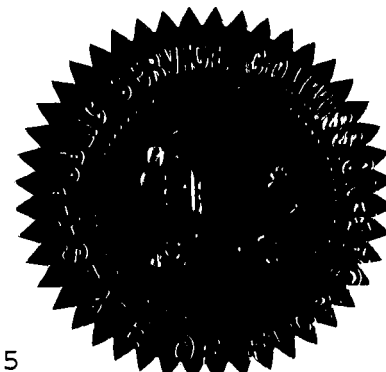


BEFORE THE
FLORIDA PUBLIC SERVICE COMMISSION

DOCKET NO. 080148-EI

In the Matter of:

PETITION FOR DETERMINATION OF NEED
FOR LEVY UNITS 1 AND 2 NUCLEAR
POWER PLANTS, BY PROGRESS ENERGY
FLORIDA, INC.



VOLUME 3

Pages 219 through 305

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PROCEEDINGS: HEARING

BEFORE: CHAIRMAN MATTHEW M. CARTER, II
COMMISSIONER LISA POLAK EDGAR
COMMISSIONER KATRINA J. McMURRIAN
COMMISSIONER NANCY ARGENZIANO
COMMISSIONER NATHAN A. SKOP

DATE: Wednesday, May 21, 2008

TIME: Commenced at 9:30 a.m.
Adjourned at 4:50 p.m.

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

REPORTED BY: MARY ALLEN NEEL, RPR, FPR

PARTICIPATING: (As heretofore noted.)

DOCUMENT NUMBER-DATE

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P R O C E E D I N G S

1
2 (Transcript follows in sequence from
3 Volume 2.)

4 MR. GLENN: We would call Mr. Dale Oliver,
5 Chairman.

6 CHAIRMAN CARTER: Mr. Dale Oliver.
7 Thereupon,

8 DALE OLIVER

9 was called as a witness on behalf of Progress Energy
10 Florida, and having been first duly sworn, was examined
11 and testified as follows:

12 DIRECT EXAMINATION

13 BY MR. GLENN:

14 Q. Good afternoon, Mr. Oliver.

15 A. Good afternoon.

16 Q. Would you please state your name and business
17 address for the record, please.

18 A. Dale Oliver, 299 First Avenue North,
19 St. Petersburg, Florida.

20 Q. And by whom are you employed, and in what
21 capacity?

22 A. I'm employed by Progress Energy Florida as
23 Vice President of Transmission Operations and Planning.

24 Q. And have you prepared and caused to be filed
25 13 pages of prefiled direct testimony in this proceeding

1 on March 11, 2008?

2 A. I have.

3 Q. Have you any changes or revisions to that
4 testimony?

5 A. Yes, I do. My summary will provide updated
6 information that was not available at the time I filed
7 my testimony that is related to the selection of the
8 preferred transmission corridors.

9 Q. If I were to ask you the same questions today
10 as are reflected in your direct testimony, with the
11 exception of your updated information that you'll
12 provide in your summary, would your answers be the same?

13 A. They would.

14 MR. GLENN: Mr. Chairman, Progress Energy
15 requests that the prefiled direct testimony of
16 Mr. Oliver be inserted into the record as though read.

17 CHAIRMAN CARTER: The prefiled testimony will
18 be accepted into the record as though read.

19

20

21

22

23

24

25

**IN RE: PETITION FOR DETERMINATION OF NEED FOR LEVY UNITS 1 AND 2
NUCLEAR POWER PLANTS**

FPSC DOCKET NO. _____

**DIRECT TESTIMONY OF
DALE OLIVER**

I. INTRODUCTION AND SUMMARY

1
2 **Q. Please state your name and business address.**

3 A. My name is Dale Oliver. My business address is 299 First Avenue North, St. Petersburg,
4 Florida 33701.

5
6 **Q. By whom are you employed and in what capacity?**

7 A. I am employed by Progress Energy Florida, Inc. ("PEF" or the "Company") as its Vice
8 President, Transmission Operations & Planning. In this role, I have overall responsibility
9 for the provision of transmission service on PEF's system, the operation of the
10 Company's transmission system, the planning for the expansion of the PEF transmission
11 system to meet PEF's retail and wholesale customer service requirements, and the
12 integration of PEF's transmission system with the Florida transmission grid.

13
14 **Q. Please describe your educational background and professional experience.**

15 A. I received a bachelor's degree in electrical engineering from Georgia Tech in 1981 and an
16 MBA from Georgia State University in 2001. Prior to assuming my current role in
17 February, 2007, I was the Regional Vice President for PEF's South Coastal Region from
18 October, 2005 to February, 2007, and from May 2004 to October, 2005 the Company's

1 Regional Vice President for the South Central Region. From 2001 to 2004, I was PEF's
2 Director of Transmission Engineering and the Director of the Company's Commitment to
3 Excellence program. Prior to joining PEF in January 2001, I held a number of
4 supervisory and management positions in the transmission maintenance and operations
5 areas for the Southern Company's Georgia Power subsidiary in Atlanta, Georgia. I am a
6 registered professional engineer in the states of Florida and Georgia.

7
8 **Q. What is the purpose of your direct testimony?**

9 **A.** I will discuss the process for determining the transmission plan for the interconnection
10 and integration of PEF's Levy Units 1 and 2; summarize the necessary transmission
11 upgrades at the site and from the site to the Company's load centers; provide the
12 preliminary cost estimates for the engineering, right-of-way procurement, and
13 construction work; and explain the reasonableness of the preliminary transmission
14 design, engineering, and resulting cost estimates at this time.

15
16 **Q. Are you sponsoring any exhibits to your testimony?**

17 **A.** No.

18
19 **Q. Are you sponsoring any sections of PEF's Need Study for Levy Units 1 and 2?**

20 **A.** Yes. I sponsor Section III.G of the Need Study.

21
22 **Q. Please summarize your testimony.**

1 A. PEF followed an industry accepted evaluation process to develop the transmission-related
2 requirements for the Levy Units 1 and 2 generating facilities. Based on this review,
3 which we continue to refine, PEF will need to construct several new substations and
4 upgrade its existing transmission system to accommodate the approximately 2,200
5 megawatts ("MW") of generating capacity on to its system. Based on our initial analysis,
6 PEF also will need to add approximately 120-150 miles of new 500 kV and 230 kV and
7 will need to rebuild and upgrade various existing 69 kV, 115 kv and 230 kv transmission
8 facilities, transmission lines through ten counties. This will be one of, if not the, largest
9 transmission construction projects in Florida's history.

10 Based on our preliminary review, costs could range from \$1.85 billion to at least
11 \$2.5 billion excluding AFUDC. This estimate was developed using the best information
12 available to the Company at this time. Given the number of years over which the project
13 will be engineered, land acquired, and facilities constructed, the estimated costs could be
14 lower or higher. For example, because PEF will not know the specific, final routes until
15 the end of 2008, will not begin procuring rights-of-way until late-2008 (which likely will
16 continue for several years thereafter), and will not lock in contracts to construct the
17 facilities for several years, the ultimate costs and scope of the necessary transmission
18 upgrades will not be more definitively known for some time. The costs therefore could,
19 and likely will, change over time depending upon, among other things: the final routes
20 selected; land acquisition costs; permitting and licensing delays at both the state and
21 federal level; litigation delays at both the state and federal level; labor and equipment
22 availability; vendor ability to meet schedules; cost escalations; the imposition of new
23 regulatory requirements; the ability to acquire necessary rights-of-way in a timely manner

1 for all associated facilities, including those necessary to construct the new 500 kV and
2 230 kV transmission lines; inflation or an increase in the cost of capital; and the ability to
3 obtain and maintain financing at reasonable terms. Finally, the transmission related
4 requirements for the Levy Units 1 and 2 could be affected by changes in the Federal
5 Energy Regulatory Commission ("FERC") mandated OASIS Queue for generator
6 interconnection requests and transmission service requests. Changes in these areas also
7 could effect the scope and cost of the project.
8

9 **II. EVALUATION PROCESS FOR DETERMINING PEF'S TRANSMISSION
SYSTEM REQUIREMENTS FOR LEVY UNITS 1 AND 2**

10 **Q. How does your organization conduct transmission planning to ensure grid
11 reliability when considering the addition of new generation resources?**

12 **A.** My organization first analyzes the ability of the planned system to meet the reliability
13 criteria as outlined in the FERC Form 715 filing. This involves the use of load flow and
14 transient stability programs to model various contingency situations that may occur, and
15 then determining if the system response meets the reliability criteria. In general, this
16 involves running simulations for the loss of any single line, generator, or transformer.
17 PEF normally runs this analysis for system load levels from minimum to peak for all
18 possible contingencies, and for both summer and winter. Additional studies are
19 performed to determine the system response to credible, less probable criteria, to assure
20 the system meets PEF, Florida Reliability Coordinating Council ("FRCC"), and North
21 American Electric Reliability Corporation ("NERC") criteria. These studies include the
22 loss of multiple generators or lines, and combinations of each. Some load loss is
23 permissible in more severe disturbances. PEF further evaluates these credible, less

1 probable scenarios at various load levels, as some of the more severe situations occur at
2 average or minimum load conditions. In particular, critical fault clearing times are
3 typically the shortest (most severe) at minimum load conditions, with just a few large
4 base load units supplying the system needs.

5
6 **Q. Please describe the process PEF uses to evaluate the transmission interconnection
7 and integration of new generation resources.**

8 **A.** PEF's Transmission Planning Organization first evaluates the proposed generating
9 plant's proximity to existing PEF transmission facilities. To the extent transmission
10 facilities are not located nearby, we will analyze and identify the facilities necessary to
11 interconnect the plant to the closest existing transmission facilities. We then assess the
12 existing facilities to determine their capability for reliably interconnecting and integrating
13 the proposed new generating facility as a firm PEF generation resource. We then
14 consider other factors prior to integrating a new generating unit into the Company's bulk
15 electric system. These include:

- 16 • The megawatt ("MW") amount of generation being added at the generation site, and
17 the various dispatch profiles of the new generation resource relative to PEF's other
18 generation resources serving PEF's customers and other utilities' load in the region;
- 19 • Compliance with NERC and FRCC reliability standards;
- 20 • Stability and system protection impacts;
- 21 • Capabilities to upgrade existing facilities, including substations and existing lines;
- 22 • The ability to site the new transmission facilities, including the ability to acquire the
23 needed rights-of-way; the ability to obtain any necessary permits; and the estimated

1 time it will take to acquire the rights-of-way and permits in order to meet the project
2 schedule;

- 3 • The ability to construct the transmission facilities without having to take other lines
4 out of service during periods that would result in an adverse reliability impact;
- 5 • The impact, if any, on existing facilities, including whether the proposed
6 interconnection and integration plan would overload an existing facility or result in a
7 materially adverse impact on other parts of PEF's system;
- 8 • The expected in-service testing and commercial operation dates for new generation,
9 which determines when the transmission facilities must be completed and operational;
- 10 • Operating considerations, such as maintenance requirements for the new facilities,
11 and their impact on the ongoing operation of the existing system;
- 12 • Potential impacts on third party transmission systems; and
- 13 • The initial and recurring costs of the facilities and operations.

14
15 **Q. What are the next steps in your evaluation process, after you consider the factors**
16 **noted above?**

17 **A.** The next step is to perform power flow studies for the proposed interconnection and
18 integration plan. We use these studies to evaluate overall system performance under the
19 proposed interconnection and integration plan. Power flow studies also help to better
20 identify the specific new facilities and system upgrades that may be required as a result of
21 adding the new generating resource at the specific location on PEF's system. We then
22 determine whether the proposed interconnection and integration plan complies with
23 NERC and FRCC reliability standards. Once these standards are met, the plan is

1 complete.

2
3 **Q. To your knowledge, are the evaluations described above typically used by the**
4 **industry to assess the transmission needs when adding new generation resources?**

5 **A.** Yes, the approach described above is commonly used by utilities in the industry.

6
7 **Q. Did your organization employ this evaluation process to evaluate the transmission**
8 **needs for the addition of Levy Units 1 and 2 to PEF's system?**

9 **A.** Yes, we used the same evaluation for Levy Units 1 and 2. The results of this evaluation
10 are detailed in Section III below.

11
12 **III. ASSOCIATED TRANSMISSION FACILITIES REQUIRED FOR**
LEVY UNITS 1 AND 2

13 **Q. Please generally describe the associated transmission facilities required for Levy**
14 **Units 1 and 2.**

15 **A.** Generally, the required transmission facilities fall into three categories: interconnection
16 facilities; integration upgrades; and impacts, if any, on third party transmission owners'
17 facilities. Transmission interconnection facilities include the facilities necessary to
18 actually connect the Levy plants to PEF's existing transmission system, such as a new
19 switchyard, generator step-up transformers, and other equipment necessary to connect the
20 plant to the grid. Transmission integration facilities include upgrades to the existing PEF
21 transmission system necessary for the reliable operation and delivery of power from the
22 new Levy units to PEF's grid. These integration facilities include the construction of
23 new substations on PEF's transmission system, upgrades to existing transmission lines,

1 and the construction of new transmission lines throughout portions of PEF's service
2 territory, including new 500 kV. Finally, impacts to third party transmission owners'
3 facilities means what, if any, upgrades or modifications to other utilities' transmission
4 systems are required as a result of adding the two Levy plants to PEF's system. In this
5 case, our analysis shows that there may be some impacts to any other utilities
6 transmission systems. Through the OASIS process and FRCC joint planning process,
7 however, all third party transmission owners will have the opportunity to validate this
8 analysis and assist in the resolution of this issue.

9
10 **Q. Please describe the transmission interconnection requirements for Levy Units 1 and**
11 **2.**

12 **A.** The transmission interconnection requirements for Levy Units 1 and 2 will consist of
13 multiple 500 kV and 230 kV lines and transformers, plus associated station service
14 equipment. At this time, we expect this to include a new substation at the Levy site,
15 which will consist of 500 kV and 230 kV busses, with associated transformers, and four
16 500 kV circuits exiting the site.

17
18 **Q. Please describe the transmission integration upgrades and new transmission**
19 **facilities required for Levy Units 1 and 2.**

20 **A.** Based on our initial estimates to date, we expect the need to construct the following
21 associated transmission facilities to integrate the Levy plants in to PEF's transmission
22 system:

- 1 • Add two new 8-mile 500 kV circuits from the Levy complex to the new Citrus
2 Substation site near PEF's existing Crystal River East Substation;
- 3 • Add one new 13-mile 500 kV circuit from the Levy complex to PEF's Crystal River
4 Plant Switchyard;
- 5 • Add one new 55-mile 500 kV circuit from the Levy complex to PEF's new Central
6 Florida South Substation located south of PEF's existing Central Florida Substation;
- 7 • Potentially add one new 30-mile 500 kV circuit from the new Citrus Substation to
8 PEF's existing Brookridge Substation;
- 9 • Potentially add one new 38-mile 500 kV Circuit from the Brookridge Substation to
10 PEF's existing Lake Tarpon Substation;
- 11 • Add one double circuit capable 50-mile 230 kV circuit from PEF's Lake Tarpon
12 Substation to PEF's existing Kathleen Substation;
- 13 • Add one new 500/230 kV two bank Substation (Citrus) near PEF's existing Crystal
14 River East Substation;
- 15 • Add one new 500/230 kV two bank Substation (Central Florida South) near PEF's
16 existing Central Florida Substation;
- 17 • Tie the Crystal River Plant 500 kV and 230 kV switchyards together creating a two
18 bank 500/230kV Substation;
- 19 • Expand the Brookridge 500 kV facilities to add one 500/230 kV bank;
- 20 • Potentially expand the Lake Tarpon 500 kV and 230 kV facilities;
- 21 • Expand the Kathleen 230 kV buss;
- 22 • Replace various over-dutied breakers at the Crystal River and other substations; and

- 1 • Various lower voltage lines and substation upgrades throughout the system which
2 includes nearly 300 miles of 230 kV, 115 kV 69 kV lines, as well as the addition of
3 transformer capacity at four substations.
4

5 **Q. From a reliability standpoint, are there any other factors that must be considered**
6 **when determining what additional transmission facilities are necessary?**

7 **A.** Yes, the utility must consider whether the additional unit will be the single largest
8 generator in the FRCC region.

9
10 **Q. Will Levy Units 1 or 2 be the single largest generator in the FRCC?**

11 **A.** Yes. Levy Unit 1 is scheduled to commence commercial operation in June 2016, and
12 have a nominal Winter rating of 1100 MW gross output. This would make it the single
13 largest unit in the FRCC region at that time.
14

15 **Q. What is the significance of Levy Unit 1 or 2 being the largest unit?**

16 **A.** This is significant because the peninsular Florida transmission system must be capable of
17 sustaining the loss of the single largest generator without violating any NERC or FRCC
18 reliability standards. In other words, if Levy Unit 1 or 2 were to trip (shut down
19 unexpectedly), an equal amount of power source must be dispatched in less than 15
20 minutes to mitigate that loss.
21

22 **Q. What, if any, impact will Levy Units 1 or 2, as the single largest generator, have on**
23 **peninsular Florida's overall grid reliability?**

1 A. It should not have any adverse impact on grid reliability. Based on our analysis, the
 2 unexpected outage of Levy Unit 1 or 2 should not adversely impact FRCC's import
 3 capability from the Southeast Electric Reliability Council ("SERC"), and not violate any
 4 FRCC or NERC reliability criteria. Thus no additional transmission facilities are
 5 necessary specifically to address the fact that Levy Unit 1 or 2 will be the largest unit.
 6

7 **IV. COST ESTIMATES FOR ASSOCIATED TRANSMISSION FACILITIES
 8 REQUIRED FOR LEVY UNITS 1 AND 2**

8 **Q. What are the estimated costs at this time of the required associated transmission
 9 facilities?**

10 A. Based on our initial estimates, the transmission costs could range from a low of \$1.85
 11 billion to at least \$2.5 billion excluding AFUDC.
 12

13 **Q. How did you arrive at this estimate?**

14 A. We developed these estimates based on the Company's most recent costs to construct
 15 new 230 kV transmission facilities, including the cost of land acquisition, materials,
 16 equipment, and labor, and our best estimate of where possible routes may be sited.
 17 Engineering consultants and internal engineering and right of way personnel worked
 18 together to create the cost estimates for the likely transmission and substation projects
 19 listed above. We created costs estimates using the latest available costs for similar
 20 transmission work performed by the Company and in the industry. We based the
 21 transmission line estimates on the latest average industry per mile costs (labor and
 22 materials) exclusive of right-of-way costs. We calculated right-of-way costs based on the
 23 average per acre cost for property for the existing land use category (urban, rural,

1 agricultural) in the applicable county. We also included estimated legal costs associated
2 with eminent domain. We estimated substation costs based on the latest costs for similar
3 facilities on our system and in the industry. We adjusted these estimates to reflect the
4 amount of major equipment (such as transformers and breakers) associated with the
5 particular substation. We calculated estimates in current year costs, which we then
6 escalated for the year of the expected expenditure.

7
8 **Q. Were these estimates developed consistent with industry practice?**

9 **A.** Yes, the estimates were developed on a reasonable engineering basis, using the best
10 available information to the Company. This is consistent with how others in the industry
11 develop estimates for similar projects.

12
13 **Q. Could these estimates change over time?**

14 **A.** Yes, and they almost certainly will, as we further define the specific routes, begin to
15 acquire rights-of-way, and go out for bid in the next several years for construction
16 services. The estimated costs are also dependent upon, among other things, land
17 acquisition costs; permitting and licensing delays at both the state and federal level;
18 litigation delays at the state, federal, and local level; labor and equipment availability;
19 vendor ability to meet schedules; cost escalations; the imposition of new regulatory
20 requirements; the ability to acquire necessary rights-of-way in a timely manner for all
21 associated facilities, including those necessary to construct the new and upgraded
22 transmission lines to reliably deliver the power from the energy complex to our
23 customers; inflation or an increase in the cost of capital; and the ability to obtain and

1 maintain financing at reasonable terms. Any one of these factors and possibly others
2 could affect the cost of the transmission project in a positive or negative way. We will,
3 of course, provide annual updates to the cost estimates to this Commission pursuant to
4 the Commission's nuclear cost recovery rule.

5
6 **Q. Does this conclude your testimony?**

7 **A. Yes, it does.**

1 BY MR. GLENN:

2 Q. Mr. Oliver, have you prepared a summary of
3 your testimony today?

4 A. I have.

5 Q. Would you please provide that to the
6 Commission?

7 A. I will.

8 Chairman Carter, Commissioners, thank you for
9 the opportunity to address you today.

10 Progress Energy undertook a methodical,
11 detailed, and thorough process to determine the
12 transmission plan and necessary system upgrades for the
13 interconnection and integration of Progress Energy
14 Florida's Levy Units 1 and 2 to the company's grid.
15 First we identified the corridors for the transmission
16 facilities that connect the nuclear units to our grid.
17 To assist us in determining the best corridors, we
18 undertook one of the most comprehensive public outreach
19 programs in the state's history for a project of this
20 kind.

21 And since my testimony was filed in March, we
22 have identified and announced the preferred corridors.
23 The preferred corridors for the necessary associated
24 transmission facilities can be seen on the map that is
25 being provided to the Commission.

1 MR. GLENN: Mr. Chairman, just for your
2 clarification, this is I guess what I would refer to as
3 is a before and after of the routes. The before shows
4 the larger tan or light green corridors. That's what
5 was provided to the Commissioners and the members of the
6 public at the service hearing in Crystal River. And the
7 actual preferred corridor selections is entitled
8 "Proposed LNP Corridors." So those are the ones that we
9 have actually designated as the preferred corridors for
10 the site, for the plant.

11 CHAIRMAN CARTER: One second, please.
12 Ms. Fleming, the one without the title, I guess it would
13 be, do we have this already -- I'm talking to an empty
14 chair. You may proceed. We'll deal with that in a
15 minute.

16 MR. GLENN: Okay. Thank you.

17 THE WITNESS: The preferred corridors for the
18 necessary transmission facilities can be seen on the map
19 that is being provided or that you now have. The
20 preferred corridors are between 300 feet and up to one
21 mile in width. The corridor widths vary depending on
22 the level of certainty of the final route.

23 We will further refine the specific narrower
24 routes within these corridors through the remainder of
25 this year. The final routes will be reduced to much

1 narrower widths, with most being less than 300 feet.
2 More than 90 percent likely will be located within or
3 along existing corridors. Progress Energy Florida plans
4 to complete the selection of the refined routes in late
5 2008 to early 2009.

6 Several corridors that we studied but were not
7 selected include crossings over the Rainbow River,
8 expanding facilities in our existing right-of-way in the
9 Brooker Creek Preserve, and adding a 500-kV line from
10 the Brookridge Substation south to Lake Tarpon. We do
11 not plan on using these corridors at all in the Levy
12 project.

13 Next we identified the transmission facilities
14 required and the estimated cost of those facilities.
15 Progress Energy Florida followed an industry accepted
16 evaluation process to develop the transmission related
17 requirements for the Levy Units 1 and 2 generating
18 facilities. Based on this review, which we continue to
19 refine, Progress Energy Florida will need to construct
20 several new substations and upgrade the existing
21 transmission system to accommodate the approximately
22 2,200 megawatts of generating capacity on its system.

23 Based on our initial analysis, Progress Energy
24 Florida will need to add approximately 180 to 200 miles
25 of new 500-kV and 230-kV line and will need to rebuild

1 and upgrade various existing 69-kV, 115-kV, and 230-kV
2 transmission facilities.

3 We developed cost estimates using the best
4 information available to the company at this time.
5 Given the number of years over which the project will be
6 engineered, land acquired, and facilities constructed,
7 the estimated cost could be lower or higher.

8 Thank you.

9 MR. GLENN: Mr. Chairman, I tender the witness
10 for cross-examination.

11 CHAIRMAN CARTER: Thank you. Mr. Burgess.

12 MR. BURGESS: No questions. Thank you.

13 CHAIRMAN CARTER: Mr. Brew.

14 MR. BREW: No questions.

15 CHAIRMAN CARTER: Mr. Jacobs.

16 MR. JACOBS: I'll make it unanimous. No
17 questions.

18 CHAIRMAN CARTER: Commissioners, before I go
19 to staff, I know we had a lot of discussion on these
20 routes, and I saw the other day in the paper where
21 Progress had released this to the public, and I think a
22 lot of the concerns that we heard, although that's not
23 necessarily our area of jurisdiction, we had a lot of --
24 and I think that they listened and got the information
25 to the people. That's neither here nor there, just the

1 musings of a guy who -- anyway, staff, you're recognized
2 for questions.

3 MR. YOUNG: Staff has no questions.

4 CHAIRMAN CARTER: Commissioners? Commissioner
5 Argenziano, you're recognized.

6 COMMISSIONER ARGENZIANO: Thank you. Wow, the
7 proposed corridor is a loss less impactive, especially
8 around the Rainbow River and those areas you mentioned,
9 where there were great concerns, so it looks like it has
10 really been narrowed down tremendously.

11 What I'm looking at in the Citrus County line
12 here -- I'll do this because I'm getting blind. The
13 east to west, I guess -- let me see. It answers it
14 right here. It is the existing corridor that's there
15 already in Citrus County?

16 THE WITNESS: Yes, yes.

17 COMMISSIONER ARGENZIANO: And it looks like
18 the only proposed new substation at this time would be
19 to the west of 19 in Citrus County?

20 THE WITNESS: The only one on the east side is
21 the Central Florida South Substation, which is down
22 towards the end of that green portion, going to kind of
23 the southeast.

24 COMMISSIONER ARGENZIANO: Oh, it is on the
25 east of 19? It looks like it's actually -- on the map

1 here, it likes like it's smack dab in the middle. I was
2 trying to figure out where it was and --

3 THE WITNESS: That is the only new substation
4 that is on that side of the print.

5 COMMISSIONER ARGENZIANO: Isn't that -- okay.
6 Isn't that very close to the existing plant?

7 THE WITNESS: The existing plant?

8 COMMISSIONER ARGENZIANO: Nuclear power plant.

9 THE WITNESS: Well, the west side, Crystal
10 River, there is a new substation over on the west side
11 that is the Citrus Substation.

12 COMMISSIONER ARGENZIANO: Right.

13 THE WITNESS: That's right. That is a new
14 substation that is very close.

15 COMMISSIONER ARGENZIANO: Okay. And just one
16 other question. Since this is the preferred corridor,
17 how likely is it to stay the way it looks here today?

18 THE WITNESS: I would say it's highly likely
19 that it will stay the way it is today. What we have
20 left to do is to take those mile-wide corridors down to
21 the 300 or less feet, and that's where you see -- the
22 more heavy green is where those corridors are still a
23 mile wide. We have to narrow those down.

24 But I would say that the other corridors that
25 you see on here that are already narrow are generally

1 already existing right-of-ways. And our intent, as I
2 mentioned, is that 90 percent of those will be -- we'll
3 stay within 90 percent of those.

4 COMMISSIONER ARGENZIANO: Okay. Great. Thank
5 you.

6 CHAIRMAN CARTER: Thank you, Commissioner.
7 Commissioners, any further questions?

8 Mr. Glenn, do we have any exhibits with this
9 witness?

10 MR. GLENN: He has no exhibits, although we
11 can include these for identification, and if the
12 Commissioner would like to enter these, that's fine.

13 CHAIRMAN CARTER: This will be Exhibit --
14 Ms. Fleming, you're back. Great.

15 MS. FLEMING: Yes.

16 CHAIRMAN CARTER: Question. As I see it, the
17 new one for us would be the one that's entitled,
18 "Proposed LNP Corridors." We should have this other
19 document that has no title on it; right?

20 MS. FLEMING: I'm not aware of where this
21 other document is in the record.

22 CHAIRMAN CARTER: We had this down at Crystal
23 River, did we not?

24 MR. GLENN: Yes, we had it at the Crystal
25 River service hearing. I don't know if it was

1 actually --

2 MS. FLEMING: That's correct, but this was not
3 entered into the record at the Crystal River service
4 hearing.

5 CHAIRMAN CARTER: It was not? Okay. So let's
6 make it --

7 MS. FLEMING: We only entered in our exhibits.

8 CHAIRMAN CARTER: Let's make it Composite
9 Exhibit Number 67, Commissioners, and we'll call it
10 "Proposed LNP Corridors." Is that okay with you?

11 MR. GLENN: That's fine. Thank you.

12 CHAIRMAN CARTER: Okay. Thank you so kindly.
13 Do we need Mr. Oliver? Is Mr. Oliver coming back, or is
14 this --

15 MR. GLENN: No, Mr. Chairman, I think he can
16 be excused and dismissed.

17 CHAIRMAN CARTER: Thank you, Mr. Oliver.

18 THE WITNESS: Thank you.

19 CHAIRMAN CARTER: And this will be Exhibit --
20 one second. Proposed LNP Corridors.

21 (Exhibit 67 was marked for identification and
22 admitted into the record.)

23 CHAIRMAN CARTER: Okay. Call your next
24 witness.

25 MR. BURNETT: Thank you, Mr. Chairman. We

1 would call John Masiello.

2 CHAIRMAN CARTER: John Masiello. I'll try not
3 to call you Mr. Wizard today, okay, Mr. Wizard?

4 Thereupon,

5 JOHN A. MASIELLO

6 was called as a witness on behalf of Progress Energy
7 Florida, and having been first duly sworn, was examined
8 and testified as follows:

9 DIRECT EXAMINATION

10 BY MR. BURNETT:

11 Q. Good afternoon, sir. Will you please
12 introduce yourself to the Commission and provide your
13 business address?

14 A. My name is John Masiello, and my business
15 address is 3300 Exchange Place in Lake Mary, Florida.

16 Q. Have you already been sworn as a witness,
17 Mr. Masiello?

18 A. Yes, I have.

19 Q. And who do you work for, and what is your
20 position?

21 A. I work for Progress Energy Florida, and my
22 position is Director of Demand-side Management and
23 Alternative Energy Strategies.

24 Q. And have you filed prefiled direct testimony
25 and exhibits in this proceeding?

1 A. Yes, I have.

2 Q. Do you have those before you?

3 A. Yes, I do.

4 Q. Do you have any changes to make to your
5 prefiled testimony and exhibits?

6 A. Yes, I do.

7 Q. What are those, sir?

8 A. On page 27, line 21, I would like to change
9 that Progress Energy is first in the nation for
10 demand-side management and peak reduction with a
11 reduction of 17 percent of peak load.

12 Q. So instead of third, that should now read
13 first?

14 A. First, and include the words DSM or
15 demand-side management.

16 Q. Thank you, sir. And with that correction, if
17 I asked you the same questions in your prefiled
18 testimony today, would you give the same answers that
19 are in your prefiled testimony?

20 A. Yes.

21 MR. BURNETT: Mr. Chair, we would request that
22 the prefiled testimony be entered into the record as if
23 it was read today.

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

**IN RE: PETITION ON BEHALF OF PROGRESS ENERGY FLORIDA, INC.
FOR NUCLEAR NEED**

FPSC DOCKET NO. _____

**DIRECT TESTIMONY OF
JOHN A. MASIELLO**

I. INTRODUCTION AND QUALIFICATIONS

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

2 A. My name is John A. Masiello. My business address is 3300 Exchange Place,
3 Lake Mary, Florida 32746.

4

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

6 A. I am employed by Progress Energy Florida, Inc. (PEF), hereafter referred to as
7 PEF or the Company, as Director of DSM & Alternative Energy Strategies.

8

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

10 A. My responsibilities include the design, implementation and administration of the
11 Company's Demand-Side Management (DSM) programs, including all training,
12 budgeting, and accounting functions related to these programs. By DSM, I mean
13 direct load control and energy efficiency programs.

14

15 **Q. Please describe your education background and professional experience.**

1 A. I have a Masters of Business Administration degree from the University of
2 Central Florida. I received a Bachelor of Arts degree in Business Management
3 from Warner Southern College. In addition, I have received the following
4 energy-related certifications from the Association of Energy Engineers: Certified
5 Energy Manager (CEM), Certified Cogeneration Professional (CCP), Certified
6 Sustainable Development Professional (CSDP), Certified Business Energy
7 Professional (BEP), and Distributed Generation Certified Professional (DGCP). I
8 am also a Certified Energy Rater for the State of Florida. Prior to joining PEF in
9 July 1991, I served for ten years as the manager of an energy services company
10 that was recognized by the Carter Administration for its development of a model
11 energy efficiency program.

12
13 **Q. Are you sponsoring any section of the Company's Need Study, Exhibit No.**
14 **___ (JBC-1)?**

15 A. Yes. I am sponsoring Section IV, C., 4, the "Future Demand-Side Management"
16 subsection of the Need Study.

17
18 **Q. Are you sponsoring an exhibit in this case?**

19 A. Yes. I am sponsoring the following exhibits that I prepared or that were prepared
20 under my supervision and control. All of these exhibits are true and accurate and
21 are attached to my direct testimony:

- 1 ▪ Exhibit No. ____ (JAM-1), PEF Current Florida Public Service Commission
2 (FPSC) DSM Goals;
- 3 ▪ Exhibit No. ____ (JAM-2), PEF DSM Programs and Measures; and
- 4 ▪ Exhibit No. ____ (JAM-3), PEF DSM Implementation Graphs for residential
5 heat pump installations, duct repairs and insulation retrofits.

6

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

8 A. The purpose of my testimony is to summarize the Company's existing DSM
9 programs, including the 39 new measures recently approved by the Commission,
10 providing a total of 16 programs and over 100 measures, and to describe the
11 Company's future projections. My testimony contains the following components:

- 12 ▪ History of PEF's DSM initiatives;
- 13 ▪ Current status of DSM programs at PEF;
- 14 ▪ DSM goals setting process;
- 15 ▪ Overview of current DSM programs including the recently FPSC-approved
16 modifications; and
- 17 ▪ Conclusion.

18

19 **I. PEF's DSM Programs**

20 **Historical Overview**

21 **Q. Briefly describe PEF's Demand Side Management Programs.**

22 A. PEF defines DSM as the research, planning, implementation and monitoring of

1 programs designed to reduce electrical consumption during peak demand periods.
2 PEF's current DSM Plan is comprised of 16 individual programs, including seven
3 residential programs, seven commercial/industrial programs, a qualifying facilities
4 (cogeneration and small power production) program, and a research and
5 development program. PEF's objectives in offering these comprehensive DSM
6 programs to residential and commercial customer segments are to encourage
7 participation while cost-effectively reducing the growth rate of weather-sensitive
8 peak demand, reducing and controlling the growth rate of energy consumption,
9 increasing resource conservation, and increasing the efficiency of the electric
10 system. PEF has used the Commission-approved cost-effectiveness methodologies
11 required by Rule 25-17.008, Florida Administrative Code (F.A.C.), and the
12 planning assumptions in PEF's 2006 – 2015 Ten-Year Site Plan to determine the
13 cost-effectiveness of the modified and new programs. By offering DSM programs
14 evaluated by Commission-approved methodologies, all customers benefit with
15 lower rates achieved through the deferral or avoidance of new generating capacity.

16
17 **Q. When did PEF begin its DSM efforts?**

18 **A.** PEF has a proven history of research, development, and implementation of DSM
19 programs to avoid or defer generation cost-effectively. PEF has offered DSM
20 programs to its customers since 1981. The Company has continued to
21 aggressively pursue the research and development of additional/modified DSM
22 programs to reduce and control the growth rate of energy consumption, increase
23 resource conservation, and increase the efficiency of the electric system.

1 Program offerings include both energy efficiency (conservation) and direct load
2 control options for both residential and commercial customers.

3
4 **Q. What are the resulting impacts from the DSM efforts?**

5 A. PEF has demonstrated success in implementing cost-effective DSM programs
6 that have resulted in the avoidance or deferral of power plant construction.
7 During the more than two decades of implementing its energy efficiency
8 programs, PEF's DSM programs have saved our customers 10 billion kilowatt
9 hours, and have resulted in a total demand reduction of over 1,500 megawatt
10 (MW) since their inception. These programs have offset the need for 3 new 500
11 MW generating power plants or enough generation to power the City of Orlando
12 for two years. The DSM programs have also reduced carbon dioxide emissions
13 by more than 7,500,000 tons or the equivalent of removing 1,900,000 cars from
14 Florida roads annually.

15 By using Commission-approved cost-effective methodology, these impacts
16 have been achieved without penalizing customers who are not participating in
17 DSM program offerings. PEF's DSM programs provide customers with
18 comprehensive DSM services while providing electric rates for all customers
19 (participants and non-participants) that are lower than they would have been if
20 these programs had not been implemented. Thus, reducing the growth rate of
21 weather-sensitive peak demand has benefited not only PEF's individual
22 customers who have reduced their demand through participation in the new and
23 modified DSM programs, but also all other customers on PEF's system.

1

2

Q. How has the Company expanded its DSM programs through the years?

3

A. PEF conducts ongoing reviews of existing programs and researches and develops new programs or the modification of existing ones based on performance. As we identify modifications and program additions that cost-effectively increase energy efficiency in homes and businesses, reduce PEF's coincident peak load, and reduce customers' energy consumption, PEF attempts to incorporate these measures into its existing DSM programs or we implement a new program. As an example, PEF has petitioned the FPSC for modifications to either incorporate such measures into existing DSM programs or implement new programs. Most recently, the Company received approval in Docket 060647, Order No. PSC-06-1018-TRF-EG to increase its DSM offerings via 2 new programs and 39 new measures. These changes result in total DSM offerings of over 100 measures and 16 programs. PEF anticipates that the implementation of these new DSM programs and measures will significantly increase the penetration of demand-side management in the future and result in avoiding the construction of an additional 512 MWs on PEF's system.

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Q. Please describe the tool used by PEF to evaluate DSM program cost-effectiveness.

20

21

A. PEF performs its DSM cost-effectiveness evaluations using an integrated resource planning model called Strategist (licensed by NewEnergy Associates). Strategist contains a Differential Cost-Effectiveness (DCE) module specifically

22

23

1 designed to evaluate DSM alternatives against a base resource plan and compute
2 benefit-cost ratios for each of the three Commission-approved tests of cost-
3 effectiveness: Rate Impact Measure (RIM), Total Resource Cost (TRC), and
4 Participant Tests. The DCE module dynamically calculates the capacity and
5 production cost impacts of a DSM program by performing a production cost
6 simulation with and without the DSM program. Deferred capacity benefits are
7 determined by applying the cost of each deferred generation unit by the amount
8 of capacity that can be reduced by the DSM programs in order to ensure that
9 reliability of the system matches the base-case scenario. The base case scenario
10 does not include the DSM programs. Production cost savings are calculated as
11 the difference in production cost results between the with-DSM and without-
12 DSM program cases.

13 The modeling also includes all other DSM costs and benefits, including
14 program administrative expenses, incentive payments, participant costs, lost
15 revenue, etc., as required to develop and report results for the three cost-
16 effectiveness tests. This dynamic modeling approach offers greater consistency,
17 flexibility, resolution and accuracy than a static spreadsheet approach. Using the
18 same model to evaluate both supply-side and demand-side alternatives ensures
19 that consistent data and methods are being applied across the board. Strategist's
20 base resource plan allows DSM programs to compete against one or more
21 deferrable generation units that can vary by type and timing. Also, individual
22 DSM programs can be combined together within Strategist to create a DSM
23 bundle large enough to be evaluated against multiple generation units. Finally,

1 the ability of Strategist to perform a production cost simulation of the system
2 both with and without the DSM program provides the best available methodology
3 for estimating fuel and O&M cost savings.

4
5 **Q. How does PEF determine which measures it will offer to its customers?**

6 A. We continually seek programs to maximize the availability of cost-effective
7 DSM opportunities for PEF's customers. We identify these opportunities
8 through customers, contractors, emerging technologies, and state, local, and
9 national research. During the selection and analysis of the conservation
10 measures, PEF gives consideration to the issues and end-use categories specified
11 in Commission Rule 25-17.0021(3), F.A.C. The conservation measures are
12 evaluated separately for the residential and commercial/industrial market
13 segments and vintage (*i.e.*, existing construction and new construction). The
14 residential space conditioning measures were also evaluated for each of the two
15 major baseline technologies (*i.e.*, strip-heat and heat pumps).

16 PEF utilizes a step-by-step process for determining which cost-effective
17 measures will provide the most benefits for all of our customers. The first step
18 is the review of potential measures for each customer segment. For our most
19 recent expansion of the DSM programs, we analyzed over 200 possible measures.
20 The possible options with the greatest potential to pass the Rate Impact Measure
21 test are then analyzed against all three tests (RIM, TRC & Participant). Then,
22 incentives are determined that will maximize the participation for each of the

1 measures. This method ensures that the DSM programs we offer will reduce the
2 rates for all of our customers, both DSM participants and non-participants alike.

3
4 **II. Current Status of PEF's DSM Programs**

5 **Q. Is PEF reaching saturation levels or encountering other barriers to installation**
6 **for certain DSM measures or technologies?**

7 A. Yes. A goal of utility DSM programs and incentives is to encourage customers
8 to choose more energy-efficient equipment than they would without a utility
9 program. However, there are several considerations that are affecting DSM
10 potential in PEF's service territory. Exhibit No. ____ (JAM-3) shows the annual
11 and cumulative number of residential heat pumps, duct repairs, and insulation
12 retrofit measures implemented by PEF since 1993. This exhibit is referenced for
13 the following residential statements below.

14 First, in 2006, Department of Energy's (DOE) regulations under the National
15 Appliance Energy Conservation Act (NAECA) established a new efficiency
16 standard for certain heating and cooling systems and changed HVAC
17 standards/codes significantly. For example, the national minimum efficiency for
18 new heat pumps increased from a SEER of 10 to a SEER of 13. This increase in
19 the baseline for energy efficiency impacts the utility program's ability to achieve
20 efficiency gains at a reasonable cost. The annual residential HVAC
21 implementations last set a peak in 2005 at almost 8,000. The increase in the
22 minimum SEER to 13 in 2006 possibly contributed to the increase in the number
23 of heat pump incentives prior to the associated building code changes later that

1 year. However, the level of activity in 2006 was still less than 2005 and in 2007
2 PEF expects the number of implementations again to be less than in 2005 as the
3 market adjusts to the new minimum SEER.

4 Second, duct repair implementations have set a series of successively lower
5 peaks. The annual implementations for 2004 through 2006 were less than 4000
6 compared to an average of 8,100 during 1997 through 1999 and an average of
7 4,500 from 2000 to 2003.

8 Third, the number of residential attic insulation upgrades implemented has
9 steadily decreased. The annual implementations for insulation have set a series
10 of consecutively lower peaks. It appears that 4000 annual implementations is a
11 stretch goal for the current program. Part of this decline could be attributed to the
12 fact that this measure is only available once per premise. The average number of
13 implementations from 2004 through 2006 is just over 3,700.

14 Finally, residential new construction's combined annual implementations for
15 heat pumps and insulation peaked sharply in 2003 at almost 9,000 and thereafter
16 dropped to approximately 7,000 for 2005 and 2006. The current program appears
17 to have settled at an annual level of implementations that is well below the 2003
18 level.

19 As new minimum requirements and standards are created, there is lag time in
20 market transition before participation in programs encouraging purchases beyond
21 the new minimum can achieve the same level program performance as was seen
22 prior to the code increase. PEF believes this could be due to the natural ebb and
23 flow of market transformation that occurs when the new minimum requirement

1 becomes effective, which was the case with the increase to SEER 13 for heat
2 pumps in 2006.

3 Additionally, there are other factors that can impact our ability to successfully
4 implement measures but are difficult to project. An example of this is the
5 Neighborhood Energy Saver Program that was implemented in 2007. Through
6 this program, an economically needy community is identified, the neighborhood
7 is canvassed, and each eligible home may have efficiency measures installed at
8 no cost. There is no need for a second visit or appointments with contractors, as
9 the audit is conducted and the installers follow immediately behind to install the
10 measures. Although this program was recently launched, there is currently an
11 approximate participation rate of 78%. The gap in implementation is mostly
12 attributed to societal factors such as privacy or lack of occupancy and safety
13 factors like hazardous conditions or dangerous canines and not related to
14 saturation. While the Company continues to employ every opportunity to
15 increase the rate of implementation, the Company's experience with the
16 Neighborhood Energy Saver Program shows that achieving full implementation
17 is not realistic and the level of implementation can be difficult to accurately
18 predict.

19 Simultaneously, PEF's direct load program has been very successful.
20 However, the Company is close to reaching the maximum amount that can be
21 used to meet our reserves, which is no more than 60% in the winter and no more
22 than 50% in the summer. The remaining reserves are met with hard assets, which

1 include both spinning reserves and peaking units, and voltage reductions which
2 are allocated to handle the loss of our largest capacity plant.

3
4 **Q. How did PEF address the concern of saturation with its current program
5 measures?**

6 A. To address these concerns, PEF petitioned the FPSC and received approval to
7 modify and increase its DSM program offerings with an unprecedented 39 new
8 measures and 2 new programs. Some of the modifications included adding an
9 incentive for households that have ceiling insulation R-values between R-12 and
10 R-15, increasing the SEER value for heat pumps up to 14, and increasing the
11 incentive amount for a number of measures.

12 Also, new measures were added that may not have been cost-effective
13 previously, but due to changing market conditions, they are now more cost-
14 effective. These include year-round load management, replacement windows,
15 and commercial lighting. These modifications helped PEF to broaden their reach
16 in both the residential and commercial sectors. However, since these measures
17 were just recently implemented, it is still too early to tell how much they will
18 impact the overall DSM program. We anticipate, however, that the measures
19 listed above will avoid 165 MWs by 2020.

20
21 **Q. Please describe PEF's current residential direct load control program.**

22 A. PEF currently offers residential customers several direct load programs under the
23 EnergyWisesm brand. PEF offers a 5-month winter-only program which provides

1 credits from November through March, and a 12-month summer/winter program.
2 PEF also offers two renewable programs: Solar Water Heating Program with
3 EnergyWisesm and the SolarWise for Schoolssm Program (SolarWisesm) where
4 customers can elect to donate their monthly EnergyWisesm credits toward a fund
5 used to promote photovoltaics and renewable energy educational opportunities.

6 PEF developed its residential direct load control system in the 1980s, and
7 made system improvements as technology advancements occurred. The system
8 works with current generation controls and utilizes 154 MHz transmitters
9 coupled with radio switches that cycle the heat and air units and turn off water
10 heaters and pool pumps. Presently PEF is implementing an end-use metering
11 program; one of the objectives of this program is to provide the Company with
12 additional load reduction data for appliances by housing type.

13
14 **Q. How often does PEF review its DSM program and potential new**
15 **technologies for additional DSM opportunities?**

16 A. PEF continually seeks opportunities to identify and implement DSM
17 programs/measures. Measures are eliminated when they are no longer cost-
18 effective, as in the case of the year-round energy management program in 2001.
19 And new measures are added when they become cost-effective or if they become
20 cost-effective once again, which is why PEF recently reintroduced the 12-month
21 energy management program (EnergyWisesm).

22 For example, PEF performs research and development through its Technology
23 Development Program. Most recently, through this research program, we

1 identified our Neighborhood Energy Saver (NES) Program. In 2007, the
2 Commission approved the successful NES pilot as a DSM program under PEF's
3 regulated programs. We are now implementing the NES Program across all four
4 PEF regions with a targeted goal of 2,000 completions per year. PEF's NES
5 Program provides demand reductions while improving customers' comfort levels
6 in summer and winter and decreasing the customer's electricity cost.

7 III. PEF's DSM Goals

9 **Q. Why are DSM goals established?**

10 A. PEF establishes annual DSM goals to meet the requirements of Florida Energy
11 Efficiency and Conservation Act (FEECA) and the Florida Administrative Code.
12 Additionally, DSM goals are established for use in planning to cost-effectively
13 meet the future capacity needs of our customers. Our DSM goals and
14 achievements are key inputs in determining our resource needs through the Ten-
15 Year Site Plan.

17 **Q. How frequently are PEF's DSM goals established?**

18 A. Goals for a ten-year period that establish demand and energy savings for
19 residential and commercial segments are set every five years.

20
21 **Q. When were PEF's Commission-approved DSM goals established?**

1 A. PEFs current goals were approved on August 9, 2004 in FPSC Order No. PSC-
2 04-0769-PAA-EG issued in Docket 040031-EG. (Consummating Order No.
3 PSC-04-0852-CO-EG issued September 1, 2004).

4
5 **Q. What are PEF's DSM goals?**

6 A. My Exhibit No. ____ (JAM-1) illustrates PEF's current Commission-approved
7 goals and actual cumulative achievement through 2006.

8
9 **Q. How has the Company performed with respect to these goals?**

10 A. For the 2006 reporting period, PEF exceeded its cumulative residential DSM
11 reduction goals as well as all commercial/industrial Commission-established DSM
12 goals by more than 15%. In the residential sector, this was primarily due to actual
13 annual participation running higher than what was projected with the exception of
14 the Low-Income Weatherization Assistance Program. In the commercial/industrial
15 sector PEF experienced higher than expected participation in the Standby
16 Generation Program.

17
18 **Q. Although the current DSM goal period only runs to 2014, do you have any
19 expectations as to how the DSM programs will affect load growth in the years
20 beyond 2014?**

21 A. As explained above, the current programs are reaching saturation in terms of the
22 amount of load reduction that can be achieved. Based on the information available
23 today, I expect that, in the time period beyond 2014, the Company will continue to

1 maintain the level of reduction in load that has been estimated for the years before
2 2014.

3
4 **IV. Overview of Current DSM Programs Including the Recently FPSC
Approved Modifications**

5 **Q. What are PEF's current Commission-approved DSM programs?**

6 A. PEF's current Demand Side Management (DSM) Plan includes 16 individual
7 programs, including seven residential programs, seven commercial/industrial
8 programs, a qualifying facilities (cogeneration and small power production)
9 program, and a research and development program. The programs are noted
10 below:

11 **Residential DSM Programs**

12 **Home Energy Check:** The Home Energy Check Program is a comprehensive
13 residential energy evaluation (audit) program. The program provides PEF's
14 residential customers with an analysis of energy consumption and
15 recommendations for energy efficiency improvements. It acts as a motivational
16 tool to identify, evaluate, and inform consumers on cost-effective and energy-
17 saving measures. It serves as the foundation of the residential Home Energy
18 Improvement Program and is a program requirement for participation.

19 The Home Energy Check offers six different types of energy audits:

- 20
- Free walk-thru audit
 - More comprehensive paid walk-thru audit (\$15 charge)
 - Energy rating (Energy Gauge)
- 21
22

- 1 • Mail-in audit
- 2 • Web-based audit
- 3 • Phone-assisted audit

4 **Home Energy Improvement:** This is an umbrella program for existing homes.
5 This program combines thermal envelope efficiency improvements with
6 upgraded equipment and appliances. The Home Energy Improvement Program
7 includes incentives for measures such as: duct testing, duct leakage repair, attic
8 insulation, injected wall insulation, replacement windows, window film,
9 reflective roofing, high efficiency heat pump replacing resistance heat, high
10 efficiency heat pump replacing a less efficient heat pump, HVAC
11 commissioning, plenum sealing, proper sizing of a heat pump, and supplemental
12 bonuses for contractors to complete required paperwork. Also, insulation
13 upgrade incentives are now larger for homes above 1500 SF.

14 **Residential New Construction (Home Advantage):** The Home Advantage
15 Program promotes energy-efficient construction that exceeds the building code.
16 Information, education, and consultation are provided to homebuilders and
17 contractors on energy-related issues and efficiency measures. This program
18 encourages the installation of high performance windows, reflective roof
19 materials, high efficiency insulation, conditioned space air handler placement,
20 and energy recovery ventilation.

21 **Low Income Weatherization Program:** The program goal is to integrate PEF's
22 DSM program measures with the Department of Community Affairs (DCA) and
23 local weatherization providers to deliver energy efficiency measures to low-

1 income families. Through this partnership PEF will assist local weatherization
2 agencies by providing energy education materials and financial incentives to
3 weatherize the homes of low-income families.

4 **Neighborhood Energy Saver Program:** The weatherization program
5 referenced above and the Neighborhood Energy Saver (NES) were both designed
6 by PEF to assist low-income families with escalating energy costs. The goal of
7 the NES Program is to implement a comprehensive package of electric
8 conservation measures at no cost to the customer. In addition to the installation
9 of the conservation measures, an important component of this program is
10 educating families on energy efficiency techniques and the promotion of
11 behavioral changes to help customers control their energy usage.

12 **EnergyWisesm:** This is a voluntary load control program that incorporates direct
13 radio control of selected customer equipment to reduce system demand during peak
14 capacity periods and/or emergency conditions by temporarily interrupting selected
15 customer appliances for specified periods of time. Customers have a choice of
16 options and receive a credit on their monthly electric bills depending on the options
17 selected and their monthly kWh usage.

18 **Renewable Energy Saver:** This program consists of the following two areas:

19 *Solar Water Heating with EnergyWisesm:* This measure encourages eligible
20 residential customers to install a solar thermal water heating system. The
21 primary qualifications for this incentive are that the house has whole-house
22 electric cooling, electric water heating, and electric heating. Pool heaters and
23 photovoltaic systems do not qualify. In order to qualify for this incentive, the

1 heating, air conditioning, and water heating systems must be on the
2 EnergyWisesm Program and the solar thermal system must provide a
3 minimum of 50% of the water heating load.

4 *SolarWisesm*: This measure promotes environmental stewardship and
5 renewable energy education through the installation of solar energy systems
6 at schools within PEF's service territory. Customers participating in the
7 Winter-Only EnergyWisesm or Year-Round EnergyWisesm Program can elect
8 to donate their monthly credit toward the Solar Photovoltaics with
9 EnergyWisesm Fund. The fund will accumulate associated participant credits
10 for a period of two years, at which time the customer may elect to renew for
11 an additional two years. All proceeds collected from participating customers
12 and their associated monthly credits will be used to promote photovoltaics
13 and renewable energy educational opportunities.

14 Commercial DSM Programs

15 PEF has also established a robust list of program measures to address the
16 commercial, industrial, and governmental sectors. In addition, PEF recognizes
17 the unique needs of small businesses and has established a separate group to
18 work with this sector.

19 **Business Energy Check:** The Business Energy Check is an audit for non-
20 residential customers, and several options are available. The free audit for non-
21 residential facilities can be completed at the facility by an auditor or online by the
22 business customer. The paid audit provides a more thorough energy analysis for
23 non-residential facilities. This program acts as a motivational tool to identify,

1 evaluate, and inform consumers on cost-effective and energy-saving measures for
2 their facility. It serves as the foundation of the Better Business Program and is a
3 requirement for participation in that program.

4 **Better Business:** This umbrella efficiency program provides incentives to
5 existing commercial and industrial customers for heating, air conditioning,
6 motors, water heating, roof insulation upgrade, duct leakage and repair, window
7 film, demand-control ventilation, lighting, occupancy sensors, green roof,
8 compressed air, and HVAC optimization.

9 **Business New Construction:** This umbrella efficiency program is designed for
10 new commercial/industrial buildings. This program provides information,
11 education, and advice on energy-related issues and efficiency measures by
12 involvement early in the building's design process. With the exception of the
13 ceiling insulation upgrade, duct test and leakage repair, HVAC steam cleaning,
14 and roof top unit recommissioning, the commercial/industrial new construction
15 program provides incentives for the same efficiency measures listed in the Better
16 Business Program for existing buildings.

17 **Innovation Incentive:** This commercial program provides incentives for
18 customer-specific demand and energy conservation projects, on a case-by-case
19 basis, where cost-effective to all PEF customers. To be eligible, projects must
20 reduce or shift a minimum of 10 kW of peak demand. This program focuses on
21 measures not offered in PEF's other DSM programs. Examples include
22 refrigeration equipment replacement, microwave drying systems, and inductive
23 heating (to replace resistance heat).

1 **Standby Generation:** PEF provides an incentive for customers participating in
2 this program to voluntarily operate their on-site generation during times of
3 system peak.

4 **Curtable Service:** The Curtable Service Program is a dispatchable DSM
5 program in which customers contract to curtail or shut down a portion of their
6 load during times of capacity shortages. The curtailment is done voluntarily by
7 the customer when notified by PEF. In return for this cooperation, the customer
8 receives a monthly rebate for the curtable portion of their load.

9 **Interruptible Service:** The Interruptible Service Program is a rate tariff which
10 allows PEF to switch off electrical service to customers during times of capacity
11 shortages. The signal to operate the automatic switch on the customer's service is
12 activated by the Energy Control Center. In return for this, the customers receive
13 a monthly rebate on their kW demand charge.

14 **Technology Development Program:** This program allows PEF to undertake
15 certain development and demonstration projects which have promise to become
16 cost-effective conservation and energy efficiency programs.

17 **Qualifying Facility:** In the Qualifying Facility Program, power is purchased
18 from qualifying cogeneration and small power production facilities.

19
20 **Q. Please describe how the Innovation Incentive Program works.**

21 **A.** This is a customized program which addresses our customer's individual needs
22 and tailors energy-efficient measures which will assist them in reducing or

1 shifting load during peak demands using either existing or emerging
2 technologies. Incentives are determined on a case-by-case basis.

3
4 **Q. How has PEF partnered with builders to increase energy efficiency
5 participation?**

6 A. PEF has an initiative to increase builder participation in our energy efficiency
7 programs in general, and specifically, at our premium level which includes
8 Energy Star certification. The primary components of the initiative include
9 retaining builders that PEF currently works with, expanding and increasing the
10 builder's involvement, and recruiting new builders in our service territory that
11 have applied for temporary service (indicating building activity) but are not
12 currently on our partner list. In addition, PEF continues to expand our alliances
13 with trade partners such as HVAC and insulation contractors to leverage their
14 contact with builders as well.

15 PEF is also conducting educational seminars to help builders navigate the path
16 to "Green" building practices and our Home Advantage Programs are structured
17 to help them succeed with both training and other incentives. Through training,
18 face time, and responding to feedback, PEF is committed to increasing market
19 penetration of energy efficiency measures in residential new construction.

20
21 **Q. What are some of PEF's other unique DSM applications?**

22 A. To help launch the program expansion to residential customers, PEF offers an
23 energy efficiency kit to customers that participate in a free, in-person Home

1 Energy Check. The kit includes weather stripping, compact fluorescent light
2 bulbs, a refrigerator thermometer, hot water temperature check card, and draft
3 stoppers for electrical outlets, all of which will help customers save money by
4 using less energy.

5 In addition, PEF's Solar Water Heating with EnergyWisesm Program is a
6 unique application which provides an incentive to help defray the up-front costs
7 of installing the solar heating panels and associated equipment. Participation in
8 this program, which was rolled-out in April 2007, continues to exceed
9 expectations.

10 The SolarWise for Schoolssm Program is another unique program which
11 provides renewable energy and promotes energy education. The program allows
12 PEF's customers to contribute their monthly EnergyWisesm credit to an escrow
13 fund; 100% of these contributions are used for SolarWise for Schoolssm. A goal
14 of this program is to install solar photovoltaic panels on every school throughout
15 our service territory. The program was launched in August 2007. PEF is
16 currently collaborating with the initial schools to install the solar photovoltaic
17 panels and provide an energy education curriculum in 2008.

18
19 **Q. What is PEF's Demand Side Management Department's role in developing**
20 **alternative energy strategies?**

21 A. Alternative energy is part of PEF's Balanced Solution. The Company, through
22 the DSM and Alternative Energy Strategy Department, has been an active

1 participant in alternative energy research with an emphasis on solar, hydrogen,
2 and biomass.

3 Solar research projects include a solar photovoltaic array at our
4 Econolockhatchee Substation, where three array technologies are interconnected
5 independently for comparison and evaluation, as well as partnerships with the
6 Florida Department of Environmental Protection (FDEP) and Florida Solar
7 Energy Center (FSEC) on the SunSmart School program, where photovoltaic
8 arrays provide energy for the school and the students engage in an energy
9 education curriculum associated with the production and efficiency of the system.

10 Hydrogen research includes partnerships with Ford, FDEP, British Petroleum
11 (BP), and Chevron on two different technologies of hydrogen production and
12 consumption. The program's two hydrogen fueling stations are the first of their
13 kind in the state and provide fuel for six (6) Ford Focus Fuel Cell Vehicles and
14 eight (8) Hydrogen ICE buses. Additional research projects include the
15 Homosassa sustainable fuel cell, where water and sunlight are the resources used
16 to produce power for the wildlife pavilion at the Homosassa Wildlife State Park,
17 and a Fuel Cell generator project, where a hydrogen fuel cell was used to provide
18 emergency generation to an assisted living facility.

19 Biomass research includes a study with the University of South Florida to
20 identify potential biomass production potential in Florida, as well as partnerships
21 with the Florida Hydrogen Initiative and the Florida Turnpike Authority on a
22 Methanol Fuel Cell with hydrogen production from orange peels.

1 PEF believes research and education are the building blocks to sustainability.
2 However, the Company does not rest with research, but rather actively pursues
3 alternative energy production. While PEF's Regulated Commercial Operations
4 department provides large-scale alternative generation through standard and as-
5 available contracts, the DSM department focuses on direct customer interaction,
6 along with residential and commercial endeavors to develop measures that
7 promote both renewable energy production with energy efficiency and direct load
8 control partnerships. The Renewable Energy Program established with PSC
9 Docket 060647-EG introduced this innovative collaboration. The DSM
10 organization is pursuing additional measures and programs to enhance this
11 consumer partnership.

12
13 **Q. Does PEF offer any special financing assistance to implement measures?**

14 **A.** Customers who participate in energy efficiency programs, such as the Home
15 Energy Improvement and Better Business, can save on their bills through
16 financial incentives to implement energy-efficient measures. There are also
17 federal tax credits or state rebates that accompany several programs.

18 PEF is also currently researching options that will assist our customers with
19 participating in some of the more costly energy efficiency improvements through
20 implementation of a low interest loan program. PEF envisions a program that
21 will be administered by a third party financial partner with expertise in consumer
22 lending. Under the new loan program, the selected lender would offer loans to
23 assist with the purchase of items such as heat pump systems, reflective roofing,

1 replacement windows, injected foam wall insulation products, and other more
2 costly improvements. The minimum and maximum dollar loan and credit quality
3 standards will be determined by working with the third party financial partner.
4 When loans are approved, PEF would buy down the interest rate to below market
5 rates as an incentive to encourage more customers to take advantage of these
6 investments in energy efficiency improvements.

7
8 **Q. What types of applications has PEF promoted to encourage behavioral**
9 **modifications?**

10 A. In June 2007, PEF introduced its "Save the Watts " campaign. The campaign is
11 designed to encourage consumer participation in PEF's demand side management
12 and energy efficiency programs. The community awareness campaign also
13 educates customers about the benefits of efficiency as a tool for managing energy
14 use and lowering their bills.

15 PEF also reaches out to our youngest customers by educating them on the
16 value of an energy-efficient lifestyle through student audits, student assemblies,
17 and curriculum. Another interesting program is called the newspaper in
18 education program which is sponsored by some of the larger newspapers in
19 circulation. In this program the newspapers publish a classroom edition which is
20 distributed to the students and PEF can supply an energy efficiency supplement to
21 be included. Some additional programs include development of an energy-
22 efficient educational play and participation in the Great American Teach-In
23 through energy efficiency presentations developed for all grade levels.

1

2

Q. How does PEF help customers identify ways to reduce their electric bill?

3

A. The primary method is through the energy audit which helps customers identify specific measures that they can implement that would be most beneficial and have the most impact directly to their residence or behaviors. During an energy audit, additional state rebates or federal tax credits are also identified where applicable.

4

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Q. How does PEF's DSM effort compare to those of other utilities?

14

A. PEF has been a leader in demand-side management and implementing energy efficiency programs in the state of Florida since 1981. PEF has consistently been engaged in identifying numerous cost-effective programs and measures. This is recognized through the extensive list of participation opportunities available for both our residential and commercial customers. Through a review of the numerous programs, it can be seen that PEF clearly has one of the most robust programs in the country.

16

17

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21

PEF is ^{first}~~third~~ in the nation for ^{demand-side}~~load~~ management peak demand reduction with a reduction of 17 percent of peak load, and PEF is ranked fourth in the nation for energy efficiency MWh saved for utilities with 1.5M customers or higher, based

22

23

1 on the Department of Energy's 2006 data. PEF also ranks third in the nation for
2 least cost for MWh saved at \$18.63 per MWh, roughly 100 percent more efficient
3 than California utilities' costs. PEF's consistent efforts to identify and implement
4 cost-effective peak load reduction and energy efficiency measures have placed
5 PEF will ahead of other utilities in the country.

6 The combined efforts/initiatives from our Filing and Enhancements will
7 produce 527 Winter megawatts (WMW) of peak demand and 418 WMW
8 reduction from energy efficiency through 2014. When added to the existing
9 programs, this represents a reduction of over 2400 MW.

10 V. Conclusion

11
12 **Q. Has PEF identified all of the cost-effective demand-side option potential for**
13 **the 2007 through 2014 time frame?**

14 A. Yes. As discussed throughout this document, PEF recently completed a
15 comprehensive review of DSM programs. This resulted in the Commission
16 approving the extensive modifications to three residential/commercial programs
17 and the addition of two new programs. These modifications resulted in the
18 addition of 39 new measures available to residential and commercial customers.

19
20 **Q. Has PEF identified any other conservation, load management or demand-**
21 **side management options that could potentially defer the need for additional**
22 **power generation?**

1 A. No. PEF has recently identified all reasonably achieved DSM potential through
2 its current offerings. The Company, as always, will continue to evaluate potential
3 emerging technologies, but the economics of various technologies has not yet
4 reached market potential. PEF's detailed analysis has captured all cost-effective
5 demand-side management potential available, and it is apparent that the
6 Company will still need additional generating resources to serve its customers'
7 energy needs. With expected customer growth and demand, it is obvious that
8 PEF cannot provide DSM options in quantities needed to offset the demand for
9 additional generation.

10

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

12 A. Yes, it does.

13

1 BY MR. BURNETT:

2 Q. Mr. Masiello, do you have a brief statement
3 before you're tendered for cross-examination?

4 A. No.

5 MR. BURNETT: We tender Mr. Masiello.

6 CHAIRMAN CARTER: Okay. Thank you.

7 Mr. Burgess.

8 MR. BURGESS: No questions.

9 CHAIRMAN CARTER: Mr. Brew.

10 MR. BREW: Yes, thank you, Mr. Chairman.

11 CROSS-EXAMINATION

12 BY MR. BREW:

13 Q. Good afternoon, Mr. Masiello.

14 A. Good afternoon.

15 Q. Real quickly, could you just repeat that last
16 correction you gave me on page 27, please?

17 A. The correction was that Progress Energy
18 Florida is first in the nation for demand-side
19 management, peak demand reduction of 17 percent of peak
20 load.

21 Q. And does that replace the word "load
22 management"?

23 A. It also replaces the word "load management"
24 with "demand-side management."

25 Q. Okay. Can you explain to me your

1 responsibilities as Director of DSM and Alternative
2 Energy Strategies?

3 A. My responsibilities are to design programs,
4 working with an integrated resource plan, that would
5 help reduce the need for building or deferring
6 generation.

7 Q. Okay. Can you define programs for me?

8 A. Programs are a series -- well, I can give you
9 examples. We have programs for existing housing where
10 we would go in and do an energy evaluation on the home.
11 As a result of that evaluation, we would make
12 recommendations. This applies also to commercial. As a
13 result of those recommendations, we would inform and
14 educate our customers on the costs and savings of
15 conservation measures, such as attic insulation, window
16 replacement, duct test and repair, high efficiency HVAC
17 equipment, and so forth.

18 Q. In your testimony at page 1, I guess, at lines
19 12 and 13, you say, "By DSM, I mean direct load control
20 and energy efficiency programs." Do you see that?

21 A. Yes.

22 Q. Do you have responsibilities for demand
23 response other than direct load control?

24 A. Demand response is a term generally given to
25 load control, but load control could also take a

1 different form, perhaps, in terms of voltage reduction.

2 Q. Would demand response include such things as
3 dynamic pricing?

4 A. It could.

5 Q. Does it in the Progress Energy Florida
6 programs?

7 A. Currently, we have time-of-use pricing.

8 Q. Which rate schedules would I look to for
9 time-of-use pricing for large residential customers?

10 A. Large, large residential, did you say?

11 Q. Yes.

12 A. We do have a time-of-use price for residential
13 customers.

14 Q. And the time of use is defined how?

15 A. I'm sorry?

16 Q. The time. Is it hourly?

17 A. It's in blocks.

18 Q. Blocks defined as?

19 A. On peak, off peak.

20 Q. On peak, off peak?

21 A. Uh-huh.

22 Q. Is there any hourly pricing program for large
23 residential customers?

24 A. Not that I'm aware of.

25 Q. Okay. Are there hourly pricing programs for

1 commercial loads?

2 A. Not that I'm aware of.

3 Q. Are there hourly pricing programs for any
4 Progress Energy Florida retail loads?

5 A. I'm not as familiar with the time-of-use
6 pricing or hourly pricing at this time.

7 Q. Okay. You don't know. Are you responsible in
8 any respect for exploring smart grid applications?

9 A. I have begun to look at smart grid
10 applications.

11 Q. Does Progress Energy Florida have any
12 proposals to implement smart grid applications?

13 A. Progress Energy Florida is researching smart
14 grid applications.

15 Q. Would you expect at any point over the next 60
16 years that smart grid applications might be employed?

17 A. I would expect that they would.

18 Q. Okay. Would you expect that providing timely
19 energy prices to customers would be important in terms
20 of peak load response in the future?

21 A. I believe it has a potential.

22 Q. Okay. But in terms of its status at Progress
23 Energy Florida, those are things that are being studied?

24 A. Yes.

25 MR. BREW: Okay. That's all I have.

1 CHAIRMAN CARTER: Thank you, Mr. Brew.
2 Mr. Jacobs.

3 CROSS-EXAMINATION

4 BY MR. JACOBS:

5 Q. Good afternoon, Mr. Masiello.

6 A. Good afternoon.

7 Q. You are the lead point of contact for
8 demand-side initiatives in the company; is that correct?

9 A. That is correct.

10 Q. Do you know the total number of programs that
11 your company presently has in place?

12 A. We have 14 programs.

13 Q. Okay. And you just added 39?

14 A. Thirty-nine measures.

15 Q. Measures. I'm sorry.

16 A. Measures go up under programs.

17 Q. Okay. In the determination that you represent
18 the number one performing company in the nation, the
19 measurement of that is based on your reduction of peak;
20 correct?

21 A. It's the combination of both our demand
22 response and energy efficiency programs.

23 Q. Okay. And is that winter or summer?

24 A. That would be winter.

25 MR. JACOBS: Okay. I have a document I would

1 like to pass out, if I may.

2 BY MR. JACOBS:

3 Q. Have you had a chance to review that,
4 Mr. Masiello?

5 A. No.

6 Q. Okay. I'll give you a moment. Go ahead.

7 A. I've given it a quick review.

8 Q. Okay. Do you recognize this document?

9 A. Yes.

10 Q. How so?

11 A. This is what we submitted for our expansion
12 filing in 2006.

13 Q. And this would have been prepared under your
14 direction?

15 A. That's correct.

16 Q. Okay. I want to go to page 1 of this document
17 and to the second full paragraph, and I just want to
18 have you read for me the first full sentence, if you
19 would.

20 A. The first -- which? I'm sorry.

21 Q. The first full sentence of the second
22 paragraph.

23 A. Which starts with "approval"?

24 Q. Yes.

25 A. "Approval of the proposed programs Will help

1 further the objectives of the Florida Energy Efficiency
2 Conservation Act, FEECA, by cost-effectively reducing
3 the growth rate of weather sensitive peak demand." Do
4 you want me to continue?

5 Q. Yes, please.

6 A. "Reducing and controlling the growth rate of
7 energy consumption, increasing the consumption of
8 expensive resources and increasing the efficiency of the
9 electric system."

10 Q. So based on this, it would be a fair statement
11 to make that the overall objective of your DSM programs
12 is multifaceted; is that correct?

13 A. I'm sorry?

14 Q. There are multiple objectives in --

15 A. Certainly.

16 Q. If you would, moving over to page 2 of that
17 document, and what is labeled paragraph 3 -- I'm sorry.
18 Strike that.

19 A. Did you say strike that?

20 Q. Strike that question. I'm actually looking at
21 the third page, please.

22 CHAIRMAN CARTER: Speak into the microphone,
23 Mr. Jacobs.

24 MR. JACOBS: I'm sorry.

25 BY MR. JACOBS:

1 Q. I'm actually over to the third page, first
2 paragraph. And subject to this statement, this document
3 was attached -- had attachments of two appendices, and I
4 would specifically ask you to describe what Appendix B
5 to this document would be, would contain.

6 A. Appendix B contains the proposed modifications
7 to the Progress Energy demand-side management programs.

8 Q. Okay. Now, I want to go to that for a moment,
9 but before we do that, I want to go to your testimony on
10 page 5.

11 A. Of the same --

12 Q. No, no. Your testimony, page 5 of your
13 testimony. You can hold on to that, and we'll come back
14 to it in just a moment.

15 A. Okay.

16 Q. I want to look at the last paragraph on that
17 page. Let's go back up. Let's go to the discussion
18 beginning at line 4 on that page. And here you're
19 reciting what is your description of the essential
20 benefit of having implemented the DSM programs, and
21 specifically I would look at the beginning of the second
22 sentence in the answer to the question beginning on line
23 7. If you would, read that sentence, please.

24 A. Starting with "during"?

25 Q. During, yes.

1 A. "During the more than two decades of
2 implementing its energy efficiency programs, PEF's
3 demand-side programs have saved our customers 10 billion
4 kilowatt-hours."

5 Q. And would you condition, please, to the end.

6 A. "And have resulted in a total demand reduction
7 of over 1,500 megawatts since their inception."

8 Q. Okay. Is it correct that these numbers
9 reflect peak reduction?

10 A. Well, you have two sets of numbers there. You
11 have 10 billion kilowatt-hours, which would be energy.

12 Q. Okay.

13 A. And then you have 1,500 megawatt-hours, which
14 would be capacity.

15 Q. Thank you for the correction. That's correct.

16 Now, if you would, go down to beginning at
17 line 15 -- actually, go to line 20, beginning with the
18 sentence that begins, "Thus, reducing." And I'll just
19 go through this. "Thus, reducing the growth rate of
20 weather sensitive peak demand has benefited not only
21 PEF's individual customers who have reduced their demand
22 through participation in the new and modified DSM
23 programs, but also other customers on PEF's system."

24 My question is this: In your recent
25 expansion, most of those programs were tied to peak

1 reduction mechanisms; is that correct?

2 A. In 2004, we submitted our goals docket, our
3 10-year docket, our 10-year plan, which is submitted
4 every five years. At the time, we submitted just over
5 400 megawatts. I think it was 401, to be exact. With
6 this expansion, we more than doubled -- we submitted
7 another 512 megawatts. By 2014, we'll be doing
8 913 megawatts through this plan with the expansion.

9 Q. And that is --

10 A. Half --

11 Q. I'm sorry.

12 A. Half of those megawatts, about half of those
13 megawatts are coming from demand response load control
14 programs. The other half of that is coming from energy
15 efficiency.

16 Q. Okay. The programs that you have recently
17 proposed, those energy efficiency programs have
18 components that are directly tied to load reduction, to
19 peak load reduction; is that correct?

20 A. I'm sorry. Say that again, please.

21 Q. Even though you have implemented energy
22 efficiency programs, those energy efficiency programs
23 have components that are directly tied to peak load
24 reduction; is that correct?

25 A. If I understand the question, does an energy

1 efficiency measure also get a capacity benefit, and that
2 answer is yes.

3 Q. Okay. Is that a consistent philosophy of your
4 DSM program?

5 A. I think it's an important concept of our DSM
6 programs.

7 Q. Okay. How so?

8 A. Because capacity is -- you're deferring as we
9 go forward with our conservation measures. You have
10 both a capacity and an energy component.

11 Q. Okay. Does that imply a weighting of the
12 factors in FEECA, or in your mind, is that a balanced
13 implementation of the FEECA directives to do both peak
14 load and total energy consumption?

15 A. Yes.

16 Q. Okay. Now, have you done an analysis of
17 exactly how your -- I understand you stated your
18 rankings in the nation as it relates to peak load
19 reduction. Have you looked at energy consumption and
20 how you stand in that nationally?

21 A. Yes. That's in our testimony as well.

22 Q. Okay. And what does that state?

23 A. We show that we were ranked fourth among
24 utilities of equal size or greater, 1.5 million
25 customers or greater.

1 Q. Okay. Have you done an analysis of your DSM
2 programs that looks at your expenditures for DSM
3 programs as it relates to your revenues?

4 A. No. I don't know that I would use that
5 metric.

6 Q. Okay. Why not?

7 A. Well, as we go through our programs, as we go
8 through our assessment, cost-benefit analysis, we don't
9 look at how much that's costing us. We do the maximum
10 that we can.

11 Q. You don't consider how much a DSM program is
12 going to cost when you implement it?

13 A. For those that pass the cost-benefit analysis,
14 we go forward with programs and goals to achieve those
15 measures.

16 Q. So once you determine that it's cost-effective
17 pursuant to -- and that cost-benefit analysis is RIM?

18 A. That's correct.

19 Q. Okay. So once you determine that it passes
20 RIM, then your assessment of cost has become fairly
21 unimportant; is that a fair statement?

22 A. That's correct, because we have already gone
23 through the cost-benefit analysis.

24 Q. Now, if I'm understanding you correctly, why
25 does that help you in your achievement of FEECA goals?

1 A. I'm not sure I understand. Why does --

2 Q. Let me be more specific. It would strike me
3 that you would -- well, let me just recite back to you
4 what you say here. On page 1 of the petition for
5 approval, the document I just passed out -- why don't we
6 go ahead and mark this. I'm sorry.

7 CHAIRMAN CARTER: Okay. We can mark this as
8 -- this will be Exhibit 68, Commissioners, marked for
9 identification.

10 (Exhibit 68 was marked for identification.)

11 BY MR. JACOBS:

12 Q. Let me just -- one moment -- find the sentence
13 I'm looking for. I'm sorry. It's over on the third
14 page of that document in paragraph 6.

15 A. I'm sorry. You said -- what line was that?
16 On the third page?

17 Q. Third page of that document in paragraph 6.

18 A. Did you say -- I'm sorry. Did you say page 3?

19 Q. Page 3 of that document in the paragraph
20 numbered 6.

21 MR. BURNETT: Mr. Masiello, I'm sorry. I
22 believe you may have your testimony. I believe
23 Mr. Jacobs is referring to --

24 BY MR. JACOBS:

25 Q. I'm sorry. I'm back to --

1 A. Oh, you're back to the testimony?

2 Q. What we've now marked as Exhibit 68, which is
3 your petition for approval of demand-side management
4 programs.

5 A. The expansion? This was the expansion. I'm
6 sorry.

7 Q. The expansion, the expansion. I'm sorry.

8 A. I'm sorry. So we're on page 3.

9 Q. Yes.

10 A. Unfortunately, it's not numbered, but it's
11 paragraph 6, I think you said.

12 Q. That's correct.

13 A. Okay.

14 Q. According to this paragraph, the purpose is to
15 maximize the availability of cost-effective demand-side
16 management opportunities; is that correct?

17 A. That's correct.

18 Q. And based upon your prior statement, that can
19 only happen by a program which in your mind passes RIM;
20 is that correct?

21 A. A program that passes RIM, or if TRC was found
22 to have large savings and minimized impacts are small,
23 then we can consider something else.

24 Q. Okay. Now, let's go to this -- I'm sorry.
25 Let's go to this Appendix B, if you would, please, in

1 now Exhibit 68. And fortunately, we did get numbers on
2 these pages. And if you would, go with me to page --
3 just note for the record, we did not include the whole
4 appendix. It says 2 of 60, but it does not include all
5 60 pages. It's an excerpt.

6 If you would go with me to page 8 of 60,
7 please. Are you familiar with this page?

8 A. Yes.

9 Q. And would you describe it to us, please?

10 A. Essentially, what it's showing is for the
11 residential home energy improvement program, with the
12 modifications of this filing, what the potential number
13 of customers are in 2007 versus the total number of
14 eligible customers, and the annual number of measures,
15 showing a penetration rate of 15 percent.

16 Q. Okay. How did you come up with the number of
17 eligible customers on this?

18 A. It depends on the measure.

19 Q. Okay.

20 A. To give an example, if you were talking about
21 attic insulation, and the attic threshold is an R-19
22 existing, then you go back to the year that R-19 was a
23 requirement, and any homes built after that period would
24 not be an eligible customer. Any homes built previous
25 to that would be considered an eligible customer. So it

1 primarily depends on the measure.

2 Q. Okay. Now, am I to understand that this
3 program would not be marketed to those customers that
4 are not eligible for the program?

5 A. To get the greatest benefit for our dollar,
6 you would not go after new construction for attic
7 insulation.

8 Q. Okay. But if I'm understanding you correctly
9 to say is that the incentive here is only to get -- let
10 me ask the question this way. In going after these
11 customers who are eligible, are you looking to move them
12 to some level of new efficiency or to increase the level
13 of energy efficiency in that building?

14 A. Absolutely.

15 Q. And so in designing this program, you would go
16 and determine who out there is at R-19, you said?

17 A. For an example, uh-huh.

18 Q. Okay. And you would only market to those
19 people who were at R-19 and below?

20 A. We would market it to those customers that had
21 something less than that, because that's the improvement
22 you want to make.

23 Q. I'm sorry. Now, do you have a program that
24 would have some energy efficiency measure or opportunity
25 for customers above that, because above R-19, there are

1 other efficiency gains; is that correct?

2 A. As you get above R-19, you get diminishing
3 returns.

4 Q. Okay. So am to I understand that you do not
5 have a program that markets to that audience?

6 A. No. There's very little benefit to market the
7 program or to provide insulation above R-19.

8 Q. Just one moment. And I'm not going to go
9 through all these. There's a thing, and I'm looking for
10 it quickly, and I will conclude.

11 CHAIRMAN CARTER: Commissioners, this may be a
12 breaking point for the court reporter, a nice little
13 stretch break there, and give Mr. Jacobs an opportunity
14 to look through his notes. Let's take -- I'm looking at
15 10 after. Let's come back at 25 after. We're on
16 recess.

17 (Short recess.)

18 CHAIRMAN CARTER: We are back on the record.
19 Mr. Jacobs, you're recognized, sir.

20 MR. JACOBS: Thank you, Mr. Chairman.

21 BY MR. JACOBS:

22 Q. Mr. Masiello, I want to round out the
23 questioning that we were on, and I want to continue now
24 looking at what is now marked as Exhibit 68, your
25 petition for expansion of your DMS programs, and I'm

1 still in Appendix A, and I'm looking at page 9 of 60.
2 And I specifically want to focus on the bottom of the
3 page, the cost-effectiveness analysis. And what I would
4 like, if you would, please, if you would, please explain
5 to us the essence of the -- just looking at the Rate
6 Impact Measure line and what those numbers mean,
7 particularly what the ratio means.

8 A. What you have are the three names of the
9 cost-effectiveness tests on your column to the left, and
10 those names are Rate Impact Measure, Participant, and
11 Total Resource Cost. Then you have the net present
12 value of the benefits from those cost-benefit analysis
13 tests as stated. The third column is the net present
14 value or the costs associated with those programs. And
15 then you would have the net present value of the net
16 benefits as described.

17 Q. Which is essentially the difference between
18 the two; correct?

19 A. That's correct. And they're positive. And
20 then you have your benefit-to-cost ratio for each of the
21 three tests.

22 Q. Okay. Now, so the essence of that ratio is
23 that there is a positive return, if you will, between
24 the benefits that you're going to experience in
25 implementing this program and the costs that you incur?

1 A. That's correct.

2 Q. On the prior page, for this measure, it
3 appears that the penetration level of this program has
4 declined; is that correct? In other words, the number
5 of participants in this program has declined; is that
6 correct?

7 A. I see it staying fairly constant.

8 Q. How do you calculate the penetration level?

9 A. Again, by the number of eligible customers to
10 the total annual measures installed.

11 Q. Okay. So let's put it this way. The
12 participation in this program has declined, is that
13 correct, as projected in penetration numbers?

14 A. For some of the measures. As you look at our
15 example again for attic insulation, as you gain
16 penetration of homes that have attic insulation in
17 excess of 90 -- of 19, sorry, then that begins to
18 decline.

19 Q. Okay. Is it a reasonable response to look at
20 this program and these measures and to determine whether
21 or not you want to put more money into promoting them?

22 A. Certainly for those measures that have the
23 potential for increased penetration.

24 Q. And if you look at the RIM ratio, you have
25 some wiggle room, because so long as you're over 1.0,

1 then you would be approved in RIM; is that correct?

2 A. It's important to have some wiggle room,
3 because you need to make certain the programs can
4 maintain cost-effectiveness.

5 Q. Earlier I thought we established that so long
6 as it meets the RIM test, which is 1.0, you don't worry
7 so much about the costs, you accept it as a reasonable
8 -- I'm sorry. You accept it as a reasonable proposal;
9 is that correct?

10 A. That's correct.

11 Q. Okay. So once you do that and you see that
12 there's a decline, wouldn't it also be a natural
13 corollary that if you have this wiggle room, you would
14 want to get more participation or get a greater
15 efficiency out of that program?

16 A. And that's a good point. As we have. For
17 example, we've increased our advertising campaign by
18 four times in the last two years, so we've significantly
19 increased with a new aggressive campaign called Save the
20 Watts to further go after these measures that have
21 potential.

22 Q. And this really goes to the essence of my
23 point. Is there a systematic process by which -- and in
24 your testimony, you kind of imply this. Let me go there
25 real quickly. On page -- I believe it's -- it's on page

1 11 of your testimony, I believe.

2 A. Of my testimony?

3 Q. Yes. We're going back to your testimony now.

4 Actually, page 9.

5 A. I'm sorry.

6 Q. I'm sorry. I was mistaken. Go to page 9 of
7 your testimony.

8 A. Okay.

9 Q. And here you're talking about how you manage
10 expansion and reaching caps on programs. And my point
11 is this: If your goal, as you indicated in your
12 application, is to maximize the opportunities for your
13 customers to not only reduce the peak, but also reduce
14 their consumption, is there a systematic process by
15 which you go through these measures and these programs
16 and you determine where you can exercise discretion to
17 expand use, expand efficiency, and yet still remain
18 RIM-compliant?

19 A. Good point. In my example early on that in
20 2004, we filed our 10-year DSM plan, in 2006,
21 unprecedented, we set and filed an expansion which more
22 than doubled what we were doing. That's the example
23 where we went back in and we found a greater potential.

24 Q. And out of that, you still only have 14
25 programs?

1 A. I'm sorry?

2 Q. Out of that, you still only have 14 programs?

3 A. I think 14 programs is more than most. What's
4 behind those programs are over 100 measures, ranging
5 from windows, walls, doors, high efficiency HVAC
6 equipment, the most energy intensive measures that you
7 can find in a home or business today.

8 Q. Okay. Let me move to one other final round of
9 questioning. I have one other document.

10 CHAIRMAN CARTER: You want to mark this one,
11 Mr. Jacobs?

12 MR. JACOBS: Yes, please.

13 CHAIRMAN CARTER: This will be Exhibit 69.
14 Title, Mr. Jacobs.

15 MR. JACOBS: This will be Assessment of
16 Maximum DSM Potential.

17 CHAIRMAN CARTER: Okay.

18 MR. JACOBS: To be absolutely correct for the
19 record, it's for the City of Tallahassee. That's the
20 title of it.

21 CHAIRMAN CARTER: Assessment of Max DSM
22 Potential for the City of Tallahassee?

23 MR. JACOBS: Yes, sir.

24 (Exhibit 69 was marked for identification.)

25 CHAIRMAN CARTER: Okay. You may proceed.

1 BY MR. JACOBS:

2 Q. Mr. Masiello, I know this is not of your
3 authorship, and I'm not asking you to confirm the
4 accuracy of this document. What I do want to do is to
5 assess -- let me go back and ask this question. In your
6 normal business operations and procedures, do you look
7 at industry reports and industry studies on potentials
8 for DSM?

9 A. On occasion.

10 Q. Okay. Do you survey those that have been done
11 by other utilities?

12 A. On occasion.

13 Q. Okay. Have you had a chance to review studies
14 done by Pacific Gas & Electric or Consolidated Edison?

15 A. No.

16 Q. Okay. If you would, I would like to go over
17 to the document that you have there -- and for some
18 reason, this did not get a page number. All of them do.
19 Wow. These two pages -- it is presumptively page 4.
20 I'm sorry -- yes, page 4. It's after page number 3. My
21 apologies. We seem to have missed a page number.

22 Do you have any familiarity with the list of
23 items that are reported here?

24 A. No.

25 Q. So you have no familiarity with any of these

1 potential studies?

2 A. I don't believe so.

3 MR. JACOBS: Okay. That concludes my
4 questions. Thank you.

5 CHAIRMAN CARTER: Thank you, Mr. Jacobs.
6 Commissioners, before I go to staff? Commissioner
7 Argenziano, you're recognized.

8 COMMISSIONER ARGENZIANO: Thank you. I do
9 have a couple of questions that I'm not sure --
10 basically, you know, what I've heard people asking all
11 the time or saying is that conservation -- and I hear
12 that you're doing a pretty remarkable job on
13 conservation issues, but I hear there's solar, and let's
14 put the money into alternatives. And I guess what I'm
15 trying to derive from you is how much more conservation
16 can you realistically put into the mix. If you have 14
17 programs and over 100 measures, how much do you think
18 there's more available, and if that were to be applied
19 or somehow utilized, where would that put us?

20 And I guess the second question would be, if
21 you're going to take 17 billion -- and I've been asked
22 this question. If you're going to take \$17 billion, if
23 you put that into alternatives, like renewables, solar,
24 other than a nuclear power plant, what would that get
25 us? Would it meet the projected growth that you have

1 put together? And I guess later I need to ask another
2 individual about how you got to the projected growth,
3 but could it meet the projected growth?

4 THE WITNESS: I think your first question was
5 could we do more. And I would tell you -- prior to
6 2004, after our 2004 filing, I would tell that you
7 perhaps we could do more. But with the expansion in
8 2006 where we doubled our efforts, I would tell you we
9 are doing the more. And that's evident in the programs
10 and the measures that I've told you. There are some
11 that are just looking at implementing programs, even
12 using other cost-benefit analysis other than what we
13 use, and still don't compare to the number of programs
14 and measures that we have. So I would tell you we are
15 doing the more.

16 I think your second question was if we were to
17 spend 17 billion perhaps on other alternatives, could we
18 meet the demand by the year that we would have to put
19 the systems online, and I would tell you that that
20 certainly would take further study. It would take
21 knowledge of these systems and just how they perform at
22 peak, for example.

23 Let me give you have one brief example of
24 that. We hear a lot about photovoltaic systems. And we
25 certainly agree with photovoltaic systems. We do it.

1 We promote it. We're installing it on schools. We're
2 providing education to students about systems. But
3 right now, that's still a technology that has to grow.
4 Efficiencies have to come -- we have to see increases in
5 efficiencies. We have to see costs coming down.

6 A PV system runs at a 17 percent capacity
7 factor. That means it runs 17 percent of the hours in
8 the day, so 17 percent of 24, that PV system is going to
9 run four hours a day. It's not a one-for-one
10 comparison. If I were to do PV to make up a megawatt, I
11 would have to do five times as much PV, because a
12 nuclear plant runs at a 95 percent capacity factor,
13 meaning it's running 23 hours of the day. So if I have
14 one kW of nuclear running at a 95 percent capacity
15 factor, I'm going to get 23 kilowatt-hours out of it.
16 To do that with that one-kW PV, I would only get four,
17 so I would have to do five times as much.

18 Additionally, that PV that we're talking about
19 doesn't give us any value on our winter peak morning, so
20 it has zero. And on our peak, our system peak, that
21 solar system, that PV system is at about an 82 percent
22 capacity. The solar system doesn't peak with our system
23 peaks. And in fact, on the second hour of peak, the
24 solar system is at 60. So we're talking -- you know, we
25 haven't done that evaluation, but I can tell you that

1 it's going to take a major effort and a major cost to
2 avoid what we need to do in the time frame that we have
3 to do it in.

4 COMMISSIONER ARGENZIANO: I probably am going
5 to ask a question maybe that you just somehow answered,
6 but maybe not, maybe not fully. If you were to take the
7 17 billion and retrofit everyone's home in Progress's
8 area and put all solar panels on, and I guess it would
9 take a lot of solar panels, and I guess the efficiencies
10 of the solar panels -- I know they're working on that to
11 extract a different color from the sun, which would make
12 it more efficient, but let's say where we are today
13 without that greater efficiency, it would take more
14 panels.

15 But with the amount of money -- and I know
16 this is going to sound strange, and I guess that's
17 because I've been asked it so many times. With the
18 amount of money that it would take to build the new
19 plant, because I know that the efficiencies of the
20 nuclear power plant after the capital construction is
21 very efficient, but would it take -- with the same
22 amount of money, could you actually get to the growth by
23 retrofitting it? With all these panels, could you get
24 there with the proposed growth?

25 THE WITNESS: No. No, you wouldn't be able

1 to.

2 COMMISSIONER ARGENZIANO: Okay. And I guess
3 the other question is on how you contemplated the
4 growth. That would be it. You answered my questions on
5 that. Thank you.

6 THE WITNESS: You're welcome.

7 CHAIRMAN CARTER: Thank you, Commissioner.
8 Commissioners? Staff?

9 MR. YOUNG: No questions.

10 CHAIRMAN CARTER: Mr. Burnett?

11 MR. BURNETT: No, sir.

12 CHAIRMAN CARTER: Okay. Let's deal with the
13 exhibits. I think we've got, Commissioners, Exhibits
14 Number -- marked for identification as Number 20, 21,
15 and 22. Any objections? Show it done.

16 (Exhibits 20, 21, and 22 were admitted into
17 the record.)

18 MR. JACOBS: Commissioners, I would move
19 Exhibit 68. I will not move 69, since we didn't really
20 -- Mr. Masiello didn't answer any questions on it.

21 CHAIRMAN CARTER: Any objections?

22 MR. BURNETT: No objections to 68, Mr. Chair,
23 other than to note that the exhibits -- Appendix A and C
24 are not included, and Appendix B is incomplete, but no
25 objection.

1 CHAIRMAN CARTER: All right. Show it done.

2 (Exhibit 68 was admitted into the record.)

3 CHAIRMAN CARTER: Commissioners, we've got --
4 you may be excused, Mr. Masiello. Do we need to bring
5 -- is Mr. Masiello going to come back?

6 MR. BURNETT: No, sir, if he may be excused
7 from the hearing.

8 CHAIRMAN CARTER: Before you go, Mr. Masiello,
9 I want to congratulate you on your efforts with the
10 number one in the country in terms of the DSM measures
11 and also a lot of the good things that you're doing in
12 the school system down in the Progress area, a lot of
13 the things you're doing in schools there and a lot of --
14 I've been to the Crystal River exhibit in terms of how
15 you're converting solar to hydrogen. And I think over
16 in the Oviedo area there where you have those hydrogen
17 cars and you're using those to do energy audits, that's
18 a fascinating way to do that. So keep up the good work.

19 THE WITNESS: Thank you.

20 CHAIRMAN CARTER: Commissioners, from a
21 housekeeping standpoint, I think this is probably a good
22 breaking point for the day, and we'll kick off tomorrow
23 with our next witness. So everybody can kind of just
24 hold where we are, and we'll begin tomorrow morning at
25 9:30.

1 Anything further, Commissioners? Commissioner
2 Argenziano.

3 COMMISSIONER ARGENZIANO: Just one thing in
4 jest, and it really is in jest, and it's only because my
5 good colleague here brought it up before. In the
6 uneventful U.S. Senate hearing, I can't agree with that,
7 only because I didn't know it was occurring. So in
8 jest.

9 CHAIRMAN CARTER: You know, it's always good
10 to leave on levity. With that, see you guys tomorrow
11 morning at 9:30.

12 (Proceedings recessed at 4:50 p.m.)

13 (Proceedings continue in sequence in
14 Volume 4.)

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CERTIFICATE OF REPORTER


STATE OF FLORIDA:

COUNTY OF LEON:

I, MARY ALLEN NEEL, Registered Professional Reporter, do hereby 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 219 through 304 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 relative or employee of such attorney or counsel, or financially interested in the foregoing action.

DATED THIS 22nd day of May, 2008.


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