level of
18 contingency for foundation and concrete work, another
19 for components, another for fabrication, another for
20 each major component of the project. One develops
21 those contingencies based on your historic operating
22 experience and the industry's experience with each
23 component.

24 So there is no number overall for the project
25 other than one that might simply be the additive

1 average of all of those components put together on a
2 weighted average basis. But it differs with each
3 classification of plant, and it differs very much based
4 on the level of development, as we said, of detailed
5 engineering and design.

6 **Q And isn't it true that for this stage of**
7 **Turkey Point 6 and 7 project, that FPL has utilized a**
8 **15 percent contingency amount?**

9 A Again, it varies by categories. But it has
10 used between 15 and 20 for different categories at this
11 stage.

12 **Q All right.**

13 A Based upon my most recent review.

14 **Q All right. And that would be according to**
15 **your testimony at Page 28, Lines 7 and 8, correct? And**
16 **that was 15 percent contingency adjustment for**
17 **undefined scope or project uncertainties that cannot be**
18 **predicted at the beginning of this year?**

19 A Could you give me that page reference, again?

20 **Q Page 27, Lines 7 and 8.**

21 A That's not the complete answer. On that page
22 it says, "Those budgets included a bottom-up analysis
23 that assessed the resource needs of each department
24 during the year. A 15 percent contingency adjustment
25 was applied to each request for undefined scope or

1 project uncertainties."

2 So here we're talking about project budgets
3 developed in 2014. This is not the overall cost
4 estimate for the plant.

5 Q Okay. And in your testimony, Mr. Reed, you
6 testify as to the proper prudent standard to be used by
7 the Commission?

8 A Yes.

9 Q All right. And you would agree that the
10 Commission and its Staff are familiar with the
11 Commission's standards of prudence which applies to
12 these proceedings?

13 A Yes, I think so.

14 Q And you would agree that the utility has the
15 burden of proof to prove that it acted prudently?

16 A Once that prudence has --

17 Q Yes or no?

18 A Okay. Thank you. No. Once the --

19 Q You don't believe that the utility has the
20 burden of proof to prove that it acted prudently?

21 A Not initially, no. As I've said in my
22 testimony, and as the Commission has noted, there
23 begins -- the analysis begins with a presumption that
24 the costs were prudently incurred. If that presumption
25 is overcome and it is a rebuttable presumption, then

1 the utility has the burden of proof in establishing
2 that the costs were prudently incurred.

3 Q All right. Would you please take a look at
4 the exhibit that says excerpt from Southern Alliance
5 versus Graham.

6 A I have that.

7 Q Are you familiar with this case?

8 A In general terms, yes.

9 Q All right. If you'll turn to the last page,
10 there's a highlighted section.

11 MR. DONALDSON: Let me just raise an
12 objection. If the witness is not familiar with
13 this and it's not part of his testimony, I would
14 just ask that -- raise that objection for the
15 record.

16 MR. SAYLER: I'm sorry, I didn't catch it.

17 MR. DONALDSON: Yeah. I'm objecting to the
18 fact that you're using a Supreme Court case or
19 that it is not part of his testimony.

20 MR. SAYLER: Okay.

21 BY MR. SAYLER:

22 Q Would you take a moment to familiarize
23 yourself with the highlighted portion of this Supreme
24 Court case?

25 A I've read the highlighted portion.

1 **Q** All right. Isn't it true that according to
2 the Florida Supreme Court, the Commission's prudence
3 standard is -- and I quote -- "A reasonable utility
4 manager would have done in light of the conditions and
5 circumstances that were known or should have been known
6 at the time the decision was made"?

7 A Yes, that is the quote that's there from the
8 PSC order.

9 **Q** All right.

10 MR. SAYLER: And for the record, that PSC
11 order, it has a LEXUS cite and a Westlaw cite, but
12 the Commission order cite is PSC-11-0547-FOF-EI.

13 BY MR. SAYLER:

14 **Q** Isn't it true that you failed to cite a
15 reference to the Supreme Court precedent or decision in
16 your testimony?

17 A I'm not sure I understand the question. Did
18 I fail to provide a Supreme Court citation, is that
19 your question?

20 **Q** Did you reference this case in your
21 testimony?

22 A I did not.

23 **Q** And you would agree that a Florida Supreme
24 Court decision regarding the Commission's standard of
25 prudence is binding on the Commission, correct?

1 A That may call for a legal conclusion.

2 Q All right.

3 A But that's my understanding as a lay person.

4 Q All right. And returning to your standard of
5 prudence, as you testified on Page 11 of your direct
6 testimony, you would agree that for your standard of
7 prudence, you had three key features or three prongs?

8 A Yes.

9 Q Okay. And in your second prong, as you
10 mentioned earlier, you believe that there's a
11 presumption of prudence with regard to utility's
12 actions or there's a rebuttable presumption of
13 prudence; is that correct?

14 A Yes.

15 Q All right. And you would agree that,
16 according to the Florida Supreme Court, the
17 Commission's standard of prudence is what a reasonable
18 utility manager would have done in light of the
19 conditions and circumstances that were known or should
20 have been known at the time the decision was made? You
21 would agree that the Supreme Court's standard of
22 prudence contains no rebuttable presumption?

23 A No, I don't think that's the question that
24 was addressed to the Supreme Court so, no, I can't
25 agree with that.

1 Q Okay. And in your testimony, you also state
2 that the Commission is prohibited from hindsight review
3 of a utility's management decisions, correct?

4 A Correct.

5 Q And it is your testimony that the Commission
6 has instead chosen to strictly follow this three-prong
7 standard of prudence that you describe in your
8 testimony, correct?

9 A Yes.

10 Q All right. And in support of that, you cite
11 another Commission order; is that correct? If you'll
12 look at the other handout.

13 A I do cite a Commission order at the bottom of
14 Page 11 of my direct testimony, yes.

15 Q The other exhibit, excerpt from Final Order
16 PSC-14-0617. If you'll turn to the last page, Page 14.
17 Would you take a moment and compare the highlighted
18 portions to that in your testimony.

19 And you would agree the highlighted portion
20 is what you quoted in your testimony?

21 A Parts of the highlighted, yes.

22 Q All right. And the part that you did not
23 include from this order starts with a sentence, "It is
24 in the utility's best interest"; do you see that?

25 A I see that sentence, yes.

1 **Q All right. Would you read that for the**
2 **record, sir?**

3 A Certainly. "It is in the utility's best
4 interest to manage itself in a prudent manner and with
5 consideration for its customers' interests. The
6 failure to do so can result in the disallowance of cost
7 recovery by this Commission. Indeed, this docket
8 operates on the premise that prudent costs are eligible
9 for recovery under the statute and that prudently
10 incurred costs will not be subject to disallowance."

11 **Q All right. And you would agree that this**
12 **Commission order did not quote the Commission's**
13 **standard of prudence as it was set forth on Page 14,**
14 **the reasonable utility manager standard?**

15 A I'm sorry, I've lost your question.

16 **Q All right. You would agree that this order**
17 **does not reference the Supreme Court's -- or the**
18 **Supreme Court's standard of prudence for Commission**
19 **decisions or review of utility decisions; is that**
20 **correct?**

21 A I can accept that subject to check. We only
22 have a brief excerpt of this order.

23 **Q Okay. Would you turn to Footnote 13 of the**
24 **2014 order, the one that you quoted?**

25 A I have that.

1 **Q All right. You'll see that Footnote 13,**
2 **cites to two different orders of the Commission. Do**
3 **you see that?**

4 A Yes.

5 **Q The second order is PSC-11-0547-FOF. Do you**
6 **see that?**

7 A I do.

8 **Q Were you aware that this is the final order**
9 **which the Supreme Court cited for the Commission's**
10 **standard of prudence?**

11 A This being the November 23rd, 2011?

12 **Q Yes, sir.**

13 A No, I'm not aware of that.

14 **Q All right. Thank you Mr. Reed, I have no**
15 **further questions for you on direct, but I do have some**
16 **for you on rebuttal. Thank you very much.**

17 A Okay.

18 MR. LAVIA: No questions from the Retail
19 Federation, Mr. Chairman.

20 CHAIRMAN GRAHAM: FIPUG?

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

22 EXAMINATION

23 BY MR. MOYLE:

24 **Q Good evening, Mr. Reed. How are you?**

25 A I'm good, sir, thank you. Good evening.

1 Q Good. So I look at your testimony, and it
2 strikes me that you're largely testifying as an expert
3 witness as compared to a fact witness. Am I correct in
4 that?

5 A Yes.

6 Q Okay. And so you don't in your testimony go
7 in and say, hey, I'm an expert in one, two, three,
8 four, five areas, correct?

9 A I'm sorry.

10 Q There's nowhere in your testimony that you
11 say here are the areas for which I have expertise,
12 where you claim that you're an expert in one, two,
13 three, four or five areas, correct?

14 A No. I think I present my CV and my list of
15 prior appearance which speaks to my areas of expertise.
16 But I would agree the testimony doesn't include a
17 proffer, if you will, of qualification in a specific
18 category of expertise.

19 Q You've testified in a lot of proceedings over
20 the years?

21 A Yes, sir.

22 Q And you're aware that the practice in other
23 jurisdictions is to say, I'm an expert and here is what
24 I'm an expert in?

25 A Sometimes, I would agree with that.

1 **Q Okay. So just so I'm clear, because it will**
2 **help me shape my questions a little bit, what are the**
3 **areas tonight that you are professing to have expertise**
4 **in?**

5 A Let's begin with the economics and finance of
6 nuclear power projects and project management, project
7 control and scheduling procedures for mega projects,
8 especially nuclear power mega projects. In addition,
9 the application of the prudent investment test to those
10 kinds of projects for cost recovery.

11 **Q Is that a legal expert? Are you saying**
12 **you're a legal expert?**

13 A No, as a matter of regulatory policy.

14 **Q Anything else?**

15 A No. I think that covers it for the purposes
16 of this testimony.

17 **Q So you spent a lot of time looking at FPL's**
18 **procedures, right?**

19 A I did.

20 **Q And I guess that would be covered within the**
21 **ambit of your project management expertise; is that**
22 **right?**

23 A Yes.

24 **Q Have you ever managed a nuclear project**
25 **yourself?**

1 A No. I've conducted a number of reviews of
2 the construction of nuclear projects, but I have not
3 personally constructed one or supervised the
4 construction of one.

5 Q Okay. And when I asked you about the law,
6 you said, no, you're an expert in regulatory policy.
7 How is regulatory policy typically set? Do you have an
8 understanding?

9 My impression is it is set by state or
10 federal statute, rules and orders of Commissions.

11 A I think that's generally true, yes.

12 Q And you're not a lawyer, correct?

13 A That's correct.

14 Q Okay. So a lot of times lawyers, when
15 somebody says something and they say this is the law,
16 and, you know, if you question it, you go what's the
17 reference for that, give me a cite.

18 And I give you that just by way of a little
19 background because I'm really interested in your
20 testimony that says that there's a presumption of
21 prudence -- if I'm reading it correctly -- there's a
22 presumption of prudence and really the burden rests on
23 intervenors to overcome that presumption.

24 Am I correct in understanding your view of
25 the presumption and how it works with respect to the

1 burden?

2 A Partially. You are correct that I believe
3 there's a presumption of prudence. And that has been
4 addressed, I think, by this Commission and by a number
5 of other Commissions. And, secondly, I believe it is a
6 rebuttal presumption, as I have indicated.

7 There's always a question as to what's
8 necessary to overcome that presumption in terms of a
9 showing by an intervenor or Staff. But, yes, I do
10 believe there's a presumption and I do believe it can
11 be rebutted. And essentially at that point, the burden
12 of proof is with the company.

13 Q Okay. So what is your authority for that
14 view?

15 A That's something that -- I'll start by
16 talking about broadly. And I cannot quote to you the
17 cases that we reviewed here in Florida. That's the
18 kind of thing we could have done in discovery.

19 Q No, I don't -- I'm just looking if you can
20 give me a cite or a specific statutory rule or case
21 cite. If you can't, that's okay, too, we can move on.

22 A I cannot give you a specific rule or a case
23 cite in Florida. I can tell you that --

24 Q Anywhere, any jurisdiction.

25 A Certainly. If you look at the National

1 Regulatory Research Institute's Manual on Nuclear
2 Prudence Reviews, it states that there is a presumption
3 of prudence and that that has been the general rule
4 across the country. As I recall, that derives from the
5 Brandeis separate concurring opinion in the Missouri
6 Telephone case from about 1923, I think.

7 **Q What you referenced was a, book what was it?**

8 A Yes, the National Regulatory Research
9 Institute's Manual of --

10 **Q Do you have to be a member to get their**
11 **publications?**

12 A I'm sorry, let me finish my answer. It's a
13 book they put together, or a manual they put together
14 in about 1985 on the conduct of nuclear prudence
15 reviews.

16 I'm not sure, what was the rest of your
17 question?

18 **Q I was just wondering if I could get a copy of**
19 **that. Is that a public -- is that group something you**
20 **have to pay money to or are you a member of that group?**

21 A This Commission is a member of that group.
22 It is a public document, I believe.

23 **Q Okay. So no cases, no rules or no statutory**
24 **cites in Florida for your testimony related to**
25 **presumption?**

1 A Not that I can cite from memory.

2 Q Do you have an understanding about who has
3 the burden of proof in this case as we're sitting here
4 today?

5 A Generally, the applicant, FPL.

6 Q So they have to convince the Commission that
7 the Commission ought to approve their request for
8 money?

9 A Yes, I agree with that.

10 Q Are you familiar with the phrase -- we've
11 heard it more, I think, in recent years than now --
12 "nuclear renaissance"?

13 A Yes.

14 Q What does that mean?

15 A It was a phrase that probably had its origins
16 about seven years ago and it related to the rebirth of
17 the nuclear power industry in terms of construction of
18 new nuclear units in the US.

19 Q I have not heard that term used much
20 recently, have you?

21 A Certainly it's been used less than in the
22 2008, 2009 time frame.

23 Q And wouldn't it be fair also to say that the
24 excitement and efforts to move forward with nuclear
25 power that existed in that time frame we just discussed

1 **seven, six years ago has dissipated?**

2 A No, I don't think dissipated is fair. A
3 number of projects have been either canceled or put on
4 hold, but obviously a number are still going forward.

5 Q **How many have been canceled or put on hold,**
6 **if you know?**

7 A Somewhere in the range of 15.

8 Q **And how many are moving forward?**

9 A In some stage of moving forward, six.

10 Q **So that's about two-thirds of them have**
11 **decided not to move forward, one-third, roughly? My**
12 **math may not be right.**

13 A That's generally a fair characterization.

14 Q **And within the past three years, how many new**
15 **nuclear projects have you worked on?**

16 A New projects meaning new construction? You
17 don't mean new to me?

18 Q **Right. Right. New nuclear, as I understand**
19 **it, is not an uprate, but it's somebody coming in like**
20 **FPL here and saying, we're going to go through the**
21 **whole kit and caboodle process to put in new nuclear**
22 **units?**

23 A I have worked on Turkey Point 6 and 7. I've
24 worked on Comanche Peak 3 and 4, which is new nuclear.
25 I've worked on the Harris proposals that existed for

1 its new nuclear project. Also, the Dominion project in
2 North Anna. That may be more than three years ago.
3 But those are the ones that come to mind.

4 **Q And Harris is canceled, right? That's a Duke**
5 **project?**

6 A It's at least postponed, if not canceled,
7 yes.

8 **Q How about Dominion?**

9 A Moving forward slowly.

10 **Q And then the second one you mentioned, I**
11 **think Comanche?**

12 A Comanche Peak, yes.

13 **Q What's the status of that?**

14 A It still has its application pending before
15 the NRC, but it's essentially on hold.

16 **Q Maybe in a similar light to the Duke Levy**
17 **project?**

18 A I think that's fair, yes.

19 **Q Do you advise clients with respect to whether**
20 **a nuclear project is economically feasible?**

21 A Yes.

22 **Q And when you do that, what do you do to give**
23 **your advice?**

24 A We do the same type of work that's presented
25 here by Dr. Sim, resource planning work that begins

1 with an evaluation of alternatives, develops a forecast
2 of gas prices, inflation, emission allowance prices,
3 many other factors, and run a resource planning model
4 to ascertain whether or at what cost a project is
5 economic or uneconomic.

6 **Q And do you typically put that together in**
7 **kind of a final report that the client can look at? It**
8 **seems like it's a lot of information and a written**
9 **report would be beneficial. Am I right?**

10 A Sometimes we do, yes.

11 **Q Okay. And you have not done that in this**
12 **case, correct?**

13 A That's not my role here. That's correct.

14 **Q And you've never been asked to do that**
15 **either, have you?**

16 A I'm sorry, I've never been asked to do that?

17 **Q With respect to Turkey Point?**

18 A That's correct. I have been involved in
19 reviewing testimony of others in these cases on that
20 matter, but I have not been asked to prepare an
21 independent resource plan.

22 **Q Got you. Tell me about your understanding of**
23 **FPL's construction estimation practices.**

24 A Can you be more specific? That's a pretty
25 broad question.

1 **Q You used that term in your testimony. I have**
2 **it on Page 3, Line 29.**

3 A Yes.

4 **Q Did you use it?**

5 A Yes, I used the term cost estimation
6 practices and construction project management.

7 So is your question what do I mean by cost
8 estimation practices?

9 **Q Yes.**

10 A We reviewed the company's practices, which
11 are written documents for the preparation of cost
12 estimates, its instructions, which are basically
13 written documents that tell you how to prepare and how
14 to conduct yourself using the procedures and practices.
15 And we reviewed the estimates that have been developed
16 over time for Turkey Point 6 and 7.

17 So it involves everything from the bottoms-up
18 analysis that was originally done in 2007, the updates
19 to that analysis that have been done since. It
20 involves the contingency that's applied to it and
21 project controls for maintaining adherence to project
22 cost estimates.

23 **Q Exhibit 3, you still have that in front of**
24 **you, don't you -- I mean 73, I'm sorry?**

25 A (Nodding head affirmatively.)

1 **Q This was your report, update to AP1000**
2 **project of cost?**

3 A Yes, I have that.

4 **Q So when you say December of 2014, that's the**
5 **date of this report; is that right?**

6 A Correct.

7 **Q Did you author this report?**

8 A It was authored by my staff under my
9 supervision and direction.

10 **Q Okay. But you'll vouch for it as we talk**
11 **tonight?**

12 A I will.

13 **Q Okay. The third bullet point down -- well,**
14 **let me ask you this. Why did you prepare this?**

15 A Short answer is we were requested to prepare
16 it by FPL. It's been part of our work for them on this
17 project for the last seven years.

18 **Q And do you understand why the information you**
19 **put together was requested?**

20 A In order to benchmark the company's current
21 cost estimate against other projects in the industry.

22 **Q And is that useful? Is that something you**
23 **would recommend be done?**

24 A Yes.

25 **Q And why?**

1 A Often it's important to understand if you
2 have a difference in your cost estimate from industry
3 trends or experience elsewhere that you understand why.
4 This helps to identify whether there is a difference
5 and what may be driving it.

6 **Q And did FPL have a cost differential?**

7 A As I think you can see on the first page,
8 FPL's estimate is within the range of other projects
9 but at the upper end of that range.

10 **Q The third bullet point down, you say, quote,**
11 **"As discussed below, Southern Company has not yet**
12 **updated its capital costs to include the effects of**
13 **these delays on the project."**

14 What's the basis for that information?

15 A Regulatory filings made in Georgia sometime
16 prior to December of 2014.

17 **Q Do you have an expectation when the Southern**
18 **Company does update its capital costs, what that will**
19 **reflect?**

20 A No.

21 **Q Will it likely be an increase or a decrease**
22 **or you just don't have the ability to project that?**

23 A I don't have the ability to predict it.
24 There is a note in here that others involved in
25 construction monitoring expected that would result in

1 an increase. But it would be speculation for me to try
2 to figure out or estimate what that's going to be.

3 **Q During your work on nuclear projects that**
4 **have gotten underway, if there are delays associated**
5 **with them, doesn't that typically result in an increase**
6 **in cost as compared to a decrease?**

7 A Yes, it represents an increase in the total
8 cost, not in the overnight cost, but in the total
9 delivery cost.

10 **Q Okay. Has FPL updated its capital cost?**

11 A Yes.

12 **Q When did they last update it?**

13 A As part of the May 2014 filing in this case.

14 **Q So a little over a year ago?**

15 A I'm sorry, did I say 2014? May 2015, the
16 filing in this case.

17 **Q You said '14.**

18 A Yes, I meant to say 2015.

19 **Q And what were the results of that update?**

20 A They are numbers that have been presented in
21 Mr. Sim's, Dr. Sim's testimony, and Mr. Scroggs'
22 testimony, that the construction cost range is between
23 13.7 and \$20 billion.

24 **Q And I see in your document you use -- this is**
25 **back on Page 3 under the section that says, "Projected**

1 **total project cost."**

2 A Yes.

3 **Q You use a \$21 billion figure for FPL's top**
4 **end cost, correct?**

5 MR. DONALDSON: Mr. Moyle, where are you
6 referring to?

7 MR. MOYLE: On Page 3, he says, quote, "FPL's
8 2014 high end total cost estimate of 18.4 billion
9 for PTN 6 and 7 is within the range of
10 13.9 billion to 21 billion that is generated using
11 overnight costs from other AP1000 projects."

12 BY MR. MOYLE:

13 **Q I think I misread that. You're saying that's**
14 **your range from the other projects; is that correct?**

15 A Yes.

16 **Q Okay. So FPL is 20 numbers within that**
17 **range, is that the point you're making there?**

18 A No. Actually, the point I was making is that
19 18.4, which was the cost estimate at that time, was
20 within the range.

21 **Q You don't disagree with FPL's escalating the**
22 **cost at 2.5 percent inflation, do you?**

23 A To move from 2014 to 2015, that's correct, I
24 do not disagree with that.

25 **Q Your testimony talks about some benefits to**

1 **nuclear, there's also some detriments to nuclear. I**
2 **discussed those detriments with the prior witness.**

3 Did we miss any in that discussion that you
4 can think of?

5 A No. The only aspect that I would add to that
6 is one of schedule. It is a challenge for any company
7 to commit to a new nuclear project because of the long
8 lead time associated with these projects. They have
9 great benefits, but one of the consequences of the
10 nature of the construction of these projects is you
11 have to plan for them long in advanced. That means
12 committing some dollars upfront to preserve an option
13 and then making an informed decision as to whether to
14 proceed with construction.

15 So some would view that as a risk or a
16 negative element of a nuclear project. It's an
17 inherent part of the project, but it is also one that
18 produces great longterm benefits. These are projects
19 that are expected to have a 60-year life, so one would
20 be reasonable to understand that it takes a lot of
21 advanced planning to deliver that kind of benefit.

22 **Q So if I were going to put together a list of**
23 **potential downsides, I could include schedule in**
24 **addition to high capital costs, an issue of handling**
25 **spent nuclear fuel and a risk of catastrophic failure?**

1 You can just give me a yes or a no. I don't
2 need to get into all that again unless you disagree
3 with those as being detriments or risks.

4 A I would agree that those are risks of a new
5 nuclear project.

6 Q Okay. And I was going to ask you -- I'm
7 trying to move through a little bit, so I was going to
8 ask you about hold points and off-ramps. You use those
9 phrases in your testimony, right?

10 A Yes.

11 Q Was the explanation previously given
12 consistent with your view of what a hold point is or an
13 off-ramp is and that they're synonymous terms or do you
14 view them differently?

15 A I don't view them as being synonymous. A
16 hold point is essentially what's referred to in project
17 management as a gate or a stage gate. It's where you
18 stop, reassess and make a decision as to whether to
19 move through that gate or not.

20 An off-ramp is one possible outcome at a hold
21 point or at a stage gate of the decision-making process
22 and that could be to discontinue the project. But
23 certainly a hold point or a stage gate is not
24 synonymous with an off-ramp.

25 Q Okay. So I don't think Mr. Scroggs, when I

1 asked him, said an off-ramp was discontinuing a project
2 or terminating it. But that is, I guess, an option of
3 an off-ramp?

4 A Yes, that is an option at the off-ramp.

5 Q Okay. And as a matter of expertise that you
6 have in management, project management -- what are we
7 calling this, a mega project; is that right?

8 A Yes.

9 Q And what's a mega project?

10 A Well, the number keeps changing, but it used
11 to refer to projects, construction projects in excess
12 of a billion dollars. Now it seems to have increased
13 to most pressed to a billion-five.

14 Q So maybe this could be a mega, mega project
15 at 20, huh?

16 A It's a very sizable project.

17 Q Is it a good management practice to build
18 into a project like this, hold points?

19 A Yes.

20 Q And how often, you know, should a hold point
21 be built in; every quarter, every six months, every
22 year?

23 A It typically depends on the funding levels
24 and the schedule, so there is no single answer for
25 every mega project. But it's when you get to a next

1 major funding decision or activity. In a case like
2 this, of course, we know we have hold points every year
3 that are imposed by the Nuclear Cost Recovery Rule.

4 But if we were in an unregulated environment,
5 that frequency of hold points or stage gates might be
6 less frequent than that, it may be more frequent. But
7 typically there is no set schedule, it's dependent upon
8 the funding activities and when you're making the next
9 major commitment of funds.

10 **Q Do you know if FPL has hold points beyond the**
11 **annual filing that's made before this Commission?**

12 A Yes, it does.

13 **Q And what are those?**

14 A One of them certainly is the receipt of the
15 COL. Another is expected to be issuance of any notice
16 to proceed to an EPC contractor. Those are examples of
17 hold points.

18 **Q You talk a little bit about fuel diversity.**
19 **Are you comfortable with having a conversation about**
20 **that?**

21 A Yes.

22 **Q And if I understood your testimony, you say**
23 **the nuclear unit helps mitigate against some exposure**
24 **to natural gas price spikes?**

25 A That's correct, among other things.

1 **Q Is there a point in your -- do you consider**
2 **yourself an expert on this topic?**

3 A Yes.

4 **Q Okay. Is there a point, in your opinion,**
5 **that there's too much of a certain type of generation**
6 **from a particular fuel source?**

7 A No. It's a fact specific determination.
8 I've seen individual utilities that plan on their own
9 that operate more independently of a grid, where once
10 you cross a 50 percent threshold for any single fuel
11 type, you might consider the system to be overly
12 committed or under diversified.

13 Where you have a larger resource pool to draw
14 upon from adjoining service territories and power
15 grids, one utility may feel comfortable with a 70,
16 75 percent commitment to one fuel type.

17 I can say my own view of Florida is that
18 where we are at now, in the 65 percent range, and where
19 we would be headed without new nuclear, which is more
20 than 75 percent committed to natural gas, would give me
21 a lot of concern.

22 **Q So over 75 percent is a problem in your**
23 **expert opinion?**

24 A 75 percent is a problem in my expert opinion
25 for Florida.

1 **Q And you referenced, I guess, a situation in**
2 **New England where a 59 percent natural gas -- this is**
3 **on Page 7 -- strike that.**

4 This is on Page 8. Am I reading your
5 testimony correctly that the purpose of this is to
6 point out sort of what can happen if you're too reliant
7 on a particular fuel type?

8 And you use an example in New England where
9 New England relies on 45 percent natural gas, and I
10 guess there were some economic problems that resulted
11 from that; is that right? Is that fair?

12 A More than some economic problems. But, yes,
13 I cite to new England, I cite to the winter of 2014,
14 and to the bill that customers in that region had to
15 pay associated with natural gas price volatility. That
16 total bill was approximately an incremental \$5 billion
17 for 90 days of gas price spikes in the region.

18 **Q Do you know which state is most reliant on**
19 **natural gas for generating electricity?**

20 A I don't know anymore. It used to be Texas.
21 I think Florida may have overtaken it.

22 **Q So if you were advising this Commission, you**
23 **would probably tell them, try to reduce the natural gas**
24 **dependence and reliance, if it can be done, through**
25 **nuclear and other non-gas resources; is that fair?**

1 A You don't have to make that statement
2 conditional. I am saying that. I'm saying that in my
3 direct testimony here.

4 Q **I'm not used to having you agree with me that
5 much.**

6 A Keep going.

7 Q **What's the current price of natural gas?**

8 A Oh, that's a good question because I looked
9 it up just before I came up here. The closing price
10 today was \$2.45 per MMBtu on Henry Hub. There you go.

11 Q **You have some testimony on Page 9 about
12 factors that could affect the market for natural gas
13 and you suggest, as I read it, that LNG export
14 facilities could put pressure and create additional
15 demand on natural gas; is that right?**

16 A Yes, upward pressure on prices. And they
17 represent an enhanced demand for natural gas.

18 MR. MOYLE: I'm going to pass out an,
19 exhibit, if I could. Do you know what number this
20 might be?

21 CHAIRMAN GRAHAM: Number 78.

22 MR. MOYLE: It is entitled "Moody's Report on
23 US Export LNG projects."

24 (Exhibit No. 78 was marked for
25 identification.)

1 BY MR. MOYLE:

2 Q So I've handed you an exhibit that references
3 a Moody's Report on US Export LNG projects. Your
4 testimony was filed on March 2nd, 2015, correct?

5 A Yes.

6 Q And this story is shortly after that
7 April 7th, 2015, correct?

8 A That's correct.

9 Q All right. The second sentence of the story
10 says, quote, "Moody's says low LNG prices will result
11 in the cancellation of the vast majority of the nearly
12 30 liquefaction projects currently proposed in the US,
13 18 in western Canada and four in eastern Canada."

14 Did Moody's largely get it right with this?

15 A I think so. The total there is 52 projects
16 across North America. The US Department of Energy
17 estimates that prices in the US may be able to
18 withstand eight LNG projects being built before prices
19 start to show an upward trend as a result of LNG
20 exports.

21 Certainly, I don't know anybody that expected
22 52 to be built. But the statement that the vast
23 majority of the 52 are likely to be canceled, I agree
24 with that.

25 Q So obviously to the extent projects are being

1 **canceled, that puts downward pressure on potential**
2 **demand of exporting natural gas, correct?**

3 A No. It means the upward pressure is less
4 than it would be if all 52 were built. But, again, I
5 don't think anybody expected all 52 to be built.

6 **Q Less international demand?**

7 A No, actually, international demand is
8 increasing. But there's competition from international
9 suppliers that's cutting into the meeting of that
10 demand.

11 **Q Have you ever advised a client to not move**
12 **forward or to put on hold a nuclear project?**

13 A Yes.

14 **Q How many times?**

15 A We're getting a little bit into confidential
16 information with my clients, but four times in the past
17 five years.

18 **Q Did they take your recommendation?**

19 A Yes.

20 **Q And why did you recommend that? You know,**
21 **you don't need to get into specifics but just on a**
22 **general basis?**

23 A In general terms, because they were
24 uneconomic or unfinanceable.

25 **Q Are all four of them investor-owned**

1 **utilities?**

2 A No.

3 **Q How many?**

4 A Two.

5 **Q Were the other two governmental entities?**

6 **They weren't merchant nuclear plants, right?**

7 A They were nuclear, they were merchant
8 nuclear.

9 **Q So with respect to construction right now,**
10 **there's only two plants that are being constructed, is**
11 **that right, Summer and Vogtle?**

12 A Two sites, four units, yes. Actually, that's
13 not true, also the TVA unit.

14 **Q Does that have a name?**

15 A I've forgotten what it is right now, I'm
16 sorry. I think it's Watts Bar, but I would have to
17 check that.

18 **Q This is on Page 14 of your testimony.**
19 **Actually, it starts on 13, with respect to these**
20 **interviews that you conducted from representatives of**
21 **FP&L.**

22 A Yes.

23 **Q So I take it that you conducted these**
24 **interviews to help formulate an opinion that they were**
25 **doing okay in their process; is that right?**

1 A "They" being --

2 Q FPL.

3 A -- FP&L?

4 Q Right.

5 A Yes.

6 Q Okay. So can you tell me who you reviewed
7 with respect to the quality assurance or quality
8 control program that's on Page 14?

9 A I would have to check my notes for the name
10 of the individual, but it was a QA/QC manager within
11 the nuclear organization who was assigned to new
12 nuclear.

13 Q Okay. How about environmental services?

14 A Again, I would have to go back to check the
15 notes as to the name of the individuals. It was a --

16 Q If I asked you about all of them, would the
17 answer be the same?

18 A Yes. Again, I'm not going to be able to
19 recall names of who was sitting in the meeting room.

20 Q But you do these interviews every year,
21 right?

22 A Correct.

23 Q Who's FPL's chief nuclear officer?

24 A Mano Nazar.

25 Q Did you interview him about this project?

1 A No. I'm sorry, I may have missed the
2 question.

3 Q You testify about the five-year delays. You
4 don't have any independent knowledge of the basis for
5 those delays, do you?

6 A No. I relied on the testimony of Mr. Scroggs
7 on that issue.

8 Q You do actually identify some more risks than
9 we had talked about on Page 25, Line 22. I guess maybe
10 these are risks related to schedule, sub-risk; is that
11 right?

12 A These are risks that relate to schedule.
13 Your earlier question was about specifically risks
14 related to nuclear power projects. This is a more
15 general list of issues that relate to a schedule delay.

16 Q Okay. So all of these issues are also
17 present with respect to the five-year delay that FPL is
18 presenting with now?

19 A Yes, I think they are applicable to the
20 five-year delay.

21 Q And can you tell the Commission whether these
22 risks will have negative or positive effects on the
23 project or you just -- some of them you don't know?

24 A You actually don't know, because with a
25 nuclear project, the economics can shift based upon a

1 delay, and they can actually shift to be more
2 favorable. Some nuclear units today are actually
3 operating at a loss.

4 And the market is expected to turn in the
5 2017, 2018, 2019 time frame when carbon regulation
6 really becomes a fact. So in some situations,
7 extending the start date and extending the life of the
8 units can actually improve the economics.

9 **Q Depending on other market conditions such as**
10 **natural gas pricing or carbon pricing, correct?**

11 A That's correct.

12 **Q And we don't know what those will be?**

13 A That's correct, we do not know today what
14 will happen in 40 years or 60 years.

15 **Q Has FPL -- do you know how long it's going to**
16 **take them to build these two units, Turkey Point 6 and**
17 **7?**

18 A Are you talking about the actual construction
19 duration?

20 **Q Yes, sir.**

21 A I don't think that's been determined yet.
22 That will be part of the process of making a decision
23 both next year with regard to a new cost estimate and
24 schedule and after with a decision when the COL is in
25 hand.

1 Q What do they typically take, based on your
2 expert opinion?

3 A In the range of six years.

4 Q And my impression would be that it would take
5 six years whether you start tomorrow or whether you
6 start in 2020; is that right?

7 A Not entirely. You couldn't start tomorrow.
8 If you were to decide tomorrow you're going to sign a
9 contract and issue a notice to proceed, you would have
10 a long ramp-up time.

11 Q Just assume that you could start tomorrow. I
12 mean, I guess I'm trying to ascertain, there's no
13 relationship between a delay and how long it would take
14 necessarily to do the bricks and sticks construction,
15 correct?

16 A That's correct, there's no clear relationship
17 between the delay and the duration of construction
18 activities.

19 Q You say on Page 26, Line 9 that weather risks
20 refer to the potential for adverse weather conditions
21 to cause construction delays. But I guess I was
22 confused by that. That would occur regardless,
23 correct? That's not in any way a consequence of a
24 five-year delay?

25 A It's not a five-year delay in the start time,

1 that's correct. It's not a consequence of that.

2 **Q Page 28, Line 18, you use the phrase a "full**
3 **suite of mitigation strategies being considered for the**
4 **project." What do you reference when you say a "full**
5 **suite of mitigation strategies"?**

6 A It includes everything with regard to
7 construction risk management, contractual risk
8 management and financial risk management. This goes to
9 the contracting in terms of commercial strategies that
10 you use in the EPC contract. For example, what do you
11 determine as a fixed price, a floating price, a firm
12 price or an indexed price.

13 Some of those risks are hedgeable through
14 risk management strategies involving construction
15 commodities or interest rates. So the full suite
16 includes a very large number of things from contracting
17 to literally things like financial derivatives.

18 **Q The EPC contract's not been signed. You**
19 **don't recommend that it be signed anytime soon, do you?**

20 A I recommend that it not be signed anytime
21 soon.

22 **Q And part of the reason you recommend that is**
23 **because all of the sudden it then commits you**
24 **contractually, things change, you could be in a breach**
25 **of contract situation, is that right, part of the**

1 **reason?**

2 A I wouldn't assume you would get into a
3 breach, but you would get into a situation where you
4 have prematurely committed to incur costs that may not
5 be necessary.

6 Q Now, you follow these nuclear projects,
7 you're aware that there's a lawsuit over an EPC
8 contract between Duke and Westinghouse, correct?

9 A I am.

10 Q There's another litigation involving
11 Westinghouse and who is it, a Southern affiliate?

12 A Georgia Power, yes.

13 Q All right. And that's over an EPC contract
14 as well?

15 A The EPC litigation is actually with Chicago
16 Bridge & Iron. But, yes.

17 Q When, in your view, should an EPC contract be
18 signed?

19 A I think Mr. Scroggs was right on point when
20 he said there is value in waiting. You have more
21 information, you have more experience with other
22 projects, and you have more certainty with regard to
23 the economics of your project.

24 So the short answer is the last possible
25 moment that you can sign it without endangering the

1 commercial operation date you have in mind for the
2 project or the project cost estimates. So this is an
3 example of what's called the benefit of decision
4 deferral in decision analysis. There are benefits to
5 pushing it to the last possible date.

6 Q Page 30, you state, starting on Line 13, "It
7 would be reasonable to expect that the significant
8 expansion of the project's development timeline will
9 result in an increase in the total project cost
10 estimate due to additional escalation and financing
11 costs that will accrue during a longer development
12 period."

13 So we can agree that the delay results in
14 increased costs, correct?

15 A In terms of total cost, yes.

16 Q Are there any other reasons why a delay would
17 result in increased costs besides the two you identify,
18 which are financing costs and additional escalation?

19 A Those are the two that are most certain. It
20 does expose you, as I've said earlier, to other risks,
21 risks of economic changes, load forecast changes,
22 environmental law changes, you name it. But the two
23 that are most certain are inflation and interest rates.

24 Q Mr. Scroggs and I were talking past each
25 other about a competitive bid process. And on Page 32,

1 **Line 2, you specifically say -- I guess you reviewed**
2 **three contracts that were for more than 50,000; is that**
3 **right?**

4 A Did you say three?

5 Q **Three.**

6 A Yes, that's correct.

7 Q **And the one that was single source, what did**
8 **it relate to?**

9 A As I recall, and this is operating from
10 memory, it related to the NRC COLA, and it was actually
11 a change order or expansion of an existing contract.

12 Q **Do you have any recollection about the two**
13 **that were competitively bid and what those were for?**

14 A No. They were both relatively small, but I
15 don't recall what they were from memory.

16 Q **Down on Page 32, further down on Line 16, I**
17 **think you're talking about a process FPL has in place**
18 **to review invoices, correct?**

19 A Yes.

20 Q **Okay. And did you determine in this review**
21 **process how much money, if any, was saved as a result**
22 **of this review process?**

23 A Within new nuclear, I'm not aware of any that
24 was saved in 2014, which was the scope of this review.
25 We have seen significant savings in prior years, but I

1 don't recall any being the product of invoice review in
2 2014.

3 **Q As a business practice, you recommend that be**
4 **done regularly and routinely?**

5 A That meaning the invoice review --

6 **Q Right.**

7 A -- and the sign-off process, yes.

8 **Q Mistakes could be made, errors?**

9 A That's correct.

10 **Q You talk about some of the audit functions**
11 **that were performed on Page 33?**

12 A Correct.

13 **Q Is it a good management practice to have an**
14 **outside audit periodically performed on certain**
15 **business units?**

16 A Generally, yes. And there is an outside
17 audit process at FPL.

18 **Q And did you reference that in your testimony?**

19 A No. That is a financial audit by the firm's
20 outside financial auditors for public reporting
21 purposes. It's not a project audit.

22 **Q With respect to a financial audit, do the**
23 **same accountants go in and look at the nuclear business**
24 **unit, Deloitte?**

25 A I can't vouch to the fact that it's Deloitte.

1 I am not sure who the firm's current outside auditors
2 are. But, yes, the same firm that's preparing your
3 accounting opinion for public reporting purposes would
4 be the one that would come in and perform that audit of
5 the financial aspects, the accounting aspects for the
6 new nuclear projects.

7 **Q Do you know when the last time that was done?**

8 A I don't know. It's not been something that
9 we have focused on in our review.

10 **Q If it had been done recently, I assume you**
11 **would have come across it in your review, correct?**

12 A No. I assume it actually was done recently,
13 and my assumption would be that every major project and
14 department has some activities that are touched by the
15 external audit.

16 **Q If it hadn't been done in some time, would**
17 **you recommend that it be done?**

18 A If the external audit had not conducted any
19 review of the new nuclear project, yes, I would.

20 **Q In your reviews, did you have any findings or**
21 **suggestions for improvement?**

22 A No, not this year. As you know, we have many
23 times in the past, but not this year.

24 **Q Let me go to a -- this is your Exhibit 2, and**
25 **it lists a whole bunch of proceedings that you've been**

1 **involved in.**

2 A Yes.

3 Q I assume that you were an expert witness in
4 these proceedings?

5 A Yes.

6 Q And so that to the extent that there is a
7 subject matter, you believe you have expertise in it?

8 A Yes.

9 Q And you were involved in a case involving a
10 fiduciary duty; is that right?

11 A Can you give me a page number?

12 Q You don't have a recollection of that?

13 A I think that issue has actually been touched
14 on many times by me in civil litigation. I think, for
15 example, that issue came up in testimony I did in US
16 District Court in Western Colorado relating to a gas
17 pipeline project.

18 Q This is on Page 21 of 28. Is that what
19 you're referring to?

20 A Yes. Actually, that's the same one.

21 Q Have you ever given testimony about a
22 utility's fiduciary relationship to either its
23 shareholders or its ratepayers?

24 A I don't think I would say that any of my
25 expert testimony has touched on a fiduciary duty to

1 stockholders. I have -- I wouldn't describe it as a
2 fiduciary duty, but I would describe -- I have
3 testified about a utility's duties to its customers,
4 yes.

5 MR. MOYLE: That's all I have. Thanks.

6 CHAIRMAN GRAHAM: Okay. We are getting
7 pretty close to -- actually, I think we're past
8 the two-hour mark for my court reporter.

9 Mr. Cavros, how many questions do you have?

10 MR. CAVROS: Just two or three, just a
11 couple, two or three.

12 CHAIRMAN GRAHAM: All right. Let's go
13 forward.

14 MR. CAVROS: It will be fast.

15 EXAMINATION

16 BY MR. CAVROS:

17 Q Good evening, Mr. Reed.

18 A Good evening.

19 Q You had mentioned two -- actually, four units
20 that are in construction right now. And those are the
21 Vogtle and the Summer units, correct?

22 A Yes.

23 Q Okay. And both Georgia and South Carolina
24 have some form of construction work in process,
25 financing laws in those states, is that correct, to

1 **support the construction?**

2 A They have Cost Recovery Statutes that are
3 similar to the Nuclear Cost Recovery Clause. I would
4 not describe those as construction work in progress.

5 Q **Are you familiar with the Georgia Nuclear
6 Energy Financing Act?**

7 A I think so, yes.

8 Q **Okay. And are you familiar with the Baseload
9 Review Act in South Carolina?**

10 A Yes.

11 Q **Okay. And you know that Florida has a
12 construction work in progress law as well?**

13 A Generally, yes.

14 Q **Generally, yes, okay. And that law is in
15 place because of the challenges that power companies
16 face in reaching out into private markets to finance
17 these projects, correct?**

18 A In part, yes.

19 Q **Okay. And that challenge is informed by past
20 experience in the nuclear industry; is that right?**

21 A I agree with that.

22 Q **And you would agree that in the '70s there
23 were, I'm going to estimate, but about three dozen
24 nuclear power plants that were canceled due to any
25 number of factors, but primarily drops in demand and**

1 **increasing construction costs?**

2 A I can't vouch for the three dozen number. I
3 would agree that there were several units canceled in
4 the 1970s. I would say the primary two -- the two
5 largest reasons were inflation and interest rates.
6 We're talking about a period of time that many of us
7 remember, which was when inflation was 13, 14 percent
8 per year and interest rates were 17 percent per year.

9 **Q Nevertheless, those plants were canceled?**

10 A Correct.

11 **Q Okay.**

12 MR. CAVROS: I have no further questions.

13 CHAIRMAN GRAHAM: City of Miami, you have
14 questions, don't you?

15 MR. HABER: We do.

16 CHAIRMAN GRAHAM: Well, let's go ahead, this
17 is a good time to take a break for dinner. That
18 clock back behind us is about 7:15 p.m. Let's
19 take about 45 minutes, so we'll come back here at
20 eight o'clock. And then we'll let you finish up
21 on Mr. Reed and then we'll take Mr. Jacobs after
22 that, Dr. Jacobs after that.

23 Okay, we are taking a break for 45 minutes.

24 (Whereupon, a recess was taken.)

25 CHAIRMAN GRAHAM: Okay, guys.

1 MS. CANO: Chairman Graham.

2 CHAIRMAN GRAHAM: Yes.

3 MS. CANO: FPL has a scheduling offer to make
4 or a witness presentation offer to make.

5 CHAIRMAN GRAHAM: Okay.

6 MS. CANO: If the parties don't disagree,
7 we're willing to let Steve Sim take the stand only
8 once and present his direct and rebuttal on a
9 combined basis in the order of witness where he
10 would ordinarily present his rebuttal.

11 CHAIRMAN GRAHAM: Okay. So you want him to
12 do his direct and rebuttal during the rebuttal, so
13 basically at the end?

14 MS. CANO: Yep.

15 CHAIRMAN GRAHAM: Does anybody have a problem
16 with that?

17 MS. CHRISTENSEN: OPC has no objection to
18 that.

19 CHAIRMAN GRAHAM: Retail Federation?

20 MR. LAVIA: No.

21 CHAIRMAN GRAHAM: FIPUG?

22 MR. MOYLE: No objection. He'll go tomorrow,
23 I assume?

24 CHAIRMAN GRAHAM: Maybe not.

25 MR. MOYLE: We would feel better about it if

1 he went tomorrow.

2 CHAIRMAN GRAHAM: I'm sure a whole lot of
3 people would.

4 All right. So my clock back there says three
5 minutes after eight.

6 MR. DONALDSON: I was just going to say I
7 believe we're missing the City of Miami.

8 CHAIRMAN GRAHAM: I was pretty clear about
9 what time we were getting started.

10 MR. SAYLER: I do know that the City is
11 without transportation. I think they had to cab
12 it somewhere for dinner.

13 MR. KELLY: Is someone out there to unlock
14 the doors?

15 MR. SAYLER: There they are.

16 MR. HABER: We're sorry, Chair.

17 CHAIRMAN GRAHAM: City of Miami, we started
18 three minutes ago.

19 MS. MÉNDEZ: It is hard when you don't have a
20 car and don't know your way around.

21 MR. HABER: Apologies for the delay. While
22 we do have some questions for this witness, I'm
23 also aware that Witness Jacobs for the OPC has
24 some time constraints. Do we want to pause this
25 one for a moment and come back to it and allow

1 Witness Jacobs to go ahead or should I just
2 continue with my questions?

3 CHAIRMAN GRAHAM: How many questions do you
4 have for this witness, half hour?

5 MR. HABER: No, under ten.

6 CHAIRMAN GRAHAM: Okay. Well, then let's
7 just go ahead with this witness.

8 MR. HABER: Sounds good.

9 EXAMINATION

10 BY MR. HABER:

11 **Q Mr. Reed, you held yourself out as an expert**
12 **in several fields to Mr. Moyle earlier, one of those**
13 **fields was fuel diversity, correct?**

14 A Yes.

15 **Q So you would agree that there are ways to**
16 **accomplish fuel diversity outside of diversifying by**
17 **fuel type, correct?**

18 A I may be missing your question but, no, I
19 don't see that.

20 **Q There's no way to diversify by fuel source?**

21 A You're making a distinction that I don't
22 understand. Fuel type versus fuel source?

23 **Q Fuel type: Nuclear, natural gas, coal, oil.**
24 **Fuel source, where it's actually -- where is the**
25 **requisitioned from?**

1 A So as I understand your question, do I think
2 you can diversify, for example, by having natural gas
3 as your primary or only fuel, but sourcing some of that
4 gas from Louisiana or Texas or Arkansas and that that's
5 somehow diversifying, I would not accept that within my
6 use of the term diversification.

7 **Q Okay. Well, then let's move on to regulatory**
8 **policy. Actually, you know what, I'm going to talk**
9 **about -- you said you were an expert also in the**
10 **economics of power projects.**

11 You had talked before with Mr. Moyle also
12 about overnight costs. An overnight cost, in essence,
13 is what it would cost to build the plant tomorrow?

14 A Yes.

15 **Q So it's not an accurate account of the cost**
16 **that ratepayers will pay for this project, correct?**

17 A That's correct. It's not meant to be an
18 estimate of what goes into rate base. It's a measure
19 based upon a hypothetical, instantaneous construction.

20 **Q And so delays in construction would increase**
21 **the actual costs of Turkey Point Units 6 and 7?**

22 A If delays occur, they are likely to increase
23 the actual costs, yes.

24 **Q And those costs that are paid by ratepayers?**

25 A Correct.

1 **Q Now we're going to talk about regulatory**
2 **policy. So the Nuclear Cost Recovery Docket that we're**
3 **in right now, would you be comfortable characterizing**
4 **that as an approved, assured recovery regulatory**
5 **process?**

6 A Was your first word approved?

7 **Q Yes, sir.**

8 A And the second word is assured?

9 **Q The term was approved, assured recovery**
10 **regulatory process.**

11 A in General, yes, it's been approved by the
12 Legislature and the Commission. It provides assurance
13 of recovery of prudently incurred costs. So yes, I can
14 generally accept what.

15 **Q And prior to this process and prior to**
16 **adoption in other states, an after-the-fact prudence**
17 **review had been used?**

18 A In some states, yes.

19 **Q Was Florida one of those states?**

20 A Yes, Florida relied on after-the-fact
21 reviews.

22 **Q So what is an after-the-fact prudence review?**

23 A It's one in which the question of whether the
24 costs were prudently incurred and what costs should go
25 into rate base is determined after a plant has achieved

1 commercial operation.

2 **Q So under that regulatory process, utilities**
3 **were at risk for their costs if their decisions were**
4 **later judged imprudent?**

5 A That's correct. They still are under the
6 Nuclear Cost Recovery Rule. That aspect has not
7 changed.

8 **Q Okay.**

9 MR. HABER: Thank you. No further questions.

10 CHAIRMAN GRAHAM: Okay. Staff?

11 MS. BARRERA: Staff has no questions.

12 CHAIRMAN GRAHAM: Commissioners?

13 Commissioner Brown.

14 COMMISSIONER BROWN: Thank you. I just have
15 a question for you. You looked at the
16 organizational structure for Turkey Point 6 and 7,
17 correct?

18 THE WITNESS: I did.

19 COMMISSIONER BROWN: I was looking at it,
20 it's one of your exhibits and attachments in your
21 prefiled testimony. How many employees of FPL are
22 working on the Turkey Point 6 and 7 project?

23 THE WITNESS: There are several. I can't
24 give you a number that are working on it. The FPL
25 nuclear division has a number of employees that

1 provide services to new nuclear. There are only
2 three that I know of that are full-time on new
3 nuclear. But, again, the rest of the functions
4 are provided by individuals either within the
5 corporate functions or the nuclear division on an
6 as-needed basis.

7 COMMISSIONER BROWN: So ancillary job
8 responsibilities but three full-time FPL hires are
9 dedicated to Turkey Point 6 and 7?

10 THE WITNESS: Yes, there are certainly at
11 least three. And that may be a question that a
12 subsequent FPL witness can answer more fully, but
13 three that I am thinking of, yes.

14 COMMISSIONER BROWN: When you analyze the
15 organizational structure -- and you've been an
16 expert witness of FPL's in years prior -- has that
17 structure changed over time?

18 THE WITNESS: For new nuclear?

19 COMMISSIONER BROWN: Uh-huh.

20 THE WITNESS: It has changed somewhat. And I
21 believe one aspect of that is in the testimony of
22 Mr. Scroggs. There is now a director of
23 construction, Mr. Reuwer, who has been added to
24 that. And I believe that's a full-time new
25 nuclear position. But apart from that, I don't

1 believe the structure has changed that much.

2 COMMISSIONER BROWN: Do you know when that
3 occurred?

4 THE WITNESS: I believe in 2014.

5 COMMISSIONER BROWN: 2014. So really the
6 gist of my questioning is to see how the
7 organizational structure is either growing,
8 shrinking, staying the same. Do you have an idea
9 of that?

10 THE WITNESS: It's not yet grown anything
11 close to what will be needed for construction. It
12 is right now a tight organization with regard to
13 this phase of the development activities.

14 And all of the, as we've talked about, QA/QC,
15 supply chain, legal, all of the other functions
16 could be provided out of the rest of FPL or the
17 rest of the nuclear organization.

18 So there hasn't yet been a need to fully
19 staff up exclusively within the new nuclear
20 project.

21 COMMISSIONER BROWN: Then the majority of the
22 employees or contract employees or whatnot are
23 probably contracted out to third parties, like
24 engineers, lawyers, et cetera, regulatory folks?

25 THE WITNESS: A lot of that done, again, on a

1 shared basis within the nuclear division. You're
2 correct that a lot of the licensing activities for
3 the COL are under a contract to Bechtel, for
4 example, and others. There have been a number of
5 other contractors involved in that process, too.

6 But that doesn't mean that there aren't
7 activities going on within FPL by FPL employees,
8 it's just they are not full-time on new nuclear.

9 COMMISSIONER BROWN: Are the majority of
10 operational costs relative to employee work on
11 Turkey Point 6 and 7 in-house or outsourced, or is
12 that a question for an FPL employee?

13 THE WITNESS: I think it should be for the
14 FPL accounting witness. He can give you more of a
15 breakdown on that. I can tell you in general
16 there's \$19 and a half million in the budget for
17 2015. And of that, roughly 16 and a half million
18 has to do with licensing. The vast majority of
19 the licensing costs are external.

20 COMMISSIONER BROWN: Okay. Thank you. I
21 appreciate it.

22 THE WITNESS: Okay.

23 CHAIRMAN GRAHAM: Okay. Redirect?

24 MR. DONALDSON: No redirect.

25 CHAIRMAN GRAHAM: Okay. Exhibits.

1 MR. DONALDSON: At this time, FPL would like
2 to enter into evidence on Staff's Comprehensive
3 Exhibit List 15, 16 and 17.

4 CHAIRMAN GRAHAM: Okay, 15, 16 and 17 for
5 FPL.

6 (Exhibit Nos. 15, 16 and 17 were received in
7 evidence.)

8 CHAIRMAN GRAHAM: OPC?

9 MR. SAYLER: Our exhibits were for cross
10 examination purposes only so we're not going to
11 move them into the record.

12 CHAIRMAN GRAHAM: Okay. And I think that's
13 all we had.

14 MR. MOYLE: FIPUG had 78. We would move it.

15 CHAIRMAN GRAHAM: Oh, okay. The Moody one?

16 MR. MOYLE: Right.

17 CHAIRMAN GRAHAM: Okay. Any objection to
18 moving in 78 into the record?

19 MR. DONALDSON: No objection.

20 CHAIRMAN GRAHAM: Okay. We'll put Number 78
21 into the record.

22 (Exhibit No. 78 was received in evidence.)

23 CHAIRMAN GRAHAM: All right. So Mr. Reed,
24 you are excused for right now.

25 (Proceedings continued in Volume 4.)

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CERTIFICATE OF REPORTER

STATE OF FLORIDA)
COUNTY OF LEON)

I, MICHELLE SUBIA, Registered Professional Reporter, certify that the foregoing proceedings were taken before me at the time and place therein designated; that my shorthand notes were thereafter translated under my supervision; and the foregoing pages, numbered 337 through 490, are a true and correct record of the aforesaid proceedings.

I further certify that I am not a relative, employee, attorney or counsel of any of the parties, nor am I a relative or employee of any of the parties' attorney or counsel connected with the action, nor am I financially interested in the action.

DATED this 25th day of August, 2015.

Michelle Subia

MICHELLE SUBIA, CCR, RPR
NOTARY PUBLIC
COMMISSION #FF127508
EXPIRES JUNE 7, 2018

