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P R O C E E D I N G S

1
2 (Transcript follows in sequence from
3 Volume 7.)

4 **CHAIRMAN CARTER:** We are back on the record.
5 And when we last left, we had just completed the cross
6 and exhibits for Witnesses Spellman and Guidry.

7 Okay. Mr. Guyton, you're recognized, sir.

8 **MR. GUYTON:** I believe that brings us to
9 Mr. Silagy, who I understand the parties have been
10 willing to stipulate into the record.

11 **CHAIRMAN CARTER:** Is that correct, parties?

12 **MR. GUYTON:** Unless the bench has anything,
13 we'll just move his testimony in.

14 **CHAIRMAN CARTER:** Commissioners, any questions
15 for Mr. Silagy?

16 **COMMISSIONER EDGAR:** No.

17 **CHAIRMAN CARTER:** The prefiled testimony of
18 the witness will be inserted into the record as though
19 read. You may proceed.

20 **MR. GUYTON:** He has no exhibits.

21 **CHAIRMAN CARTER:** No exhibits. Thank you very
22 kindly.

1 **BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION**

2 **FLORIDA POWER & LIGHT COMPANY**

3 **REBUTTAL TESTIMONY OF ERIC SILAGY**

4 **DOCKET NO. 080407 - EG**

5 **JULY 30, 2009**

6

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

8 A. My name is Eric Silagy, and my business address is Florida Power & Light
9 Company, 700 Universe Blvd, Juno Beach, Florida 33408.

10 **Q. By who are you employed?**

11 A. I am employed by Florida Power & Light Company (FPL), and I serve as FPL's
12 Vice President and Chief Development Officer.

13 **Q. What are your responsibilities in your role as FPL's Vice President and Chief
14 Development Officer?**

15 A. I am responsible for managing FPL's DSM programs as well as overseeing the
16 development of other cost-effective resources. These responsibilities were
17 merged to reflect FPL's strong belief that DSM and energy efficiency programs
18 are the first options that we should pursue when designing a reliable, cost-
19 effective resource portfolio.

20 **Q. Please summarize your testimony.**

21 A. The Florida Public Service Commission ("FPSC" or "Commission") should be
22 gravely concerned with, the efforts of NRDC-SACE and GDS in this case. In this
23 proceeding, they are asking the Commission to disregard almost thirty years of

1 reasoned implementation of FEECA and the significant success in DSM
2 acquisition that has been achieved. They ask this Commission to abandon the
3 proven practices of tying DSM goals setting to the utility planning process and
4 considering the rate impact of goals on customers. They ask this Commission to
5 accept their hurried "back of the envelope" goals proposals instead of the goals
6 proposal made by FPL that is based upon a rigorous analytical process performed
7 by a well-respected consultant, Itron, and which fully quantify and consider the
8 resulting rate impacts on customers. Apparently, they expect the Commission to
9 disregard goals that are based on utility resource needs and fully comply with the
10 DSM Goals Rule, FEECA and many years of well established FPSC and Florida
11 Supreme Court precedent. They also ask the Commission to disregard most
12 aspects of the DSM Goals Rule, which has produced the most successful program
13 in the nation. Finally, they ask this Commission to radically misconstrue the
14 recent modest amendments of FEECA into an implicit repudiation of the
15 Commission's long-standing, successful policy and practice.

16
17 In contrast, FPL offers the Commission a fully-developed, analytically robust
18 DSM goals proposal that complies with the Commission's prescriptive DSM
19 Goals Rule and which was developed through a vigorous, collaborative effort.
20 Those goals appropriately consider utility resource needs and the resulting rate
21 impacts to customers. The better choice is obvious and very compelling.

1 The recent, limited amendments to FEECA are more akin to the fine tuning of a
2 well running engine in a proven, reliable car rather than a radical rebuild of the
3 engine or the replacement of the entire car. The Enhanced – Rate Impact Measure
4 (E-RIM) test allows the Commission to appropriately and fully consider the likely
5 costs to be imposed “on the emission of greenhouse gases” as required by the new
6 amendments to FEECA. The E-RIM test, in conjunction with the Participant test,
7 fully complies with the recent amendments to FEECA and it has the documented
8 effect of resulting in more measures being cost-effective than the old RIM test it
9 would replace. In these very demanding economic times, it is not appropriate to
10 undertake a radical, expensive engine rebuild or wholesale DSM car replacement
11 when success can be guaranteed through the fine tuning of a well-established,
12 high performing vehicle such as RIM.

13 **Q. Please elaborate.**

14 A. FPL has serious concerns about NRDC-SACE and GDS attempts to have the
15 Commission (a) ignore its thirty year heritage of a rational, consistent and
16 successful interpretation of FEECA, (b) disregard FPL’s and Florida’s leadership
17 role in the implementation of DSM, and (c) abandon the time-tested and proven
18 tools that have helped FPL and Florida achieve DSM leadership without
19 adversely impacting the rates charged to customers. As is developed with
20 specificity in Witnesses Dean’s, Haney’s, Sim’s and Rufo’s rebuttal testimony,
21 NRDC-SACE and GDS propose a radical departure from the Commission’s well-
22 reasoned and thoughtful practices and advance an alternative which is legally
23 bankrupt and analytically baseless.

1 They propose this abrupt change of regulatory course with total disregard of the
2 enormous impacts their proposals would have on customer rates. Their radical
3 proposals also completely fail to consider the utilities' resource planning
4 processes and the fundamental issue of whether the immense resources they
5 advocate purchasing with customer money are needed. The Commission should
6 not risk the electric reliability of FPL and the State of Florida and impose
7 hundreds of millions of dollars of unnecessary rate increases to mandate far more
8 DSM than is needed or cost-effective. The NRDC-SACE and GDS proposals are
9 reckless and irresponsible. They stand in stark contrast to the detailed,
10 analytically sound and thoroughly supported studies offered by FPL and its well-
11 respected consultant, Itron.

12
13 Commissioners, you face a basic choice the Commission has repeatedly faced
14 throughout the history of FEECA. You can either establish goals that disregard
15 customers' resource needs, raise customers' rates, result in cross-subsidies among
16 customers and creates DSM winners and losers, or you can set goals that acquire
17 the level of DSM needed to meet resource needs, avoid customer cross-subsidies,
18 and avoid DSM related rate increases. The better choice for FPL's customers has
19 been and continues to be clear. RIM and Participant test based goals have
20 historically produced industry leading results without customer cross-subsidies
21 and without DSM related rate increases. With the improved E-RIM test now
22 capturing the costs of air emissions and increasing the levels of cost-effective

1 DSM, the Commission would be well-served to reject the radical proposals of
2 NRDC-SACE and GDS and to adopt FPL's proposed goals.

3 **Q. But doesn't HB 7135 require the Commission to radically change its**
4 **approach?**

5 A. No, it does not, as is developed in detail by FPL's witnesses and as will be
6 addressed more fully by FPL in its brief. Most of HB 7135 addresses state
7 agencies other than the Commission. It only modestly amends FEECA,
8 intentionally leaving most of the language on which the Commission has based
9 thirty years of sound policy unchanged. It leaves unaltered the Commission's
10 primary responsibility of establishing just and reasonable rates. When you take
11 away this fundamental misconception of HB 7135's limited amendments to
12 FEECA, the house of cards built by NRDC-SACE and GDS comes tumbling
13 down. All they are left with are tired arguments heard and rejected numerous
14 times by this Commission.

15

16 Why would the Legislature want a fundamental change in the implementation of
17 FEECA? Under FEECA, Florida and FPL have become leaders in acquiring
18 DSM needed to meet resource needs while keeping rates lower than the national
19 average. FPL aggressively pursues the DSM that serves customers' interests in
20 lower rates and higher reliability. The Commission's consistent application of
21 FEECA has worked extremely well, particularly in contrast to the states that have
22 started, stopped and restarted DSM efforts and who now have to use tools that

1 have proven unnecessary for Florida to achieve its leadership role. So, I repeat,
2 let us fine tune the DSM engine not radically rebuild it or replace the car.

3 **Q. What is your reaction to the timing of the proposals by NRDC-SACE and**
4 **GDS?**

5 A. They offer the wrong proposals at the very worst time. The real price of
6 electricity has been rising for several years, for the first time in a long time. Three
7 of the four major investor-owned utilities have been forced to seek significant,
8 non-discretionary rate increases. The Commission has approved, and FPL has
9 begun, capital projects designed to result in significant fuel savings and
10 greenhouse gas emission reductions. So, what do NRDC-SACE and GDS
11 advocate – acquire seven times or more DSM than is needed to meet resource
12 needs while at the same time raising rates above the level they would be if the
13 approved generating units were built. This ill-timed discretionary rate increase to
14 acquire unneeded resources is insensitive to and out of touch with the needs and
15 best interests of FPL customers and should be summarily rejected.

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

17 A. Yes.

1 **CHAIRMAN CARTER:** Let me see here. Staff, I
2 think I got my list discombobulated here. Was Mr. Rufo
3 next? Oh, he's done?

4 **MS. FLEMING:** Yes.

5 **CHAIRMAN CARTER:** Okay. So next we have
6 Mr. Haney.

7 **MS. CANO:** Yes. It's FPL's understanding that
8 John Haney can also be stipulated in, unless the bench
9 has any questions.

10 **CHAIRMAN CARTER:** Is that -- parties, is that
11 correct?

12 **MR. CAVROS:** I'm sorry. Mr. Chairman, before
13 the testimony is moved into the record, I --

14 **CHAIRMAN CARTER:** Hang on a second. Hang on a
15 second.

16 No questions from the bench?

17 Okay. Go ahead.

18 **MR. CAVROS:** Thank you. We moved to have
19 references in Mr. Haney's rebuttal testimony stating or
20 relating to NRDC/SACE's approval of the two-year payback
21 criteria as it was used in this analysis to be stricken
22 from the record. The statements are third-party
23 accounts of a declaration of our witness, which goes to
24 the truth of the matter asserted. Under *Florida Statute*
25 90.81 such evidence is hearsay. We understand that the

1 APA Section 120.57 allows the use of hearsay for the
2 purpose of supplementing or explaining other evidence,
3 but it cannot be sufficient in itself in supporting its
4 findings. This hearsay has not been corroborated and,
5 as such, should be stricken.

6 **CHAIRMAN CARTER:** Mr. Guyton?

7 **MR. GUYTON:** Mr. Haney's observations about
8 what Mr. Wilson had to say were a, would qualify under
9 several exceptions to the hearsay rule, which of course
10 is not applicable in APA proceedings anyway. You can
11 use hearsay evidence as to if it is corroborated. It
12 has been corroborated by a number of other witnesses who
13 have testified to the same effect, other members of the
14 Collaborative. I think it's entirely appropriate that
15 it be admitted and not stricken.

16 **CHAIRMAN CARTER:** Thank you.

17 Ms. Helton? Just take a moment.

18 **MS. HELTON:** I'm thinking that we, our
19 prehearing orders require any motions to strike prefiled
20 testimony be filed by the time of the Prehearing
21 Conference. I'm looking for that reference in our
22 Prehearing Order or Order Establishing Procedure to make
23 sure my recollection is correct. So if you could -- if
24 we could hold on one minute.

25 **CHAIRMAN CARTER:** Okay. Take a minute.

1 **MR. GUYTON:** One other thing I might note --

2 **CHAIRMAN CARTER:** Yes, sir.

3 **MR. GUYTON:** -- is that the hearsay rule does
4 allow for hearsay, which is an admission against
5 interest, and I think pretty clearly this was an
6 admission against interest by Mr. Wilson at the time
7 that it was made, or at least that's why they're
8 asserting it now.

9 **CHAIRMAN CARTER:** You know, I was just talking
10 to a good friend of mine about the hearsay rule
11 yesterday. I probably need to get a life, don't I?

12 (Laughter.)

13 **MS. HELTON:** Mr. Chairman, I apologize. It
14 wasn't where I thought it was in the order, but I have
15 located the reference that I was looking for. And the
16 Order Consolidating Dockets and Establishing Procedure
17 for all of the utilities at issue here today -- you
18 entered that order on December 18th, 2008.

19 And on Page 7 it says, "Motions to strike any
20 portion of the prefiled testimony and related portions
21 of exhibits of any witness shall be made in writing no
22 later than the Prehearing Conference. Motions to strike
23 any portion of prefiled testimony and related portions
24 of exhibits at hearing shall be considered untimely,
25 absent good cause shown."

1 **CHAIRMAN CARTER:** My ruling stands. Let's
2 proceed.

3 Exhibit? You're recognized.

4 **MS. CANO:** Yes. Mr. Haney's rebuttal exhibit
5 is marked as Number 123. We would move that along with
6 his testimony into the record.

7 **CHAIRMAN CARTER:** Any objections? Without
8 objection, show it done.

9 (Exhibit 123 marked for identification and
10 admitted into the record.)

11 Okay. That completes Mr. Haney. Mr. Haney,
12 rather.

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1 **BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION**

2 **FLORIDA POWER & LIGHT COMPANY**

3 **REBUTTAL TESTIMONY OF JOHN R. HANEY**

4 **DOCKET NO. 080407-EG**

5 **JULY 30, 2009**

6

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

8 A. My name is John R Haney. My business address is Florida Power & Light
9 Company, 9250 West Flagler Street, Miami, Florida, 33174.

10 **Q. Have you previously submitted direct testimony in this proceeding?**

11 A. Yes.

12 **Q. What is the purpose of your rebuttal testimony?**

13 A. The purpose of my rebuttal testimony is to respond to certain aspects of the direct
14 testimony filed by Witnesses Richard Spellman and Caroline Guidry (I will
15 generally refer to their testimony as the "GDS" testimony). I will also address
16 various aspects of testimony filed by Witnesses Steinhurst, Mosenthal and Wilson
17 on behalf of the Natural Resources Defense Council (NRDC) and the Southern
18 Alliance for Clean Energy (SACE) (collectively "NRDC-SACE").

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

20 A. Yes. I am sponsoring Exhibit JRH-19, FPL's Responses to Staff's Third Set of
21 Interrogatories, Nos. 13 and 14, which is attached to my rebuttal testimony.

1 **Q. How is your rebuttal testimony structured?**

2 A. My rebuttal testimony is divided into two parts. In the first part of my testimony I
3 will be responding to the testimony from GDS. This part of my testimony
4 appears on pages 2 through 13. In the second part of my testimony I will be
5 discussing testimony from NRDC-SACE. This part of my testimony appears on
6 pages 14 through 23.

7

8 **PART A: REBUTTAL TESTIMONY ADDRESSING GDS**

9

10 **Q. Please provide an overview of your rebuttal to the issues raised by GDS.**

11 A. In this first part of my rebuttal testimony I have organized my comments
12 regarding GDS's testimony into the following seven categories for discussion:

13

14 I. GDS's allegation regarding exclusion of measures in Technical
15 Potential;

16 II. GDS's uneven allegations regarding the two-year payback criterion;

17 III. GDS's incorrect assumption regarding FPL's program performance;

18 IV. GDS's incorrect characterization of FPL's DSM program achievements;

19 V. GDS's misinterpretation of proper FEECA compliance;

20 VI. GDS's unsupported and analytically unsound goals recommendation; and

21 VII. Summary

1 **I. GDS's Allegation Regarding Exclusion of Measures in Technical Potential**

2

3 **Q. Please respond to GDS's assertion on page 22, lines 15-16 that "the Technical**
4 **Potential Studies exclude many important energy efficiency measures".**

5 **A. Section III of my direct testimony describes the comprehensive and exhaustive**
6 **evaluation of measures performed by the Collaborative, including NRDC-SACE,**
7 **as part of the Technical Potential Study effort. As indicated in my direct**
8 **testimony, and the corresponding Exhibit JRH-11, the Collaborative's evaluation**
9 **of measures used a deep set of resources as well as the experience of the**
10 **collective group. The measure selection process yielded a comprehensive list of**
11 **267 unique measures, including 67 residential measures, 78 commercial,**
12 **measures, and 122 industrial measures. (These unique measures expand to over**
13 **2,300 measures when building types are considered.) Importantly, the final**
14 **measure list included 25 "new" measures in the residential sector and 33 "new"**
15 **measures in the commercial sector. New measures are those that Itron had not**
16 **previously analyzed in past studies. It is important to note that any measure**
17 **included or excluded was done so based on sound, reasoned criteria established to**
18 **ensure the integrity of the study, as described in my direct testimony on page 14,**
19 **lines 10-16. Therefore, included measures were those measures utilizing existing**
20 **technology and currently available in the marketplace and for which Florida-**
21 **specific pricing data was available. Measures were excluded due to lack of**
22 **reliable and readily available cost, savings, or baseline data to support a robust**
23 **analysis of potential; and/or evidence that the incremental energy savings**

1 associated with particular measures overlapped and were being captured by other
2 measures in the analysis.

3

4 GDS's assertion that "many" measures were excluded is inaccurate. To my
5 knowledge, only a small number of measures were determined to be inappropriate
6 for further evaluation by the Collaborative due to their lack of availability in
7 Florida or a lack of specific cost, savings, or baseline data .

8 **Q. Were the measures identified by GDS on page 25, line 20 through page 26,
9 line 1, and page 27, lines 1-12, addressed by the Collaborative?**

10 **A.** Yes. In fact, a detailed explanation of each measure is found in FPL's response to
11 Staff's Third Set of Interrogatories questions 13 and 14, provided as Exhibit JRH ,
12 – 19. As demonstrated therein, there was a sound and reasoned Collaborative
13 determination made that these measures would be inappropriate for inclusion in
14 the Technical Potential studies.

15

16 It is important to also note that GDS has incorrectly identified measures as
17 "excluded" which were in fact included within the Technical Potential. GDS
18 presents a list of commercial measures in Table 2 of GDS's testimony, and
19 indicates that these measures should have been included. However, several of the
20 measures listed – such as Vending Miser, Zero Energy Doors, Door Heater
21 Controls, Scroll Compressors, and Floating Head Pressure Controls - are indeed
22 included in the Technical Potential Study measure lists in Appendix B of FPL's
23 Technical Potential report. Had GDS reviewed the information rigorously

1 compiled and provided in discovery, they would have noted the inclusion of these
2 measures. As mentioned above, other measures were excluded due to the sound,
3 reasoned factors identified by the Collaborative and were also explained in FPL's
4 responses to interrogatories noted above.

5
6 **II. GDS's Uneven Allegations Regarding the Two-Year Payback Criterion**

7
8 **Q. GDS indicates on page 28, line 9 that a two-year minimum payback**
9 **requirement is not necessary for all customer sectors. Do you agree?**

10 **A.** No, in fact the DSM Goals Rule explicitly requires that free ridership must be
11 addressed in the goal setting process. FAC 25-17.0021 (3) states: "Each utility's
12 projection shall reflect consideration of overlapping measures, rebound effects,
13 *free riders*, interactions with building codes and appliance efficiency standards,
14 and the utility's latest monitoring and evaluation of conservation programs and
15 measures." The rule also requires all market segments – residential and
16 commercial/industrial – to be addressed in establishing goals projections. It is
17 helpful to note that on page 32, lines 4-5, GDS agrees with the Collaborative that
18 the two-year payback screen is a legitimate method to address free ridership with
19 respect to large commercial or industrial customers; it is only its application to
20 residential and small commercial customers that GDS disputes.

1 **Q. What is FPL's basis for using the two-year payback criteria to address free**
2 **ridership?**

3 A. FPL uses a two-year payback criterion to address free ridership because it is
4 supported by years of consistent Commission precedent as described in Witness
5 Dean's rebuttal testimony; because it is an accepted industry method for
6 minimizing free riders; and because it was agreed within the Collaborative to be a
7 reasonable manner to address free riders. The criterion is also included within
8 FPL's Commission-approved Business Custom Incentive program.

9 **Q. Did the Collaborative discuss and agree to use the two-year payback**
10 **criterion to establish proposed goals?**

11 A. Yes. All members of the Collaborative agreed to use the two-year payback
12 criterion.

13 **Q. Please explain how the Collaborative made the decision to apply the two-year**
14 **payback criterion.**

15 A. A conference call was held with all members of the Collaborative to discuss the
16 appropriate methodology to address the free rider requirement of the
17 Commission's rule. Members from each of the FEECA utilities and Mr. Wilson
18 on behalf of NRDC-SACE participated in that conference call. The Collaborative
19 agreed, without exception, that the two-year payback would be used to address
20 free ridership.

21

22 In reaching the decision, the Collaborative considered the history of Florida's
23 DSM goal proceedings and current literature. It was noted that the two-year

1 payback criterion had been agreed to previously by the Commission. Essentially,
2 the Collaborative agreed that when an individual recovers the incremental cost of
3 a measure through energy savings in two-years or less, an additional utility
4 incentive funded by its general body of customers is unnecessary.

5 **Q. Was the use of the two-year payback criterion carried forward in the**
6 **Achievable Potential analysis?**

7 A. Yes, after the unanimous decision was made by the Collaborative, NRDC-SACE
8 asked the FEECA utilities to consider alternative Achievable Potential scenarios
9 where not only the two-year payback criterion was used, but also where the two-
10 year payback criterion was used in conjunction with a fixed percentage of a
11 measure's incremental cost. The Collaborative agreed to test two alternative
12 criteria 1) the lesser of a two-year payback or a 33% incentive and 2) the lesser of
13 a two-year payback or a 50% incentive.

14 **Q. Did the two-year payback criteria in any way preclude evaluation of the full**
15 **technical potential as suggested by GDS in their testimony on page 29, line 19**
16 **through page 30, line 3?**

17 A. No, it did not. The two-year payback criterion was applied to measures after all
18 measures were evaluated and the Technical Potential Study was completed.

1 **III. GDS's Incorrect Assumption Regarding FPL's Program Performance**

2

3 **Q. GDS states that market penetration projections developed for the 10-year**
4 **planning period are conservative and do not adequately reflect aggressive**
5 **marketing and successful program implementation plans. Please respond to**
6 **this statement.**

7 A. As described in Witness Rufo's rebuttal testimony, the marketing assumptions
8 used in the projections were based on aggressive scenarios, with the
9 understanding that existing FPL programs are clearly supported by aggressive
10 marketing plans which FPL has a history of implementing successfully. FPL's
11 marketing and program implementation strategies are very robust and have led to
12 continued, successful program results as evidenced by FPL's historic program
13 participation since program inception:

14

- 15 • More than 2.7 million residential and business customers have participated in
- 16 FPL's energy survey programs
- 17 • More than 1 million high efficiency air conditioners have been installed for
- 18 FPL customers
- 19 • FPL has provided 800,000 of its customers with building retrofit
- 20 improvements (ceiling and roof insulation, reflective roofs, efficient lighting,
- 21 window measures) to improve the energy efficiency of their home or
- 22 workplace
- 23 • FPL's residential load control program is the largest in the U.S. with over
- 24 three-quarters of a million participants. FPL's business load management
- 25 programs have over 20,000 participants.

1 • More than 450,000 air conditioning duct tests have been conducted and leaks
2 repaired.

3 **Q. How have these impressive results been attained?**

4 A. FPL's tactical marketing plans are aggressive in their reach and diverse in their
5 scope, extending to all customer markets. FPL promotes DSM programs through
6 the energy surveys performed for residential and business customers and also
7 participates in home shows and energy fairs throughout its service territory. As
8 explained in my direct testimony, beginning on page 10, line 14 and within
9 Exhibit JRH-7, FPL also conducts multiple campaigns to reach low income
10 customers. In addition, FPL participates in key trade shows to reach business
11 markets and contractors that serve as a channel for promoting FPL's programs to
12 residential customers. FPL promotes its programs continuously through its web
13 site. A key feature of the FPL web site is the highly successful Online Home
14 Energy Survey, from which more than 50,000 customers benefited in the past
15 two-years alone. FPL also promotes its programs through its bill communications,
16 which reach all 4.5 million customers. In addition, FPL is conducting an
17 aggressive radio and television advertising campaign to promote its home energy
18 surveys. This campaign, which is currently underway, is designed to reach 90
19 percent of our targeted customers multiple times, during the time of year when
20 bills are highest and customers can benefit the most. In summary, FPL wishes to
21 emphasize that FPL markets its DSM programs aggressively to all of our
22 customers, and this is evidenced by our program participation results.

1 **IV. GDS's Incorrect Characterization of FPL's DSM Program Achievements**

2

3 **Q. Do you believe that GDS accurately characterizes FPL's DSM achievements**
4 **in their testimony on page 12, line 1 through page 15, line 21?**

5 A. No. GDS uses selective data that does not accurately represent FPL's leadership
6 in DSM achievement. First, their rankings are based on only a subset of true
7 DSM achievement – incremental savings. In the case of demand reduction
8 achievement, they selectively use only a subset the demand reduction capability
9 associated with FPL's load management programs and completely disregard the
10 extensive demand reduction achieved through FPL's energy efficiency programs.
11 For energy consumption savings, they selectively use only incremental, or most
12 recent year savings, disregarding the true and continuing savings that FPL
13 receives from measures installed in prior years as a result of its aggressive DSM
14 program implementation. In gauging DSM achievement, it is important to
15 consider demand reduction capabilities resulting from all active participants in
16 load management programs and demand reduction and energy savings from
17 energy efficiency measures not only associated with customers that participated in
18 the most recent year but also those measures that were installed in prior years and
19 continue to provide efficiency-related demand and energy savings through the
20 measure's life. It is also important to consider the absolute level of savings
21 achieved as this absolute value represents the true results of long-standing DSM
22 efforts. The cumulative, absolute demand reduction and energy savings, compared
23 across a relevant peer group of utilities, provides the most meaningful

1 representation of a utility's long standing DSM effort and the benefits still being
2 enjoyed today by its customers. My direct testimony, page 6, line 9 through page
3 7, line 9 and Exhibit JRH-3 provide an accurate representation of FPL's
4 achievements in cumulative, absolute terms and accurately represents FPL's
5 leadership in DSM achievement.

6
7 **V. GDS's Misinterpretation of FEECA Compliance**

8
9 **Q. Do you agree with GDS's assertion on page 33, lines 22-24 that "these studies**
10 **fall short of the requirements of the FEECA statute"?**

11 A. In regards to the studies performed on behalf of FPL, I completely disagree with
12 GDS's assertion. As explained throughout my direct testimony and summarized
13 in my direct testimony on page 35, line 22 through page 36, line 6, FPL went
14 beyond the requirements of FEECA. My direct and rebuttal testimony, along with
15 the direct and rebuttal testimony of Witnesses Sim, Dean, and Rufo, address all
16 material issues raised by GDS and evidence that FPL met the requirements of
17 FEECA. Moreover, as explained by witnesses Sim and Dean, it is GDS's
18 proposal which disregards and fails to comply with the totality of FEECA. FPL
19 went beyond the requirements of FEECA by participating in the Collaborative,
20 bringing consistency in methodology and assumptions to the analyses.

1 **VI. GDS's Unsupported and Analytically Unsound Goals Recommendation**

2

3 **Q. Do you agree with GDS's proposed goals for FPL as represented in Exhibit**
4 **RFS-20, page 1 of 7?**

5 A. No, I do not agree with GDS's proposed goals. GDS made a series of arbitrary
6 adjustments that do not reflect the analytical rigor necessary to provide meaningful
7 results, such as that performed by the Collaborative collectively and the FEECA
8 utilities individually over the course of the last year. Table 6, on page 66, states that
9 ratios used in calculations were "calculated using TRC/E-TRC maximum
10 Achievable Potential as identified in utility specific testimony and exhibits". FPL
11 did not complete any studies labeled as "Maximum Achievable Potential" so it is
12 uncertain how these ratios were developed for FPL. GDS also made several
13 adjustments – such as adding back in measures eliminated for valid reasons – that
14 breach the integrity of the full technical, economic and achievable potential
15 analyses and the portfolio development process. GDS's arbitrary and incorrect
16 methodology renders their proposed goals meaningless.

17

18

VII. Summary

19

20 **Q. Please summarize your rebuttal testimony regarding GDS's testimony.**

21 A. GDS's testimony appears to be based on a cursory review of the information that
22 has been presented in this proceeding, an uneven application of the Commission's
23 DSM rule, and a misapplication of the FEECA – all of which culminate in a

1 baseless DSM goals proposal. GDS alleges that FPL excluded measures from the
2 Technical potential study that would have an impact on the results. FPL and the
3 Collaborative developed and agreed upon evaluation criteria and openly vetted
4 measures for inclusion. In fact, many of the measures identified by GDS as
5 excluded were actually included in the study.

6
7 GDS raises a conflicting argument on the two-year payback criteria. They agree
8 that the two-year payback is an appropriate tool for limiting free ridership in
9 utility DSM programs and agree with the Collaborative that application in the
10 commercial and industrial markets is appropriate, but they do not believe that the
11 two-year payback criteria is appropriate for small commercial and residential
12 customers. However, they do not offer an alternative. While convenient, this is
13 not appropriate under the DSM Goals Rule. Free ridership must be addressed
14 across all market segments.

15
16 GDS asserts that because of the omissions of programs and the application of the
17 two-year payback that the analysis that was performed by FPL and Collaborative
18 does not meet the requirements of FEECA. But in actuality, FPL's analysis was
19 designed to meet the requirement of FEECA and the DSM Goals Rule. A
20 Collaborative was formed for the purpose of ensuring that rigorous analysis was
21 performed across the FEECA utilities to determine DSM goals. This year of
22 analysis and effort is in stark contrast to the arbitrary and unsupported goals set
23 forth by GDS.

1 **PART B: REBUTTAL TESTIMONY ADDRESSING NRDC-SACE**

2

3 **Q. Please provide an overview of this portion of your rebuttal testimony that**
4 **addresses issues raised by the NRDC-SACE testimony.**

5 A. In this second part of my rebuttal testimony I have organized my comments
6 regarding NRDC-SACE's testimony into the following five categories for
7 discussion:

8 I. NRDC-SACE's repudiation of their decisions as part of the
9 Collaborative

10 II. NRDC-SACE's criticism of including program costs in analysis

11 III. NRDC-SACE's misunderstanding of load control program benefits

12 IV. NRDC-SACE's lack of understanding of FPL's DSM program
13 initiatives

14 V. Summary

15

16 **I. NRDC-SACE's Repudiation of their Decisions as Part of the Collaborative**

17

18 **Q. In his testimony Witness Wilson suggested there were two shortcomings to**
19 **the Collaborative's Technical Potential Study: (a) an omission of several end**
20 **use sectors, and (b) an omission of several measures. Please address Witness**
21 **Wilson's testimony on these alleged shortcomings.**

22 A. I am both surprised and disappointed that Witness Wilson would offer such
23 testimony, since he and his organizations fully participated in the Collaborative's

1 development of the scope of the Technical Potential Study and agreed to the
2 measures included and the scope of the Study. I choose not to believe that neither
3 NRDC-SACE nor Witness Wilson agreed to a study scope they knew to be
4 incorrect or infirm. So, I am setting aside my disappointment and addressing Mr.
5 Wilson's somewhat confusing and entirely revisionist testimony on the Technical
6 Potential Study.

7 **Q. Why do you find Witness Wilson's testimony on the Technical Potential**
8 **Study confusing?**

9 A. It appears to me that he is trying to hedge in his testimony. He acknowledges that
10 (a) the study was done "in a professional and thorough manner," page 26, line 7
11 (b) the collaboration was "generally productive," page 26, line 8, and (c)
12 communications within the collaborative "were effective for the most part" On
13 page 26, line 8-9. He states on page 30, line 13 that the omission of several end-
14 use sectors from the study due to a lack of sufficient information was "a
15 reasonable decision." He also states on page 30, line 19 that "we were generally
16 satisfied with the decisions to include or exclude measures from the Technical
17 Potential Study."

18
19 Despite these quite constructive observations which praise decisions in which he
20 participated and agreed, Mr. Wilson goes on to suggest that (a) the
21 Collaborative's reasonable decision to omit four sectors because of lack of data
22 was a "shortcoming," and (b) that he now believes there were four measures
23 omitted that met the Collaborative's criteria. I find this testimony confusing in

1 that Mr. Wilson generally praises the study in one breath and then in the next
2 breath spends paragraphs detailing "shortcomings" of the very same study he
3 praised.

4 **Q. Why do you characterize Witness Wilson's testimony on the Technical**
5 **Potential Study as revisionist?**

6 A. As Witness Wilson acknowledges in his testimony, he was SACE's representative
7 in the Collaborative and at times spoke for both NRDC-SACE. What I find
8 revisionist in his testimony is his apparent ability to criticize his own decision
9 making and work product. The scope of the Technical Potential Study and which
10 end uses to analyze because of sufficient data were issues collectively addressed
11 by the Collaborative. All parties to the Collaborative, including NRDC-SACE,
12 agreed on which end use sectors should be included and which should be
13 excluded. To offer criticism after the fact of this decision without acknowledging
14 his own role in the decision making is, at best, revisionist.

15

16 Similarly, the measures identified for inclusion were the product of a
17 collaborative process. The final measures were vetted through that process and
18 then sent to all the members of the Collaborative for final review. Neither
19 NRDC-SACE nor their representatives took issue with the final list of measures.
20 To attack the "exclusion" of four measures after the fact that neither NRDC-
21 SACE raised in the development of the final list of measures is also revisionist.

1 The simple facts are: NRDC-SACE agreed to the scope of the Technical potential
2 Study, the end use sectors included, the end use sectors excluded, the measures
3 included and the final list of measures. To suggest months later in testimony that
4 the Study has shortcomings due to omissions is being less than fully disclosive
5 and completely fails to acknowledge their own participation in the decision-
6 making they now attack.

7
8 Knowing their involvement in the Collaborative, the Technical Potential study,
9 the choice of end use sectors analyzed and the measures chosen for analysis, I do
10 not find Mr. Wilson's after-the-fact criticisms credible, and neither should the
11 Commission. Mr. Rufo addresses why the scope of the Technical Potential Study,
12 the choice of the end use sectors analyzed and the measures analyzed were
13 analytically appropriate given the data available.

14 **Q. On page 16, lines 11-23, Witness Mosenthal argues that the two-year**
15 **payback criterion used by the FEECA utilities to address free riders is**
16 **“inconsistent with the FEECA statutes,” and on page 54, lines 6-7, Witness**
17 **Steinhurst argues that the FEECA utilities’ use of the two-year payback is an**
18 **“arbitrary and pointless” policy. Please respond.**

19 **A.** I disagree with a number of the criticisms offered by these witnesses on the two-
20 year payback criterion, but a fundamental misconception and erroneous
21 impression shared by both needs to be corrected. The decision to employ a two-
22 year payback criterion as a means of addressing free-ridership was a decision of
23 the Collaborative, not just a decision by the FEECA utilities. It was a decision in

1 which NRDC-SACE participated, and the impression left by their witnesses that it
2 was a decision of the FEECA utilities and not the Collaborative is inaccurate.

3 **Q. Why did the Collaborative address free riders when determining the**
4 **achievable potential for DSM in the State of Florida and for individual**
5 **Florida utilities?**

6 A. As described in my rebuttal to GDS's testimony, the Commission's DSM Goals
7 Rule, which is conspicuously unreferenced in the testimony of any of the NRDC-
8 SACE witnesses, requires the consideration of free riders in the goal-setting
9 process. Given this rule requirement, one cannot, as suggested by Witness
10 Mosenthal, use program design to address free riders. They have to be addressed
11 in DSM goals setting. Program design comes later in the process.

12 **Q. Was the two-year payback criterion applied to the process for any reason**
13 **other than addressing free ridership?**

14 A. No. In all the after the fact criticism of the two-year payback criterion by the
15 SACE and NRDC witnesses, it has gone unobserved that each of the FEECA
16 utilities had a choice of Achievable Potential scenarios, and each of the FEECA
17 utilities, including FPL, chose the scenario which yielded the highest resulting
18 measure of Achievable Potential. This alone shows that the use of the two-year
19 payback was an intent to address free-ridership rather than an attempt to reduce
20 the measure of Achievable Potential.

1 Q. So, despite all of Witnesses Mosenthal's and Steinhurst's criticisms of the
2 two-year payback, it is your testimony that the two-year payback as a means
3 to address free riders was agreed to by NRDC-SACE?

4 A. Yes.

5

6

II. NRDC-SACE's criticism of including program costs in analysis

7

8 Q. Mr. Mosenthal criticizes the Achievable Potential analysis for including
9 program administrative costs as a cost in the DSM screening employed.
10 Please respond.

11 A. The easiest way to look at this is to confront the basic question of whether
12 program administrative costs should be considered at all. Such costs clearly exist.
13 Few, if any, measures can be delivered without incurring program administrative
14 costs. So, the only question when assessing cost-effectiveness is, "should these
15 known costs be ignored or recognized?" FPL and Itron concluded that they
16 should be recognized. Witness Mosenthal suggests they should be ignored in
17 setting goals, because we are not yet in program design. I agree we are not yet
18 designing programs, but some assumption must be made about a known cost other
19 than such costs are assumed to be zero. FPL chose its best measures of these
20 known and real costs.

21

22 The sources for administrative costs were an analysis of FPL's program budgets
23 and filed costs. The determination of the costs were determined in two ways: 1) if

1 the measure to be analyzed was to become an additional measure under an
2 existing program (i.e. Residential SEER 14 A/C would fall under FPL's existing
3 Residential HVAC Program) the existing administrative cost of the program was
4 used as the administrative cost for the measure. This was the case for most
5 Residential and Commercial measures and all Industrial measures (i.e. our
6 Business Custom Incentive Program); 2) if the measure is not currently covered
7 under one of FPL's current programs, the mean administrative cost of FPL's
8 programs was utilized.

9 10 III. NRDC-SACE's Misunderstanding of Load Control Program Benefits

11
12 **Q. Is Witness Mosenthal correct when he says on page 27 lines 1-3 that**
13 **participants do not receive benefits from participating in a load control**
14 **program?**

15 **A.** No, participants receive two benefits from participation in a load control program.
16 First they receive the benefit of a cost effective reduction in the capacity required
17 on FPL's system. This is a benefit they share with all other customers. Secondly,
18 they receive a financial incentive to participate on a load control program.
19 Despite Witness Mosenthal's mistaken impression, as Witness Sim explains in his
20 rebuttal, any such incentive, whether in the form of a customer incentive or a
21 recurring rate reduction, was recognized in FPL's assessment of cost-
22 effectiveness under the participant test.

1 **Q. Is Witness Mosenthal correct when he says on page 27 lines 6-10 that**
2 **participants in load control invest money to install and operate load control**
3 **equipment?**

4 **A. No, participating customers do not pay to install and maintain their load control**
5 **equipment. They have no out of pocket cost required to participate on FPL's load**
6 **control programs. These costs are incurred by the utility. They are then**
7 **capitalized and a return of and on those costs are recovered from all customers**
8 **who pay the Energy Conservation Cost Recovery (ECCR) charges. All customers**
9 **pay because such installations are cost-effective to all customers.**

10

11 **IV. NRDC-SACE's Lack of Understanding of FPL's DSM Program**

12 **Initiatives**

13

14 **Q. Please address Witness Steinhurst's observation at pages 51 and 52 of his**
15 **testimony that the FEECA utilities' testimony showed a lack of sensitivity to**
16 **the requirement that energy efficiency programs be designed and**
17 **implemented to ensure that hard-to-reach customers' needs are met.**

18 **A. This observation is as unfair as it is undocumented. Witness Steinhurst points to**
19 **no specific reference in any specific testimony that evidences such a lack of**
20 **sensitivity by any FEECA utility. Certainly FPL is not indifferent to the needs of**
21 **its low-income or hard-to-reach customers. FPL not only has special DSM**
22 **programs to meet their needs, but also has other initiatives to assist in the delivery**
23 **of all its DSM programs to these customers. This was covered in some detail in**

1 my direct testimony, which Witness Steinhurst appears to have overlooked.
2 Indeed, FPL has been particularly successful in reaching low-income customers
3 with its DSM programs.

4
5 The real lack of sensitivity to the needs of low-income and hard-to-reach
6 customers is on the part of the NRDC-SACE, whose witnesses advocate the use
7 of the TRC test rather than the RIM test. They know this will increase rates for
8 all customers relative to what they would be if the RIM test were used. They
9 know that higher rates will result in higher bills for not only non-participants, but
10 also for participants whose reduced usage does not sufficiently offset their higher
11 rates. They willingly advocate such results because their acknowledged goal is to
12 reduce air emissions. I think this hidden tax to reduce air emissions is particularly
13 insensitive to low-income and hard-to-reach customers.

14 15 V. Summary

16
17 **Q. Please summarize your rebuttal to NRDC-SACE's testimony.**

18 A. As a member of the Collaborative, I am disappointed in NRDC-SACE's multiple
19 attempts to distance themselves from decisions in which they participated and
20 concurred as part of the Collaborative. NRDC-SACE participated in the
21 Collaborative. NRDC-SACE participated in and *agreed to* the Collaborative's
22 decisions regarding the identification and final determination of measures to be
23 analyzed. NRDC-SACE participated in and *agreed to* the scope of the Technical

1 Potential Study and the end use sectors to be analyzed. NRDC-SACE
2 participated in and *agreed to* the Collaborative's decision to employ the two-year
3 payback as a screening tool to address free riders. NRDC-SACE's decision to
4 offer testimony attacking the Technical Potential Study when they agreed to the
5 Study's scope and underlying measures is, at best, misleading to the Commission.
6 Similarly, NRDC-SACE's decision to file testimony attacking the very two-year
7 payback criterion to which they agreed to is also misleading.

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

9 **A. Yes.**

1 **CHAIRMAN CARTER:** Call your next witness.

2 **MS. CANO:** Okay. FPL calls Dr. Steven Sim.

3 **CHAIRMAN CARTER:** Dr. Sim.

4 **STEVEN SIM**

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

8 **DIRECT EXAMINATION**

9 **BY MS. CANO:**

10 **Q.** Good afternoon, Dr. Sim.

11 **A.** Good afternoon -- or good morning.

12 **Q.** Almost afternoon. Are you the same Steven Sim
13 that presented testimony in this proceeding on Monday?

14 **A.** Yes.

15 **Q.** And you were sworn at that time?

16 **A.** That's correct.

17 **Q.** Have you prepared and caused to be filed 104
18 pages of prefiled rebuttal testimony in this proceeding?

19 **A.** Yes.

20 **Q.** Do you have any changes or revisions to make
21 to your prefiled rebuttal testimony?

22 **A.** Other than the errata sheet I filed, no.

23 **Q.** If I were to ask you the same questions
24 contained in your prefiled rebuttal testimony, would
25 your answers be the same?

1 **A.** Yes.

2 **MS. CANO:** Chairman Carter, I ask that the
3 prefiled rebuttal testimony of Dr. Sim be inserted into
4 the record as though read.

5 **CHAIRMAN CARTER:** The prefiled testimony of
6 the witness will be inserted into the record as though
7 read.

8 **BY MS. CANO:**

9 **Q.** And did you also sponsor exhibits to your
10 rebuttal testimony?

11 **A.** Yes.

12 **Q.** And do those consist of Exhibits SRS-13
13 through SRS-15?

14 **A.** Yes.

15 **MS. CANO:** Chairman Carter, I would note that
16 these exhibits have been premarked for identification as
17 Numbers 124 through 126.

18 **CHAIRMAN CARTER:** For the record, for
19 identification purposes only, 124 through 126.

20 (Exhibits 124 through 126 marked for
21 identification.)

22 You may proceed.

23

24

25

1 **BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION**

2 **FLORIDA POWER & LIGHT COMPANY**

3 **REBUTTAL TESTIMONY OF DR. STEVEN R. SIM**

4 **DOCKET NO. 080407 - EG**

5 **JULY 30, 2009**

6
7 **Q. Please state your name and business address.**

8 A. My name is Steven R. Sim and my business address is Florida Power & Light
9 Company, 9250 West Flagler Street, Miami, Florida 33174.

10 **Q. Have you previously submitted direct testimony in this proceeding?**

11 A. Yes.

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

13 A. Yes. I am sponsoring the following three exhibits that are attached to my
14 rebuttal testimony:

15 Exhibit SRS - 13: Comparison of Projected CO₂ Allowance Costs: FPL
16 and Congressional Budget Office (CBO) Projections;

17 Exhibit SRS - 14: Screening Curve Results for a 2019 CC Unit: With No
18 System Impacts (2009\$); and,

19 Exhibit SRS - 15: Screening Curve Results for a 2019 CC Unit: With
20 Only Two System Impacts (2009\$).

21 **Q. What is the purpose of your rebuttal testimony?**

22 A. The purpose of my rebuttal testimony is to discuss and/or respond to a number
23 of statements and recommendations made by GDS and NRDC-SACE
24 witnesses who have filed testimony in this docket. The GDS witnesses whose

1 testimony I will discuss are Witness Guidry and Witness Spellman who
2 provided collective or panel testimony. (I will generally refer to their
3 testimony as the 'GDS' testimony.) The NRDC-SACE witnesses whose
4 testimony I will discuss are Witnesses Wilson, Cavanagh, and Mosenthal, and
5 Witness Steinhurst.

6 **Q. How is your rebuttal testimony structured?**

7 A. My rebuttal testimony is divided into two parts. In the first part of my
8 testimony I will be discussing testimony from GDS. This part of my testimony
9 appears on pages 2 through 42. In the second part of my testimony I will be
10 discussing testimony from NRDC-SACE. This part of my testimony appears
11 on pages 43 through 104. For those issues raised by both GDS and NRDC-
12 SACE, I mention the topic only briefly in the GDS portion of my testimony
13 and refer the reader to the NRDC-SACE portion of my testimony for a more
14 detailed discussion.

15
16 **Part 1: Rebuttal Testimony Addressing GDS**

17
18 **Q. Please provide an overview of this portion of your rebuttal testimony that**
19 **addresses issues raised by the GDS testimony.**

20 A. I have organized my comments regarding GDS's testimony into the following
21 four categories for discussion:

22
23 I. GDS's Extreme and Unsupported Goals Recommendations;

- 1 II. GDS's Misleading Statements Regarding the RIM Test;
- 2 III. Errors Made by GDS Witnesses; and,
- 3 IV. Summary
- 4

5 **I. GDS's Extreme and Unsupported Goals Recommendations**

6

7 **Q. How would you characterize GDS's recommendations for setting DSM**

8 **goals?**

9 A. GDS recommended goals for both non-renewable DSM measures and for

10 renewable DSM measures. I would characterize their recommendations for

11 both types of goals as extreme and unsupported. For these reasons, GDS's

12 recommendations for goals setting do not deserve serious consideration.

13 **Q. Would you please discuss further starting with their recommendation for**

14 **non-renewable DSM goals?**

15 A. Yes. Let me start by summarizing how GDS developed its recommendations

16 for these goals. Their approach to developing these goals has two parts. Part 1

17 focuses on developing a new estimate for Achievable Potential by using the

18 highest starting point value they could find, then making a series of

19 adjustments that only move the Achievable Potential in one direction – higher.

20 GDS proceeded as follows:

- 21 - Started with the highest Achievable Potential value derived in the
- 22 Collaborative work;

- 1 - Then increased that Achievable Potential value by largely ignoring the
2 two-year payback criterion agreed to by all of the Collaborative
3 members (to address free riders), including NRDC-SACE, and adding
4 back all measures eliminated by this criterion for all but very large
5 commercial and industrial customers;
- 6 - Increased the Achievable Potential value again by assuming higher
7 market penetration levels than those developed by the Collaborative
8 after months of work; and,
- 9 - Increased the ever-growing Achievable Potential value again by adding
10 back certain DSM measures that the Collaborative excluded from the
11 Technical Potential analyses.

12 **Q. What is the resulting Achievable Potential value that GDS arrives at with**
13 **this ever-escalating approach?**

14 A. I will discuss their recommendation in terms of Summer MW. This value is
15 the most important value to FPL in regard to system reliability because the
16 Summer reserve margin drives the need for new resources on FPL's system.

17
18 To put GDS's revised projection of Achievable Potential for FPL in
19 perspective, the maximum Achievable Potential Summer MW value for FPL,
20 using the more lenient E-TRC test ("more lenient" because it does not account
21 for all DSM-related costs, thus setting a lower standard for DSM to meet),
22 was determined to be approximately 1,100 MW over the 10-year period.
23 However, GDS's adjustments resulted in an Achievable Potential value of

1 5,554 MW over the 10-year period as is shown in their Exhibit RFS-20, page
2 1 of 7. Therefore, GDS's estimate is more than 5 times higher than the
3 Achievable Potential value developed by the collaborative efforts of the
4 utilities, NRDC-SACE, and Itron.

5 **Q. What does GDS do in the second part of their approach to developing**
6 **their recommendation for DSM Goals?**

7 A. Perhaps recognizing that their Achievable Potential values might be on the
8 high side for setting goals, GDS recommends that the goals be set for the first
9 5 years at 50% of their Achievable Potential value to provide a "transition
10 period", but ramps back towards their recalculated Achievable Potential
11 values for the second 5 years. Therefore, GDS recommends a 10-year
12 Summer MW goal for FPL of 4,320 MW as is shown in their Exhibit RFS-21,
13 page 1 of 7.

14 **Q. How would GDS's recommended Summer MW goals compare with**
15 **FPL's current DSM goals that were set in 2004?**

16 A. GDS's recommendation would set new goals for FPL at a level more than 5
17 times FPL's current goals. I would certainly term this recommendation as
18 extreme, especially considering that FPL's projected resource needs have
19 dropped. (I will discuss FPL's projected resource needs later in this
20 testimony.)

1 **Q. Other than GDS's recommendation being extremely high, what other**
2 **reactions to their recommendation do you have?**

3 **A. I stated earlier that I view GDS's recommended goals as both extreme, and**
4 **unsupported, as described below.**

5
6 First, GDS's recommendation is not based on FPL's most recent planning
7 process as is required by the DSM goals rule. FPL witness Dean will discuss
8 the regulatory compliance aspect of this. I'll address this from a resource
9 planning perspective.

10
11 As FPL's planning process is applied in this docket, one could say there were
12 6 major steps: (i) Technical Potential analysis; (ii) screening of DSM
13 measures and determination of incentive payment levels; (iii) Achievable
14 Potential analysis; (iv) DSM portfolio development; (v) resource plan
15 development; and (vi) resource plan analysis.

16
17 It is clear that GDS's recommendation was not based on FPL's planning
18 process because GDS chose to stop at the end of process step (iii) Achievable
19 Potential analysis. GDS then modified (ever upwards) the Achievable
20 Potential value and selected arbitrary percentages of that value for each of two
21 5-year periods as the recommended goals.

1 By choosing to stop halfway through the resource planning process, GDS
2 ensured that: there was no consideration of FPL's projected resource needs or
3 any economic analysis performed as part of the resource planning process to
4 create a DSM portfolio (step (iv)); there was no consideration of FPL's
5 remaining resource needs in years after the 2010 – 2019 time period nor the
6 development of resource plans to meet those needs (step (v)); and there was
7 no economic analyses of resource plans (step (vi)).

8
9 In regard to step (iv) in which consideration of FPL's projected resource needs
10 should have been taken into account, GDS chose not to consider these
11 resource needs. As a consequence, GDS's recommendations would result in
12 FPL's goals being set solely on the basis of their adjusted Achievable
13 Potential value, instead of using the Achievable Potential value as an input to
14 the remainder of the resource planning process. GDS either did not understand
15 FPL's resource planning process, or they consciously chose to use their
16 fabricated input value as their final answer, rather than correctly using it as an
17 input to the proper remaining analysis steps. As a result, when comparing
18 GDS's recommendation of 4,320 MW to FPL's projected resource needs of
19 607 MW at the meter (or 664 MW at the generator) if those resource needs are
20 met solely by DSM, GDS is recommending that FPL's goals be set such that
21 FPL would be adding DSM resources that are more than 7 times the amount
22 of DSM needed to meet its resource needs.

1 **Q. Please provide a capsule summary of the extreme nature of GDS's**
2 **recommended goals for FPL regarding non-renewable DSM.**

3 **A. In terms of Summer MW, GDS's recommendations for FPL in regard to goal-**
4 **setting are:**

- 5 - based on GDS revisions to the Achievable Potential value for FPL that
- 6 are 5 times the value developed by the Collaborative and Itron;
- 7 - more than 5 times the level of FPL's current goals set in 2004 when
- 8 load growth was significantly higher than it is today; and,
- 9 - more than 7 times FPL's total resource need over the 10-year period.

10

11 In light of these comparison results, calling GDS's recommended goals,
12 "extreme" is actually an understatement.

13 **Q. You stated that GDS's recommendation is to add 7 times the resources**
14 **that are needed to meet FPL's total resource need over the next 10 years.**
15 **In terms of Summer reserve margin, what does GDS's recommendation**
16 **equate to?**

17 **A. FPL's E-RIM 664 MW resource plan results in a projected Summer reserve**
18 **margin of 20% consistent with the Commission-approved reserve margin**
19 **planning criterion. If GDS's recommendation for 4,320 MW is substituted**
20 **into this same resource plan, FPL's projected Summer reserve margin for**
21 **2019 would skyrocket to 44%.**

1 That such a significant reserve margin would result from GDS's
2 recommendation is a direct result of GDS's failure to utilize FPL's resource
3 planning process, thereby failing to consider system considerations such as
4 reserve margin and system reliability.

5 **Q. Can you provide an analogy as to what a similar "stop halfway"**
6 **approach might look like in a need determination filing for a Supply**
7 **option?**

8 A. This "stop halfway" approach is so bizarre compared to actual resource
9 planning practice that it is difficult to envision a truly analogous example that
10 might actually take place in regard to Supply options and a need determination
11 filing. However, the following example probably comes close.

12
13 Let's assume that a utility does the following three steps of a multi-step
14 resource planning process, stops its work there, and then seeks Commission
15 approval of new Supply options. The utility first determines what types of
16 Supply options it can build in its Step (i) (similar to a Technical Potential
17 study). The utility then performs some preliminary economic analysis to select
18 several of the more promising types of generating units in its Step (ii) (similar
19 to DSM economic screening). Finally, the utility determines how many of
20 each of these types of generating units it believes it can physically build in the
21 next 10 years in its Step (iii) (similar to an Achievable Potential analysis). In
22 our example, let's say the utility decides in its Step (iii) that it can build a total

1 of 30 generating units of various types over a 10-year period (i.e., 30 is the
2 Achievable Potential for these new generating units).

3
4 In this analogous example, the utility decides not to take into account its
5 resource needs to see how many new generating units it really needs to meet
6 its resource needs (Step (iv)). The utility also does not create different
7 resource plans with different numbers or types of these new generating units
8 in various years (Step (v)), and the utility doesn't perform economic
9 evaluations of those resource plans (Step (vi)).

10
11 Instead, the utility petitions the Commission for approval to build an arbitrary
12 number (let's say 50%) of the total achievable number of 30 new generating
13 units. The utility then petitions the Commission for approval to build 15 new
14 generating units over the next 10 years.

15
16 To put it mildly, I would not expect the Commission to seriously consider
17 such a request. But this is precisely the type of request GDS is making with its
18 recommendations for setting goals.

1 **Q. In addition to GDS not using FPL's planning process, you stated that**
2 **there was a second reason that leads to the conclusion that GDS's**
3 **recommendations for goals are completely unsupported. Would you**
4 **please discuss that now?**

5 A. Yes. The second reason that GDS's recommendations are completely
6 unsupported is that there is no analysis of the economic impacts to all of
7 FPL's customers that would result from GDS's recommendation. The only
8 mentions of "economic analysis" are several statements such as this one on
9 page 32, lines 12 – 13: *"measures...that cost far less than new power supply*
10 *resources on a cost per lifetime saved basis."*

11
12 By this statement, GDS is attempting to make a case that the cost to reduce a
13 kWh is low compared to the cost to produce a kWh with a new generating
14 unit. The only quantitative "support" GDS provides for this statement is
15 represented by the following statement on page 34, lines 1 – 2, of its
16 testimony: *"...measures that have a levelized cost per lifetime kWh saved less*
17 *than 2.5 cents per kWh saved."* By this statement, GDS is claiming that DSM
18 can reduce a kWh at a levelized cost of less than 2.5 cents per kWh. (GDS
19 appears to offer no comparative levelized costs for new generating units.)

20
21 However, GDS's levelized cost values appear to be the result of a very
22 selective exercise. As footnote 8 on page 34 shows, GDS has chosen to
23 include only *"...measures with a two-year payback period or less..."* in its

1 calculation. Because such DSM measures tend to have higher kWh reduction
2 values that result in rapid payback to the participant, GDS has carefully
3 selected only measures for its calculation that will tend to have large
4 denominators (the kWh reduction value), thus assisting in low cost per kWh
5 outcomes. Yet, as I will discuss next, this careful selection of DSM measures
6 by GDS is irrelevant as it pertains to the "justification" for their
7 recommendations.

8 **Q. Why is this highly selective choice of DSM measures irrelevant?**

9 A. GDS's careful selection of certain DSM measures is irrelevant because a
10 levelized cents per kWh approach to analyzing resource options is absolutely
11 the wrong analytical approach to use for evaluating a variety of resource
12 options. The severe limitations with this approach, commonly referred to as a
13 "screening curve" approach, have long been recognized by utility resource
14 planners.

15
16 However, GDS, like NRDC-SACE, believes that a simple screening curve
17 approach constitutes a meaningful economic analysis of adding a resource
18 option to a utility system. This is a fundamental error. Therefore, the
19 economic "justification" for their recommendations is fundamentally flawed.

20
21 I discuss this fundamental error in depth in the second part of this rebuttal
22 testimony in which I address NRDC-SACE's testimony beginning on page 81.
23 Therefore, I will not address it here in detail. Suffice it to say that the DSM

1 goals rules ensure that a full economic analysis is to be performed by
2 requiring that the utility's resource planning process be used. One of the
3 reasons for this requirement is to avoid parties providing incomplete and
4 incorrect economic analyses in an attempt to support inappropriate resource
5 option decisions, as GDS (and NRDC-SACE) attempts to do here with a
6 simple screening curve calculation.

7 **Q. Turning attention to GDS's recommendation for goals for renewable**
8 **DSM measures, are these recommendations as extreme and unsupported**
9 **as their recommendations for non-renewable DSM measures?**

10 A. Yes.

11 **Q. Would you please explain?**

12 A. Yes. Let me first summarize what GDS is recommending. GDS admits that
13 none of the renewable DSM measures they deem as worthy to set goals for
14 were found to be cost-effective to either potential participants or to the general
15 body of ratepayers – regardless of whether the E-RIM or E-TRC test was
16 used. Nevertheless, GDS wants to set goals for these measures. This
17 recommendation will result in a significant amount of money being spent that
18 will be recovered from all of FPL's customers, fully recognizing that the
19 general body of customers will not benefit from these expenditures.

20
21 In fact, getting the utilities and their customers to spend large amounts of
22 money appears to be GDS's primary objective. GDS does not recommend
23 MW or GWh goals as they recommend (at an extreme level) for non-

1 renewable DSM measures. Instead, they recommend setting spending goals.
2 GDS has chosen a completely arbitrary dollar amount of 10% of a utility's
3 average annual ECCR expenditures over the last 5 years as their
4 recommended "spending goal".

5 **Q. Approximately how much money does this equate to for Florida utilities**
6 **over the 10-year period?**

7 A. GDS estimates that about \$24.5 million should be spent each year for an
8 expenditure of about \$245,000,000, or a quarter of a billion dollars, over the
9 ten-year period. This obviously represents a large amount of money.

10 **Q. What would this money actually be spent for?**

11 A. GDS first explains on page 74, lines 21 – 22, that the two renewable DSM
12 measures it would like to set spending goals for, solar thermal and
13 photovoltaics, "*... should be designated as research and development*
14 *programs (R&D) in order to allow for recovery through the ECCR clause.*"
15 GDS then explains on page 76, line 20, that it really doesn't intend for these
16 expenditures to be used for R&D as the term is generally understood, but that:
17 "*The funds should be used as one-time rebates for demand-side renewable*
18 *energy system.*" In other words, provide subsidies for these renewable
19 technologies.

20
21 GDS states on page 75, lines 7 – 9, that it believes: "*By continuing to provide*
22 *some level of financial support for these emerging technologies, costs should*
23 *decrease over time.*" My immediate reaction to this sentence is that solar

1 water heating is not an “emerging technology”. Solar water heaters have been
2 in use in Florida for approximately a century.

3 **Q. Does GDS offer any analysis to support their premise that providing**
4 **subsidies directly to customers for renewable energy equipment will lead**
5 **to lower equipment costs in the long run in Florida?**

6 A. No. GDS offers no analysis to support this premise.

7 **Q. In your experience, have subsidies for renewable energy equipment**
8 **resulted in lower long-term prices for this equipment in Florida?**

9 A. My personal experience applies only to solar water heaters, and that
10 experience tells me that the answer is no for solar water heaters. Prior to
11 joining FPL, I worked at the Florida Solar Energy Center for roughly two
12 years. Shortly after joining FPL, based on my experience with solar water
13 heaters and knowledge of Florida’s solar industry, I was asked to help design
14 and implement FPL’s Conservation Water Heating program that provided
15 incentives to encourage the implementation of various water heating
16 technologies including solar water heaters. This program was offered for
17 several years in the early 1980s and was offered during the time that the
18 federal government was offering a substantial tax credit on solar water
19 heaters.

20
21 The program was successful for several years, resulting in FPL providing
22 incentives for approximately 50,000 solar water heater installations. However,
23 over the course of those years, the cost of solar water heaters increased

1 dramatically. In the first year of the program, the average price of a solar
2 water heater was about \$2,000. This average price rose rapidly to
3 approximately \$3,000 over the course of just a few years. When the federal
4 tax credits ended around 1985, the solar water heater market in Florida found
5 itself in an unhealthy economic situation because the industry had become
6 dependent on the federal subsidies and higher solar water heater costs. It took
7 years for the industry in Florida to restructure to the new economic reality.

8
9 My experience with solar water heaters leads me to conclude that GDS's
10 contention – that use of subsidies paid to individual consumers for expensive
11 energy equipment will lead to long-term price reductions for this type of
12 equipment – is unlikely to happen, and may well result in even higher prices.

13
14 As part of the work for this docket, prices for solar water heaters were
15 researched both during the early stages of the Collaborative's efforts and then
16 more recently. The findings were that prices for solar water heaters of
17 comparable size to those discussed above range from roughly \$3,500 to
18 \$6,000. I believe that there is evidence that prices are once again trending
19 upwards due to announcements of state and federal subsidies. Clearly, such
20 price increases make solar water heaters less cost-effective to potential
21 customers.

1 **Q. Would you please summarize your reactions to GDS's recommendation**
2 **for renewable DSM goals?**

3 A. Yes. GDS's recommendation to establish arbitrary "spending goals" (with
4 very large expenditures) to subsidize DSM measures, that clearly do not
5 benefit the general body of customers, is a bad idea. GDS offers no analysis to
6 support its recommendation. The stated objective of lowering renewable
7 equipment cost in the long run through subsidies is, in my opinion, unlikely to
8 occur. In fact, Florida has a fairly recent example in which exactly the
9 opposite outcome has occurred.

10

11 Therefore, GDS's recommendation regarding renewable DSM goals is, just
12 like its recommendation for non-renewable DSM goals, both extreme and
13 unsupported. Both of GDS's goals recommendations would, if implemented,
14 result in very large DSM expenditures that would increase electric rates and
15 result in increasing levels of cross-subsidization between customer groups.

16 **Q. Does GDS recognize the problems that would directly result from their**
17 **recommendations – increased electric rates and cross-subsidization**
18 **between customer groups?**

19 A. Yes. They clearly recognize the first problem of increased rates that would
20 result from their recommendations. GDS shows this on page 54, lines 13 – 15,
21 where they state: "*...how can the Commission increase the level of*
22 *conservation while, at the same time, mitigate the rate impact on*
23 *customers...*" GDS also recognizes the second problem that would directly

1 result from their recommendations, cross-subsidization of customer groups
2 (also referred to as “equity concerns”). They show this on page 60, lines 2 – 4,
3 where they state: *“The FEECA utilities can address these equity concerns by*
4 *offering a comprehensive list of energy efficiency measures and educational*
5 *materials available to all electric customers...”*

6
7 GDS does propose “solutions” to both of these problems that would result
8 from their recommendations that I will discuss. However, I would like to first
9 discuss a misleading comparison made by GDS that was designed to make
10 one believe that the increased rate impact from DSM is not “too bad” when
11 compared to other resource options.

12 **Q. What is this misleading comparison?**

13 A. The comparison begins on page 56, lines 11 – 21, and page 57, lines 1 – 3. On
14 these pages GDS seems to take comfort in a study that concluded that
15 (paraphrasing) DSM would likely result in increases in levelized electric rates
16 over a 20-year period ranging from 0.14 to 3.28 percent. The comparison
17 concludes on page 58, lines 1 – 10, and footnote 22. Here GDS states that:
18 *“Supply-side investments can increase electric rates by 10 percent or more.”*

19
20 In support of the “10 percent or more” statement, GDS again carefully selects
21 an example. GDS points to a calculation of the projected rate increase for
22 Georgia Power Company in 2016 when two new nuclear units were projected

1 to come in-service. The projected increase in nominal rates for that single year
2 - is more than 12% as GDS correctly states.

3
4 However, the comparison is misleading for two reasons. First, this is not an
5 “apples-to-apples” comparison. The DSM value is a 20-year, net present value
6 levelized number. The Georgia Power value is a nominal value for a single
7 future year. The two values are simply not comparable because they are
8 calculated completely differently and represent completely different types of
9 values.

10
11 Second, GDS has carefully selected the one year in Georgia Power’s
12 calculation of rate impacts that is probably the highest year of rate impact; i.e.,
13 the year in which both nuclear units go in-service. Based on the calculations
14 FPL has performed for its new nuclear units, I would expect the rate impacts
15 to be dramatically different in subsequent years. In each year after the in-
16 service year, I would expect to see declining capital revenue requirement
17 costs, and increasing system fuel and environmental compliance cost savings.

18
19 I would expect the nuclear unit to show significant savings compared to
20 competing options on a cumulative present value of revenue requirements
21 (CPVRR) basis. (Otherwise, it is unlikely that Georgia Power would have
22 brought the new nuclear units before their Commission.) And, if the new
23 nuclear units were more economical than the competing resource options on a

1 CPVRR basis, I would expect the levelized electric rate value for the nuclear
2 units to also be lower than the levelized electric rate value for the competing
3 options. If this were the outcome, then Georgia Power's new nuclear units
4 would result in a projected decrease in levelized electric rates compared to
5 GDS's example of increased levelized electric rates for DSM measures that
6 would be implemented as a result of their recommendations.

7
8 It is interesting that GDS stopped halfway (actually, less than halfway) in yet
9 another analysis. GDS did not attempt to develop what could have been a
10 more meaningful analysis that would have included a multi-year levelized rate
11 impact for Georgia Power's new nuclear units. Regardless of the reasons they
12 chose not to attempt a more meaningful analysis, the comparison that GDS
13 chose to offer is misleading in several ways as noted above.

14 **Q. Let us return to GDS's proposed solutions to the problems of increased**
15 **electric rates and cross-subsidization of customer groups that would**
16 **result from their recommended goals. What do they propose as solutions?**

17 **A.** Their solution to the problem of increasing electric rates is to institute a "rate
18 cap" that would limit how much of an increase to electric rates from DSM
19 would be allowed. Regarding the cross-subsidization problem, as indicated in
20 the quote above from page 60 of their testimony, GDS's solution (and NRDC-
21 SACE's as well, as described later in this rebuttal testimony) is to simply add
22 more DSM measures of the type that caused the problem in the first place.

1 **Q. What is your reaction to these proposed solutions?**

2 A. I find GDS's proposed "solutions" to be both interesting and unnecessary.

3 **Q. What do you find interesting about these proposed solutions?**

4 A. There are two aspects of these proposed solutions that I find interesting. First,
5 the proposed solution to increasing electric rates due to DSM, the "rate cap"
6 concept, would require considerable work and consensus to set up an agreed
7 upon methodology that could be used to accurately calculate impacts. I
8 believe this would be especially true in the State of Florida which does not
9 have regularly scheduled rate cases. However, even if this obstacle were to be
10 overcome, the practice of administering a rate cap for DSM, would
11 undoubtedly result in the equivalent of regularly scheduled, perhaps annual,
12 mini-rate cases that would almost certainly be contentious.

13

14 The 'rate cap' concept would certainly result in more regulatory work for all
15 parties involved in DSM. Thus, while GDS's proposed solution may seem
16 fine for them, additional and unnecessary regulatory workload is probably not
17 a desired goal of either electric utilities or regulatory bodies such as the
18 Commission.

19

20 I also find the concept of having both a rate cap to address DSM-induced
21 increased electric rates, and implementing additional DSM in an attempt to
22 address cross-subsidization, to be interesting because they seem contradictory
23 to me. If, as GDS contends, cross-subsidization should be addressed by more

1 DSM programs of the type that caused the problem in the first place (a
2 “solution” approach that I do not believe will work), then one adds more and
3 more DSM programs. However, the addition of more of these DSM programs
4 results in ever-increasing electric rates that will trigger the rate cap to come
5 into play.

6
7 Clearly, something has got to give at some point. Either one stops adding new
8 DSM programs of this type to honor the rate cap criterion (which keeps rates
9 from rising even higher, but leaves an increased level of cross-subsidization),
10 or one readjusts the rate cap upwards (allowing more DSM programs of this
11 type to be implemented in an attempt to lower the cross-subsidization levels,
12 but resulting in increasing electric rate levels.) The contradictory nature of this
13 “dual approach” would likely add even more to the regulatory workload.

14
15 Both of the problems I’ve discussed – increased electric rates and cross-
16 subsidization of customer groups – are the direct result of implementing DSM
17 programs that would fail the E-RIM test, but “pass” the E-TRC test. The
18 answer is obvious: we should evaluate DSM measures and set DSM goals
19 using the E-RIM test.

II. GDS's Misleading Statements Regarding the RIM Test

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Q. Did GDS make misleading statements about the RIM test?

A. Yes. GDS made a number of misleading statements regarding the rate impact measure or RIM test. I will discuss four such statements that I will paraphrase for the moment as follows: (i) the RIM test should not be used because it is not an “economic efficiency” test; (ii) the RIM test is the “most restrictive” test; (iii) Supply options are not evaluated using the RIM test; and (iv) energy efficiency (EE) programs do not pass the RIM test.

I will address each of these misleading comments. Then I will contrast these misleading comments about the RIM test with my observations about the RIM test from the standpoint of an individual who has been involved in DSM development and resource planning in the State of Florida for about 30 years.

Q. What is your reaction to the comment that RIM is not an “economic efficiency” test?

A. Let's first look at GDS's statement on page 45, lines 15 – 16: “...*the RIM and E-RIM tests are not appropriate as primary tests because they are not tests of economic efficiency.*” GDS does not define what it means by ‘economic efficiency’. For purposes of this discussion, I'll assume the term refers generally to determining the total costs of goods or services.

1 The evaluation of DSM measures using a cost-effectiveness test is merely the
2 first step in an overall economic analysis that seeks to compare DSM options
3 with Supply options.

4
5 In such an analysis, the item of paramount importance from a resource
6 planning perspective is to include all relevant costs and benefits that can be
7 accurately identified for both types of resource options that are incurred
8 and/or realized by all customers. Only by doing this is the resource planner,
9 and the Commission, able to ensure that resource options are being compared
10 on a level playing field with complete information.

11
12 Only the use of the E-RIM test ensures that all relevant DSM-related costs are
13 accounted for. (The E-TRC test cannot do this because it omits both incentive
14 payments to participants and unrecovered revenue requirements, both of
15 which are ultimately incurred by the general body of ratepayers.) Therefore,
16 because the E-RIM test ensures that all DSM-related costs are accounted for,
17 it is the correct test with which to begin the evaluation of DSM options for a
18 utility system.

19 **Q. What is the next misleading GDS comment about the RIM test that you**
20 **wish to discuss?**

21 A. On page 37, line 16, GDS quotes a NAPEE document which states: "...it (the
22 RIM test) *is the most restrictive of the five cost-effectiveness tests.*"

1 Q. What is your reaction to this?

2 A. I assume that GDS's decision to include this statement, which was derived
3 from a document advocating energy efficiency measures, was intended as a
4 disparaging remark regarding the RIM test. However, as a resource planner, I
5 read it as a ringing endorsement for the RIM test.

6
7 When comparing the RIM and TRC tests, the benefits calculations are
8 identical for both tests. The two tests differ only in regard to DSM-related
9 costs that are included in each calculation. Because the RIM test accounts for
10 all DSM-related costs that are incurred by all customers, and the TRC test
11 omits two significant costs as was just discussed, the RIM test will naturally
12 be "more restrictive" than the TRC test.

13
14 However, because the real objective in resource planning is to evaluate
15 resource options with all of the costs that will be incurred by all customers
16 accounted for, I would replace the words "most restrictive" to "most
17 accountable", "most complete", or "most informative." This is a most
18 admirable trait to have.

19 Q. What is the next misleading statement regarding the RIM test that GDS
20 makes?

21 A. On page 53, lines 2 - 4, GDS states: "*The RIM test is uniquely applied to*
22 *DSM measures and is not considered for any supply-side investments,*
23 *providing an unfair playing field for comparing utility investments.*"

1 **Q. What is your reaction to this statement?**

2 **A. I have several reactions. First, GDS's statement is not correct. When using the**
3 **RIM test, both the DSM option and the competing Supply option are**
4 **evaluated. Therefore, one is evaluating a Supply option at the same time one**
5 **is evaluating a DSM option. (This is also the case with a TRC test evaluation.)**

6

7 **Second, I believe the argument that GDS was trying to make is that when only**
8 **Supply options are evaluated against each other, the RIM test is not used. This**
9 **would have been a correct statement, but an irrelevant one. When evaluating**
10 **only Supply options, neither the RIM nor the TRC test is used.**

11

12 **Supply options are typically large resource options ranging from a few dozen**
13 **MW to over 1,000 MW in size. There are typically only a few dozen Supply**
14 **options that are suitable for a given utility to consider at a given time. Due to**
15 **its size, each Supply option will generally have a noticeable impact on the**
16 **utility system if it is chosen. Therefore, Supply options readily lend**
17 **themselves to analyses of resource plans in which one or more of the**
18 **competing Supply options are incorporated into resource plans that are then**
19 **analyzed using sophisticated computer models.**

20

21 **On the other hand, individual DSM options are much smaller with demand**
22 **reduction values close to 1 kW per installation. In addition, the utility may**
23 **have hundreds or thousands of DSM measures that are potentially suitable for**

1 it to consider. Because of the small nature of individual DSM measures, they
2 do not lend themselves well to direct analysis of resource plans because their
3 small size would result in small system impacts that would be very difficult (if
4 not impossible) to accurately judge. Nor would it be practical to even attempt
5 to evaluate hundreds or thousands of DSM measures individually in resource
6 plan analyses due to the time it takes to set up these analyses.

7
8 Consequently, several DSM “cost-effectiveness tests” were created (and are
9 still being created as evidenced in this docket) so that analyses of individual
10 DSM measures could be carried out quickly and with reasonable accuracy. In
11 this way, large numbers of DSM measures can be “screened” using these tests.
12 Then the best DSM measures can be combined into DSM portfolios for the
13 much more meaningful resource plan analyses against Supply options.

14
15 But, let’s take another look at how two Supply options are actually compared.
16 There are two key characteristics of such an evaluation. The first key
17 characteristic is that the evaluation is performed with a full accounting of
18 costs for the two Supply options. The second key characteristic is that an
19 evaluation between two Supply options is simultaneously an evaluation of
20 both system costs and system average electric rates.

21
22 Because the utility system will be serving the same amount of kWh regardless
23 of which Supply option is selected, the typical analytical approach is to

1 evaluate the present value of system net costs for each Supply option.
2 However, this also represents a comparison from an electric rate perspective.
3 The system costs for each Supply option represent the numerator, and the
4 identical number of kWh served represent the denominator, in a system
5 average electric rate calculation. Due to the fact that the denominator does not
6 change, the Supply option with the lowest system cost will also result in the
7 lowest system average electric rate. Consequently, the evaluation of only
8 Supply options is simultaneously an evaluation of both costs and system
9 average electric rates.

10
11 Now let's return to the RIM and TRC tests. The TRC test clearly is not
12 concerned with electric rate impacts. Furthermore, the TRC test omits two
13 significant DSM-related costs, incentive payments and unrecovered revenue
14 requirements. Therefore, the TRC test is definitely not evaluating a DSM
15 option versus a Supply option in a manner that is consistent with how two
16 Supply options are compared.

17
18 Fortunately, the RIM test both takes an electric rate perspective and accounts
19 for all costs, including all DSM-related costs. Consequently, even though the
20 RIM test itself is not used when two Supply options are evaluated, the RIM
21 test does evaluate a DSM option versus a Supply option in an approach that is
22 consistent with how two Supply options are evaluated.

1 **Q. What is the final misleading statement that GDS makes that you will**
2 **discuss?**

3 A. On page 53, lines 4 – 5, in discussing the type of DSM programs that pass the
4 RIM test, GDS states: “...*energy efficiency programs typically do not* (pass
5 the RIM test)...”

6 **Q. What is your reaction to this statement?**

7 A. I have several reactions. First, the statement is simply inaccurate as shown by
8 the large number of energy efficiency measures that have been part of DSM
9 programs implemented by Florida utilities for decades that have passed the
10 original RIM test. Second, the statement is also irrelevant to this docket
11 because Florida utilities did not use the original RIM test in their analyses;
12 they used the enhanced E-RIM test.

13
14 The enhanced E-RIM test results in even more energy efficiency measures
15 passing DSM screening than was the case with the original RIM test. As
16 shown in Exhibit SRS-4 in my direct testimony, FPL’s DSM screening
17 resulted in 885 total measures passing the E-RIM screening path and 928 total
18 measures passing the E-TRC screening path. After subtracting the half-dozen
19 or so non-energy efficiency measures that passed both screening paths, it is
20 clear that 95% as many energy efficiency measures passed the E-RIM path as
21 passed the E-TRC path. (There will be some differences in the specific
22 measures that pass these tests, and in the system impacts those measures will
23 have, including impacts on electric rates.)

1 Therefore, any claim or suggestion that the enhanced version of the RIM test,
2 the E-RIM test, does not find large numbers of energy efficiency measures
3 cost-effective is completely unjustified and inaccurate.

4 **Q. You stated earlier that you wished to contrast these misleading**
5 **statements regarding the RIM test with your perspective of cost-effective**
6 **analyses as someone who has analyzed Supply and DSM options in**
7 **Florida for almost 30 years. What comments would you make?**

8 A. The misleading statements I've just discussed are representative of similar
9 statements that I have heard over the years from individuals and organizations
10 whose objective always seems to be that "DSM is always the best resource
11 option and the utilities should always be implementing ever-increasing
12 amounts of DSM."

13
14 For these individuals and organizations, the RIM test (and by implication, the
15 E-RIM test) will always be deemed 'too restrictive' because these tests require
16 that all DSM-related costs are accounted for when evaluating DSM versus
17 competing Supply options.

18
19 As one whose primary job is to evaluate utility resource options, I believe that
20 the State of Florida has followed the correct path for years by using the RIM
21 test as the primary DSM cost-effectiveness path. It simply is the only DSM
22 cost-effectiveness test that allows the comparison of DSM and Supply options
23 with a complete accounting of costs related to both types of options.

1 **Q. Why did FPL file two portfolios based on a TRC-based perspective (the**
2 **E-TRC portfolios) if it believes that a RIM-based perspective (the E-RIM**
3 **portfolios) is the correct perspective?**

4 A. FPL filed portfolios based on both a RIM-based perspective (E-RIM) and a
5 TRC-based perspective (E-TRC) because the Commission and Staff required
6 the utilities to do so. FPL would not have filed portfolios based on a TRC-
7 based perspective otherwise. However, FPL recognizes that the request from
8 the Commission and Staff was likely made because this proceeding was
9 expected to be contentious.

10 **Q. Why did FPL utilize the E-RIM and E-TRC tests?**

11 A. FPL believes that the E-RIM test is the only cost-effectiveness test, that when
12 combined with the Participant test, meets the requirements of HB 7135. In
13 addition, FPL believes the correct approach to analyzing DSM measures is to
14 include environmental compliance costs, including CO₂ compliance costs, to
15 ensure that both Supply and DSM resource options are evaluated on a level
16 playing field. It appears unrealistic to assume that CO₂ compliance costs will
17 not be in place during the 10-year period addressed in this DSM goals docket.
18 Therefore, the enhanced E-RIM test was developed and used in the analyses
19 for this docket. In order to respond to the requests of the Commission and
20 Staff for both a RIM-based and TRC-based perspective, the E-TRC test was
21 also developed and used.

1 The Commission Staff indicted that it wanted to base goals on analytical
2 results and stated that it expected analyses using both RIM-based and TRC-
3 based perspectives. Staff also requested that the utilities conduct a number of
4 sensitivity cases using different assumptions related to environmental
5 compliance costs, capital costs, fuel, etc.

6
7 The utilities' analyses presented in this docket are based on these enhanced
8 cost-effectiveness tests. Therefore, disparaging remarks about the original
9 RIM test are simply irrelevant because that test was not used in these analyses.
10 More importantly, from my perspective as a resource planner, I believe
11 similar statements, if applied to the E-RIM test, are missing a very important
12 point regarding the E-RIM and E-TRC tests.

13
14 Regarding the E-TRC test, I believe that this test, although enhanced in regard
15 to the calculations of system environmental-based costs and benefits from
16 DSM, is still fundamentally flawed because it does not account for all DSM-
17 related costs. However, I believe that the E-RIM test truly represents an
18 enhancement over the original RIM test. The original RIM test uniquely had
19 the desirable attributes of considering both a cost and a rate perspective, of
20 ensuring that all DSM-related costs were accounted for, and minimizing
21 cross-subsidizations between customer groups. It now also accounts for the
22 system environmental-based costs and benefits from DSM.

1 In the past, an argument could be made that it may be wise to use the TRC test
2 – despite its fundamental flaws – because it “passed” additional numbers of
3 energy efficiency DSM measures, and that these measures could be helpful in
4 reducing emissions. (However, the value of those emissions was typically not
5 quantified).

6
7 The introduction of the E-RIM test now eliminates any such rationale to use a
8 fundamentally flawed test in order to address system emissions. The E-RIM
9 test not only quantifies the system emission impacts from DSM and Supply
10 options, it also applies environmental compliance costs to these system
11 emission impacts.

12
13 By accounting for these environmental impacts, many more DSM measures
14 pass the E-RIM test compared to the number that would have formerly passed
15 the original RIM test. Using FPL’s screening results for its “collapsed” DSM
16 measures that are presented in Exhibit SRS-4 of my direct testimony, plus a
17 rerun of the screening analysis of these same measures after removing just the
18 CO₂ compliance costs, the following picture emerges which is indicative of
19 results I would expect when using the four tests:

- 20
21 - 166 measures passed the original RIM test;
22 - 279 measures passed the enhanced E-RIM test;
23 - 294 measures passed the original TRC test; and,

1 - 305 measures passed the enhanced E-TRC test.

2
3 Clearly, the number of measures that pass the E-RIM test has significantly
4 increased. In fact, the numbers of DSM measures passing the E-RIM and the
5 original TRC tests are very comparable. The number of measures passing the
6 E-RIM and E-TRC tests are also comparable. (As mentioned previously,
7 there will be some differences in the specific measures that pass these tests,
8 and in the system impacts, including electric rate impacts, the measures will
9 have.)

10
11 FPL began to analyze Supply options two years ago using environmental
12 compliance costs for CO₂, plus compliance costs for other emissions. Now,
13 the introduction of the new E-RIM test allows the analysis of Supply and
14 DSM options to be conducted on a level playing field that fully includes
15 system emission compliance costs (including costs for CO₂), plus a full
16 accounting of all costs for both types of resource options.

17
18 The enhanced E-RIM test is definitely the preferred approach to take in cost-
19 effectiveness analyses of DSM options.

III. Errors Made by GDS Witnesses

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Q. Were there errors in GDS's testimony?

A. Yes. I will address two errors that were made in GDS's discussion of the analytical process used by FPL to develop its proposed DSM goals.

Q. What was the first error that GDS made that you will discuss?

A. The first error was GDS's claim on page 38, lines 12 – 14, of its testimony that: *"The Florida utilities also use the Participant test to identify and eliminate energy efficiency measures with a short payback period that consumers likely could be doing anyway."* This is incorrect. FPL did not use the Participant test for this purpose.

In an analysis such as the DSM goals analysis that addresses multiple years, the Participant test looks at the DSM signups over a number of years. Then the net present value of costs and benefits for all of these participants, as a group over all years, are tallied up and compared to develop a net present value benefit-to-cost ratio. In such cases, the issue of how many months or years it takes for the average participant to have his/her costs equaled by the benefits the participant receives (the "payback" period) can be difficult to judge by looking only at the Participant test's net present value results.

Consequently, FPL utilized another analysis that examined an average individual participant and calculated whether total benefits received in 2 years

1 (bill savings, etc.) exceeded the participant's original cost of participation
2 (costs of the DSM measure). This approach provides a more accurate view of
3 the length of time until "payback" is achieved for the average participant.

4
5 (NRDC-SACE witnesses also had trouble with how the Participant test was
6 used in FPL's analyses. Therefore, this subject is addressed in the second part
7 of my rebuttal testimony in response to the problems with NRDC-SACE's
8 testimonies.)

9 **Q. What is the second error that GDS made that you will discuss?**

10 A. On page 24, lines 16 – 17, GDS states: "*Some utilities used an incorrect*
11 *optimization methodology to select a cost effective portfolio of energy*
12 *efficiency measure.*" GDS returns to that subject on page 67 where, on lines 3
13 – 6, they state: "*For FPL maximum achievable (TRC or E-TRC) estimates*
14 *upon which the revised goals were built were estimated using a linear*
15 *programming model run with an incorrect optimization function that caused*
16 *projections of energy efficiency savings to be too low.*"

17
18 With these two statements, GDS makes several errors. In addition, GDS
19 shows a lack of understanding of how FPL's linear programming (LP) model
20 works. GDS could have easily avoided their confusion regarding the LP
21 model and how it was used by FPL.

1 Q. What were these errors?

2 A. First, GDS refers to "*Some utilities...*" FPL utilized an LP model approach,
3 but I am not aware that other utilities used such an approach. GDS's lack of
4 specificity in these statements points out that it does not really know how each
5 utility conducted its analyses. Second, GDS's reference to "*...FPL maximum*
6 *achievable (TRC or E-TRC) estimates...*" is incorrect. FPL is no longer
7 conducting analyses using the original TRC test, nor using the original RIM
8 test. FPL's analyses are now using an enhanced version of those tests that are
9 referred to as the E-RIM and E-TRC tests. (GDS's testimony does frequently
10 refer to the enhanced E-TRC test, but appears to go out of its way to avoid
11 discussing the E-RIM test or the results that occur from using that enhanced
12 test.)

13
14 Third, and most important, GDS's statement that: "*...FPL maximum*
15 *achievable (TRC or E-TRC) estimates upon which the revised goals were built*
16 *were estimated using a linear programming model...*" shows a complete lack
17 of understanding of how the LP model was used and of the entire
18 Collaborative process that the utilities, NRDC-SACE, and the consultant Itron
19 carried out. The maximum achievable estimates, regardless of whether these
20 estimates were based on the E-RIM or E-TRC tests, were developed by Itron
21 based on the results of the economic screening of DSM measures. Itron then
22 provided the achievable potential estimates for each measure for the 10-year
23 period to FPL.

1 Only after the achievable potential information is delivered to FPL can FPL
2 begin the process of developing DSM portfolios. That subsequent process is
3 where the LP model is used. Therefore, the LP model was not used to create
4 the achievable potential estimates for DSM measures as GDS claims.

5

6 GDS has it backwards. The achievable potential estimates are used as an input
7 to the work carried out with the LP model.

8 **Q. You stated earlier that GDS could have easily avoided their confusion**
9 **regarding the LP model and how it is used by FPL. How could GDS have**
10 **done so?**

11 A. A number of weeks before GDS filed its testimony, the FPSC Staff informed
12 FPL that Witness Spellman was interested in learning more about FPL's LP
13 model and how it was used. FPL extended an invitation to GDS for Witness
14 Spellman to give me a call to discuss the LP model and its use. FPL also made
15 examination of the LP model available in its Miami office, through responses
16 to discovery requests. GDS never took advantage of either invitation, but
17 decided instead to proceed to characterize a model they do not understand, nor
18 tried to understand, as "...an incorrect optimization methodology..." in their
19 testimony.

IV. Summary

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Q. Please summarize your rebuttal testimony regarding GDS's testimony.

A. I will do so with the following summary statements.

(1) GDS's recommendations for FPL's goals for non-renewable DSM measures are both extreme and unsupported. In terms of Summer MW, GDS's recommended goals for FPL are more than 5 times FPL's current DSM goals which were set in 2004 when projected load growth was significantly higher than it is today. Even more bizarre is the fact that GDS's recommended goals for FPL are more than 7 times FPL's projected resource needs. GDS chose not to recommend goals based on FPL's most recent resource planning process as required by DSM goals rules. Instead, they chose to stop halfway through the resource planning process, select the highest starting point number they could find, then make a series of adjustments that resulted in an ever-increasing projection of Achievable Potential upon which arbitrary percentages were then applied to derive a recommended goals level.

(2) GDS's recommendations for FPL's goals for renewable DSM measures are also extreme and unsupported. GDS even admits that the analyses carried out by the Collaborative shows that none of the renewable DSM measures it has in mind, solar water heaters and

1 photovoltaics, were shown to be cost-effective for either the
2 participant or the general body of ratepayers. Nevertheless, GDS
3 recommends that Florida's utilities (and their customers) spend
4 approximately \$245,000,000 to encourage the implementation of these
5 measures over the next 10 years. Their premise for recommending this
6 – these subsidies will result in lowered renewable equipment costs for
7 'emerging technologies' in the long-run – is contradicted by my
8 experience in Florida involving solar water heaters.

9 (3) GDS does admit that its recommendations will result in increased
10 electric rates and cross-subsidization of customer groups. This comes
11 about from implementing DSM measures that fail the E-RIM test, but
12 "pass" the E-TRC test. GDS's proposed remedy – a dual approach
13 involving a 'rate cap' and ever-increasing number of DSM measures
14 that caused the problem in the first place – is contradictory and would
15 result in increased and unnecessary regulatory workload. Regarding
16 the problem of increased rates, GDS provided a very misleading
17 "comparison" that attempts to contrast rate impacts for DSM and new
18 nuclear units. This comparison was presented in hopes of showing that
19 increased rates resulting from their recommendations "aren't too bad".
20 However, their comparison is so flawed that a critical look at it led me
21 to the opposite conclusion. Most importantly, GDS chose not to
22 recommend the obvious solution to both of these problems: simply use
23 the E-RIM test to evaluate DSM measures and to set DSM goals.

1 (4) GDS offers absolutely no economic analyses to support its
2 recommended goals. Their entire economic argument is based on
3 "cents/kWh" screening curve values that someone else performed.
4 GDS either does not know, or chooses to ignore, the fact that screening
5 curve analyses are fundamentally flawed as an analytical approach
6 when evaluating two dissimilar resource options such as DSM and
7 baseload generating units. (This topic is discussed in depth in the
8 second part of my rebuttal testimony in response to NRDC-SACE.)

9 (5) GDS made a series of misleading statements about the RIM test. Not
10 only are these statements misleading, irrelevant, and/or incorrect, GDS
11 completely missed the point that FPL did not use the original RIM test
12 for these analyses. FPL used an enhanced version of the original RIM
13 test, the E-RIM test.

14 (6) Finally, GDS made several errors in their discussions regarding FPL's
15 use of the Participant test and the use of FPL's linear programming
16 (LP) model. GDS does not understand how FPL actually utilized those
17 analytical tools. Additionally, their confusion regarding the use of the
18 LP model was completely avoidable because FPL extended an
19 invitation to Witness Spellman to discuss and examine the model.
20 GDS chose not to take advantage of that invitation.

21
22 In conclusion, GDS made a number of highly questionable choices that led
23 them to produce recommendations for extreme and unsupported goals. A

1 partial list of these GDS choices include: (i) to not use the results of the
2 utilities' most recent planning process (as required by the DSM goals rule);
3 (ii) to not perform any economic analyses; (iii) to not recommend the simple
4 and obvious solution to avoiding increased electric rates and cross-
5 subsidization of customer groups (that will directly result from the
6 recommendations they did make), but to instead offer proposed "solutions"
7 that are contradictory in nature and would result in substantial increased
8 regulatory workloads for all parties; and (iv) to decline an invitation to discuss
9 and examine FPL's analytical process so that GDS had a full understanding of
10 FPL's analysis; (v) to fail to take into account the projected resource needs of
11 Florida's utilities; (vi) to base their recommendations on a series of largely
12 arbitrary assumptions; and, (vii) to ignore a primary fact in this docket - that
13 Florida's utilities did not use the original RIM test, but instead used an
14 enhanced E-RIM test – then making a number of misleading (but irrelevant)
15 statements about the original RIM test.

16
17 Any one of these choices GDS made casts serious doubt about the
18 appropriateness of its recommended goals. When considering the totality of
19 the choices GDS made, its resulting recommended goals do not rise to the
20 level of deserving serious consideration in this docket.

Part 2: Rebuttal Testimony Addressing NRDC-SACE

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Q. Please provide an overview of your rebuttal testimony that addresses issues raised by the NRDC-SACE testimonies.

A. I first reflect on the statement made by Witness Wilson in which he articulated what I will refer to as an “objectives statement” for NRDC and SACE, at least in regard to this docket. I will briefly discuss how narrowly focused this objective is, then move on to discuss a number of statements and recommendations that NRDC-SACE witnesses make in regard to meeting this objective and how these relate to resource planning and the setting of DSM goals. I will discuss a number of these statements that are clearly in error and why certain recommendations are simply inappropriate for setting DSM goals in the state of Florida. In discussing these statements and recommendations, I have organized my comments into the following six categories for discussion:

- I. NRDC-SACE’s Objectives Statement;
- II. Resource Planning Problems with NRDC-SACE’s Recommendations;
- III. Problems with the TRC Test;
- IV. Errors Made by NRDC-SACE Witnesses;
- V. NRDC-SACE’s “Economic Analysis”; and,
- VI. Summary

I. NRDC-SACE's Objectives Statement

1
2
3 **Q. Has NRDC-SACE provided a clear picture of their objectives in this**
4 **docket?**

5 A. Yes. NRDC-SACE's objectives are clearly stated at page 5, lines 9 – 11, of
6 Witness Wilson's testimony: "*NRDC and SACE advocate for the reduction in*
7 *greenhouse gas emissions, and share a history of advocating for energy*
8 *conservation in the interests of reducing air pollution and protecting*
9 *consumers from unnecessary, risky and costly energy choices.*" Because this
10 statement defines their objectives, I'll refer to this statement in the remainder
11 of my testimony as the "objectives statement" for NRDC-SACE for this
12 docket.

13
14 This objectives statement advocates a very narrow focus: NRDC-SACE wants
15 to accomplish one specific thing (reduction of greenhouse gases), and they
16 want to accomplish it in only one way (through the kWh reduction attribute of
17 energy conservation measures).

18
19 In the remainder of my rebuttal testimony I discuss various ways in which this
20 very narrow focus, plus some distinct errors made by NRDC-SACE witnesses,
21 results in NRDC-SACE making recommendations that are clearly not in the
22 best interest of FPL's customers.

II. Resource Planning Problems with NRDC-SACE's Recommendations

1
2
3 **Q. What type of resource planning problems result from the narrow focus**
4 **taken by NRDC-SACE witnesses and their resulting recommendations?**

5 A. There are a number of such problems. Certain conflicts relating to Florida
6 regulations or statutes that arise from NRDC-SACE's recommendations will
7 be addressed by FPL witness Dean. Other problems specifically relating to
8 cost-effectiveness tests for screening DSM measures will be addressed in
9 section III of my testimony regarding NRDC-SACE. In this section, I focus
10 on three recommendations or statements made by NRDC-SACE witnesses.

11 **Q. What is the first statement you wish to discuss?**

12 A. Witness Steinhurst makes the following recommendation regarding DSM
13 kWh goals on page 30, starting on line 4, of his testimony: *"I recommend that*
14 *the Commission set savings goals at that level (no less than 1%) for annual*
15 *electric energy sales for the years 2010 through 2019."* He then states that
16 this recommendation is only on an interim basis until a higher percentage of
17 annual sales goals can be set. Then, starting on line 14 of that same page, he
18 makes the following recommendation regarding DSM kW goals: *"My*
19 *recommendation with respect to winter and summer peak demand savings*
20 *goals is to set the goals at the sum of (a) the peak demand savings impact for*
21 *each season from the utility energy efficiency programs needed to deliver my*
22 *recommended electric energy savings goal of 1% per year, plus (b) the*
23 *additional peak demand savings impact for each season from each utility's*

1 *demand response and load control initiatives in place or proposed (as*
2 *approved by the Commission)."*

3 **Q. Are there any problems with this recommendation?**

4 A. Yes, a number of them. Let me discuss a few of the more serious problems.

5
6 First, this recommendation for how goals could be set is in no way based on
7 any analysis of Florida-specific costs or other Florida-specific conditions. It
8 also completely ignores Rule 25 – 17.0021(3), Florida Administrative Code
9 (F.A.C.) which states that the setting of DSM goals is to be "based on the
10 utility's most recent planning process."

11
12 In addition, Witness Steinhurst's recommendation completely ignores the
13 results of the thousands of man-hours and the high cost – more than a million
14 dollars and counting – that have been expended in an extensive collaborative
15 effort involving Florida utilities, NRDC-SACE, and the consultant Itron to
16 provide a thorough analytical basis for Florida-specific DSM goals. Just
17 because another jurisdiction outside of Florida may have decided it was
18 acceptable to set a goal such as the one espoused by Witness Steinhurst, this
19 in no way justifies it for Florida's electric utility customers. Since 1994,
20 Florida has based its DSM goals on extensive analyses to determine what
21 level of DSM is in the best interests of electric utility customers. It makes no
22 sense to abandon that logical approach only to set goals that are based on no

1 Florida-specific analyses and, instead, pull an arbitrary percentage value out
2 of the air as a goal.

3

4 Second, I note that Witness Steinhurst's recommendation essentially is to set
5 an annual energy goal with demand reduction as an afterthought. In other
6 words, once you figure out what DSM energy efficiency measures will be
7 selected to meet the annual energy goal, the associated demand reduction from
8 those energy efficiency measures, plus load control measures, becomes your
9 demand goal.

10 **Q. What problems does a demand-reduction-as-an-afterthought approach**
11 **bring?**

12 **A.** There are several. Treating kW reduction as an afterthought ignores the
13 significant benefits from DSM measures that are driven solely or primarily by
14 kW reduction. To illustrate this, let me list the following detailed categories of
15 utility system benefits or impacts that are identically recognized in both the E-
16 RIM and E-TRC tests:

17

- 18 1. Generator capital;
- 19 2. Transmission interconnection capital;
- 20 3. Generator variable O&M;
- 21 4. Generator fixed O&M;
- 22 5. Generator capital replacement;
- 23 6. Firm gas transportation (as applicable);

- 1 7. Fuel Savings from avoided generator fuel;
- 2 8. System replacement fuel costs;
- 3 9. System transmission capital;
- 4 10. System transmission O&M;
- 5 11. System distribution capital;
- 6 12. System distribution O&M;
- 7 13. Environmental compliance costs from the avoided unit;
- 8 14. System replacement environmental compliance costs;
- 9 15. Net fuel savings from lower energy usage; and,
- 10 16. Net environmental compliance costs from lower energy usage.

11

12 These 16 categories of utility system benefits or impacts are included in FPL's
13 benefit calculations of both the E-RIM and E-TRC tests. Now let's list the
14 subset of those benefit categories that are driven on FPL's system by DSM's
15 kWh reduction characteristics:

16

- 17 15. Net fuel savings from lower energy usage; and,
- 18 16. Net environmental compliance costs from lower energy usage.

19

20 Only 2 of the 16 categories of DSM-driven benefits are driven by the kWh
21 reduction aspect of DSM measures. All of the other 14 categories are driven
22 either solely or primarily by the demand or kW reduction aspect of DSM
23 measures.

1 Depending upon a number of factors, these two kWh reduction-driven benefit
2 categories can contribute a significant percentage of the total benefits of DSM
3 measures. However, the kWh reduction aspect of DSM also completely drives
4 the reduced recovery of revenue requirements (often called "lost revenues")
5 that accompanies residential DSM measures, and partly drives the reduced
6 recovery of revenue requirements for non-residential DSM measures. This
7 kWh-driven reduction in the recovery of revenue requirements serves to
8 significantly reduce the kWh-driven benefits of DSM. Thus, the net benefit of
9 the kWh reduction aspect of DSM is significantly diminished.

10
11 The key point is that the NRDC-SACE witnesses' recommendation to treat
12 the kW reduction aspect of DSM as an afterthought will result in not
13 providing proper focus on the far more numerous categories of DSM benefits
14 that are driven by the kW reduction aspect of DSM.

15 **Q. What other problems does NRDC-SACE's kW-reduction-as-an-**
16 **afterthought recommendation for goals bring?**

17 A. Such an approach to setting goals will have undesirable system reliability
18 and/or cost implications. If, after meeting NRDC-SACE's recommended
19 energy goal, the resulting afterthought MW reduction does not meet the
20 utility's projected resource needs, one of two undesirable outcomes occur.
21 Either the utility's system is less reliable (because insufficient demand
22 reduction has been added), or the utility will need to add additional resources

1 – Supply or DSM – in order to meet the system’s reliability criteria. These
2 additional resources result in more costs.

3
4 However, if the opposite happens – after meeting NRDC-SACE’s
5 recommended energy goal, the utility finds it has significantly surpassed the
6 DSM MW amount needed to meet its projected resource needs, the utility is
7 likely to face another problem. The utility can find that its reserve margin is
8 now too heavily dependent upon DSM resources and, as a result, is both less
9 reliable and more operations constrained. Florida experienced exactly that
10 situation in the 1990s when one Florida utility became too dependent upon
11 DSM for its reliability and had to shift course quickly to bring its Supply and
12 DSM contributions to its reserve margin back into a more reasonable balance.
13 This resulted in reduced system reliability at first, followed by additional
14 costs.

15
16 The point is that NRDC-SACE’s approach to DSM goals setting is backwards
17 to what it should be in regard to utility system reliability. Energy reduction
18 alone does virtually *nothing* in regard to system reliability for a utility system
19 such as FPL’s whose projected resource needs are driven solely by its reserve
20 margin criterion. Only the peak hour kW reduction aspect of DSM contributes
21 to meeting a reserve margin criterion, thus enabling DSM to help meet
22 projected future resource needs.

1 Therefore, the kW reduction aspect of DSM should be the primary objective
2 when setting DSM goals, ensuring that the utility fully captures the benefits
3 and the costs of both the kW and kWh aspects of DSM measures.

4 **Q. Does FPL's analyses fully capture the benefits and costs for both the kW
5 and kWh aspects of DSM measures?**

6 A. Yes. FPL's DSM analyses include all identified, quantifiable costs associated
7 with the kW and kWh aspects of DSM measures that are recovered from its
8 customers. Likewise, FPL's DSM analyses include all identified, quantifiable
9 benefits associated with the kW and kWh aspects of DSM measures that are
10 realized by FPL's customers.

11 **Q. Is there a third aspect of Witness Steinhurst's recommendation that you
12 would like to comment on?**

13 A. Yes. I note that there is disagreement between NRDC-SACE witnesses
14 Steinhurst and Mosenthal regarding the value of load control/demand
15 response DSM programs. Witness Steinhurst clearly recommends continuing
16 with a utility's approved load control/demand response DSM initiatives as
17 evidenced by his earlier statement in which he recommends that load
18 control/demand response program contributions be used to partly determine
19 kW reduction goals. However, Witness Mosenthal takes a very dim view of
20 load control initiatives on page 27, lines 4 – 6, of his testimony where he
21 states: *"As a result, shutting off their air conditioner or duty cycling it during
22 a few hours of very high system load offers virtually no financial benefit to the
23 customer, and imposes significant costs."* I conclude from this statement that

1 Witness Mosenthal sees little reason to include load control programs in DSM
2 goals.

3

4 When two self-proclaimed experts in the fields of DSM and resource planning
5 cannot agree on the value of a prominent type of DSM program while
6 representing NRDC-SACE, it is unclear what NRDC-SACE is really
7 recommending in regard to setting kW reduction goals. (And, as I note later in
8 my testimony, this is not the only instance in which NRDC-SACE's witnesses
9 disagree.)

10 **Q. What is the second statement made by NRDC-SACE witnesses that you
11 wish to discuss in regard to resource planning?**

12 A. Witness Steinhurst attempts to make the point starting on page 21, line 5, of
13 his testimony that (paraphrasing due to length of statements) the utilities'
14 projected costs of CO₂ compliance costs were too low. On page 22, starting at
15 line 13, he states: "*I consider these values (projected CO₂ compliance costs)*
16 *to be at the extreme low end of the reasonable range of estimates and*
17 *inappropriate as a basis for meeting the requirement to adequately address*
18 *the requirements of Section 366.82(3)(d) of the Florida Statutes.*"

19

20 I have a couple of reactions to this comment. First, returning to NRDC-
21 SACE's objectives statement of advocating the reduction of greenhouse gas
22 emissions, it is hardly surprising that an NRDC-SACE witness would state
23 that the projected compliance costs for CO₂ should be very high. If one's

1 mission in life is to reduce greenhouse gases, one probably believes that
2 projected CO₂ costs should be set very high. Witness Steinhurst is certainly
3 entitled to his opinion, but an opinion is all it is. The reality is that no one
4 knows what the actual costs of CO₂ compliance will be. Until CO₂ compliance
5 legislation is passed and signed into law, then has survived the almost
6 inevitable legal challenges, it is not certain there will even be CO₂ compliance
7 costs or, if so, what these actual compliance costs will be or when the
8 compliance costs would actually go into effect.

9
10 However, it may be illuminating to compare FPL's projected compliance
11 costs for CO₂ with the recently published projections from the Congressional
12 Budget Office (CBO). Exhibit SRS – 13 provides this comparison. The CBO
13 projections are taken from page 13 of the document "Congressional Budget
14 Office Cost Estimate, H.R. 2454 American Clean Energy Security Act of
15 2009, June 5, 2009".

16
17 In the exhibit, Row (A) presents the values as they appear in this CBO
18 document with the cost values in terms of \$ per metric ton (2,205 pounds).
19 The CBO projections address the years 2011 through 2019.

20
21 Row (B) converts these values to the equivalent \$ per U.S. ton (2,000 pounds)
22 so that a direct comparison to FPL's projected costs can be made. FPL's
23 projections for these years are presented in Row (C). (FPL's projection of CO₂

1 compliance costs for all years in the analyses were previously presented in
2 Exhibit SRS-7 in my direct testimony.) Finally, Row (D) presents the
3 difference between FPL's and CBO's projected values for the years 2013 –
4 2019. (One of the assumptions in FPL's projection is that, after accounting for
5 passage of legislation, development of regulations, and likely legal challenges,
6 these compliance costs will start to be directly accounted for in 2013. The
7 CBO document appears to make no projection as to when these compliance
8 costs will actually begin to be directly accounted for, but the CBO notes that it
9 was required by Congressional procedures to provide estimates over a 10-year
10 window.)

11
12 As shown in this comparison, the two projections are very close for the years
13 2013 through 2019. FPL's values are \$1 lower than CBO's values for 2013,
14 identical to CBO's values for the years 2014 through 2016, and \$1 higher for
15 the years 2017 through 2019. Therefore, FPL's projections for the 2013 –
16 2019 time period are very close to CBO's projections.

17
18 Second, FPL's projection of CO₂ compliance costs in the analyses presented
19 in this docket are identical to projections and assumptions used in FPL's
20 recent Need Determination filings and are included in FPL's current nuclear
21 cost recovery filing. Thus, FPL is evaluating DSM and Supply options on a
22 consistent basis in regard to projected CO₂ compliance costs as should be the
23 case.

1 Before we leave this subject, it is interesting to point out that in Docket No.
2 090009-EI, the current nuclear cost recovery docket, Witness Mark Cooper
3 presented testimony filed on behalf of SACE on July 15, 2009 in which he
4 argues against continued development of new nuclear units in Florida.
5 Witness Cooper states starting on page 14, line 23, that: "*The companies (FPL*
6 *and PEF) have put a high price on carbon in their economic analyses.*
7 *Without the high price on carbon, the economics of nuclear reactors would*
8 *look very different.*" This statement contrasts strongly with Witness
9 Steinhurst's testimony in this docket on page 22, lines 13 – 14, regarding
10 projected CO₂ compliance costs of FPL and other utilities in which he states:
11 "*I consider those values to be at the extreme low end of the reasonable range*
12 *of estimates...*"

13
14 It is clear that these two witnesses for SACE do not agree with each other
15 regarding the projected compliance costs for CO₂. It is also evident that SACE
16 has taken one position – projected CO₂ costs should be higher – when higher
17 costs are beneficial to one objective (justifying more energy efficiency), yet
18 has taken the opposite position – projected CO₂ cost should be lower – when
19 lower costs are beneficial to another objective (stopping development of new
20 nuclear units in Florida).

1 **Q. What is the third statement made by NRDC-SACE witnesses that you**
2 **wish to discuss in regard to resource planning?**

3 A. At least one NRDC-SACE witness commented that DSM was not compared
4 to FPL's new nuclear units. Witness Wilson does so starting on page 23, line
5 2, of his testimony. On page 24, starting on line 10, he states: "*..the most*
6 *expensive power plant investments in recent Florida history proceeded to*
7 *approval without being directly compared to energy efficiency..*".

8
9 This statement is disappointing because he is so eager to consider avoiding the
10 only baseload, zero CO₂ emission Supply option currently available in
11 Florida. If NRDC-SACE truly believes that reducing CO₂ emissions is of such
12 importance, why the eagerness to avoid a very large baseload zero CO₂
13 emission option? From a resource planning standpoint, such a mindset is
14 troubling because such thinking – if it unfortunately caught on – would seek
15 to eliminate a viable resource option that can address a number of issues
16 (reduction of all emissions, reduced reliance on fossil fuels, etc.).

17
18 Witness Wilson's comment is disappointing in another way. This portion of
19 his comment: "*...the most expensive power plant investments*" appears to be
20 referring to the capital costs of new nuclear units. It is no news that the capital
21 costs of new nuclear units are large, but surely NRDC-SACE must realize that
22 capital cost is only one part of the story. The fuel and environmental
23 compliance cost savings from new nuclear units are huge. For example, as

1 stated in FPL's Need Determination filing for its new nuclear units, the
2 projected net system fuel savings exceeded \$1 billion per year. The net system
3 environmental compliance cost savings were also very large (and would only
4 increase if higher CO₂ compliance costs – as Witness Steinhurst recommends
5 – were to be used.) The addition of new nuclear units would also be extremely
6 beneficial in increasing fuel diversity in Florida.

7
8 Finally, Witness Wilson is either not aware of, or he chooses to ignore, that
9 both the nuclear units and DSM were compared to the same greenfield
10 combined cycle (CC) technology – a 3x1 G CC unit. A certain number of
11 DSM measures were screened against this CC unit in the analysis for this
12 docket and found to be potentially cost-effective for FPL's system. However,
13 when the new nuclear units were compared to this same CC technology, the
14 new nuclear units were projected to be less expensive than the CC unit. I
15 would expect that fewer DSM measures would be found cost-effective if
16 DSM was compared to a less expensive option than the CC technology used
17 in FPL's DSM screening analyses. Witness Wilson's conclusion that just the
18 opposite would occur is illogical.

III. Problems with the TRC Test

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Q. Are there comments that have been made by NRDC-SACE witnesses regarding the TRC test that you wish to discuss?

A. Yes. There are three issues related to the TRC test that were raised by NRDC-SACE witnesses that I will discuss. These issues are: (i) which test, RIM or TRC, really meets the requirements of HB 7135; (ii) which test, RIM or TRC is better from a policy perspective; and (iii) the NRDC-SACE witnesses' belief that the TRC test is not lenient enough for their purposes.

Q. Did FPL use the RIM and TRC tests in its analyses?

A. No. The original RIM and TRC tests that the NRDC-SACE discusses in the testimonies of their witnesses were not used in FPL's analyses. Instead, FPL used enhanced versions of each test that now includes the projected environmental compliance cost impacts to the FPL system for sulfur dioxide (SO₂), nitrogen oxides (NO_x), and carbon dioxide (CO₂). These enhanced cost-effectiveness tests are referred to as the E-RIM and E-TRC tests, respectively.

The fact that FPL has moved past the original RIM and TRC tests to the enhanced E-RIM and E-TRC tests was discussed many times in FPL's direct testimonies. It is unclear if NRDC-SACE's witnesses did not read FPL's direct testimonies before writing their direct testimonies, if they did not understand what they were reading, or if they simply chose to ignore this fact.

1 What is clear is that by referring solely to the original RIM and TRC tests,
2 they are discussing tests that were not used by FPL in the analyses it
3 conducted for this docket.

4
5 However, in an attempt to clarify the situation, I will generally refer to the E-
6 RIM test and the E-TRC tests when discussing analyses FPL carried out, but
7 will generally leave the NRDC-SACE references to the original TRC test
8 unchanged.

9 **Q. What were the comments that the NRDC-SACE witnesses made in**
10 **regard to the portions of HB 7135 concerning cost-effectiveness tests that**
11 **you will discuss?**

12 A. I'll summarize their comments as follows: NRDC-SACE believes that HB
13 7135 clearly requires the use of the TRC test and not the E-RIM test. In
14 support of this contention, NRDC-SACE witnesses also made a very obvious
15 effort to try to explain why they thought that the TRC test really does include
16 incentive payments made by the utility to participating customers.

17 **Q. What were your reactions to these statements?**

18 A. My first reaction was that because NRDC-SACE is putting on a full court
19 press on the issue of HB 7135 - every NRDC-SACE witness made a point to
20 discuss this - this must be a topic they are very concerned about. My second
21 reaction was that I might even give them one-half point for "creativity" in
22 their argument. However, I would also deduct a full point for "desperation".

1 Witness Cavanagh states on page 3, lines 12 – 13, of his testimony: “*Second,*
2 *in section 3(b), the legislature required the Total Resource Cost (“TRC”)*
3 *Test. This is readily apparent from the language of the amendment.*” Witness
4 Wilson is even more emphatic at page 22, lines 18 – 20, of his testimony:
5 “*Florida law now requires the Commission to consider the TRC test, and does*
6 *not require or authorize the use of the RIM test for the purpose of setting*
7 *energy efficiency or demand-side renewable energy goals for the FEECA*
8 *utilities.*”

9
10 These statements simply are not accurate. The amendment’s language never
11 mentions the TRC test, or any other test, by name. If the Florida Legislature
12 had been certain that it wanted the TRC test, it would have undoubtedly stated
13 “use the TRC test” in the amendment language. The Legislature obviously
14 chose not to do so, preferring instead to instruct the Commission to “take into
15 consideration” various items in regard to DSM evaluation. It clearly left the
16 Commission to judge what choice of test or combination of tests best take
17 these items into consideration. In my opinion, this is one reason that the
18 Commission Staff requested that analyses conducted for the goals docket
19 evaluate DSM using both a RIM perspective and a TRC perspective, while
20 accounting for CO₂ costs -- so they could examine the results of actual
21 analyses that used the perspectives of the two tests.

1 HB 7135 lists the items to be considered in four sections, (a) through (d), as
2 listed on page 33, lines 1 – 8, of my direct testimony. The NRDC-SACE
3 testimony appears to have no concern with sections (a), (c), and (d), but is
4 very concerned with section (b). Section (b) reads as follows: “The cost and
5 benefits to the general body of ratepayers as a whole, including utility
6 incentives and participant contributions.”

7
8 After reading this section, it is clear why NRDC-SACE is so concerned. The
9 TRC test cannot be justified in light of section (b) which poses two
10 significant, actually insurmountable, problems for the TRC test.

11
12 The first is the fact that the TRC test does not address utility incentive
13 payments to customers (while the E-RIM test does address these incentive
14 payments). Since at least the early 1990s, the Commission’s approved cost-
15 effectiveness methodology has included analyses of DSM measures and
16 programs using the RIM, TRC, and Participant tests. When evaluating DSM
17 using the TRC test, the approved methodology does not even include a
18 column for the projected cost of utility incentives in the TRC test calculation
19 page. Furthermore, whenever the omission of incentive payments in the TRC
20 test has been pointed out as a shortcoming of the TRC test, proponents of the
21 TRC test have defended this omission vigorously for many years by stating
22 that such incentive payments are not real costs, but are merely “transfer
23 payments”, and are rightfully not included in a societal test such as TRC.

1 Now NRDC-SACE, faced with the very real problem to TRC posed by
2 section (b) of HB 7135 that requires consideration of incentive payments, has
3 earned one-half point for creativity. In what is equivalent to a “hail Mary”
4 desperation pass at the end of a football game, They attempt to make the
5 argument that (paraphrasing) the omission of the incentive payments in the
6 TRC test is “covered” by the fact that the TRC test does include the cost of the
7 DSM measure. Witness Wilson, on page 20, lines 12 – 14, sums up this
8 position: “... *the TRC test does include incentives paid to customers as those*
9 *incentive payments are a component of the cost of the efficiency measure,*
10 *which includes both the participant’s contribution and the incentive provided*
11 *by the utility.” However, this is not always the case as discussed below. (In*
12 *the discussion that follows, I’ll refer to the cost of the efficiency measure as*
13 *the “participants’ cost” because TRC test calculation page in the FPSC’s*
14 *approved cost-effectiveness methodology labels this cost column as*
15 *“Participant Program Cost”.)*

16
17 Although NRDC-SACE’s approach is clever, it clearly smacks of desperation
18 (thus earning the full point deduction). The problem this approach poses for
19 the Commission is, even if the Commission were willing to consider this
20 “we’re covered - trust me” excuse that the participants’ costs “cover” or
21 include the actual incentive payments that are required by HB 7135, one
22 should first examine how this works in actual DSM applications. In other
23 words, does this participant-cost-“covers”-incentive-payments idea actually

1 work when the Commission examines DSM options? Does the participants'
2 cost value provide the Commission with a complete and accurate accounting
3 of DSM costs, including the incentive payments, which will be borne by all of
4 a utility's ratepayers?

5
6 Let's examine this question by looking at two examples using representative
7 "per participant" values for both the incentive payment and the participant's
8 incremental cost to purchase the DSM measure.

9
10 First, let's look at the case of an energy conservation option in which the
11 utility incentive payment to the participant is \$50 and the participant's cost is
12 \$500. In this case, the participant's cost is clearly much larger than the
13 incentive payment. In NRDC-SACE's view, the \$500 participant cost easily
14 "covers" the \$50 incentive payment. However, when examining the cost-
15 effectiveness measure under the TRC test, the Commission sees only the
16 much larger participant cost of \$500 (which is not a cost borne by all
17 customers, this cost is borne only by the participants in that particular DSM
18 option). The Commission does not see in the TRC test results that the
19 incentive payments (which is a cost borne by all ratepayers) are only \$50.
20 Therefore, the Commission cannot readily see what effect the real incentive
21 cost of \$50 has on the DSM option's cost-effectiveness. From the standpoint
22 of costs and benefits that apply to all customers, the Commission is trying to
23 judge the cost-effectiveness of this DSM measure looking only at a "proxy" or

1 "cover" cost for incentives – the \$500 participant cost - that is 10 times higher
2 than the actual incentive payment. Using the information supplied by the TRC
3 test, there is simply no way that the Commission can ensure that a decision it
4 will have to make regarding whether it is cost-effective for all customers to
5 approve the DSM option is the correct decision. All else equal, and using
6 NRDC-SACE's "logic," the Commission would be shown an evaluation that
7 significantly understated the cost-effectiveness of this DSM option by using a
8 \$500 "cover" cost for incentive payments that is far too high.

9
10 Next, let's look at the case of a load control program. The situation gets even
11 more interesting here. Load control programs typically have zero participant
12 costs, but rather large incentive payments to participants. Let's assume that
13 the incentive payment is again \$50 while the participant cost is \$0. However,
14 incentive payments for load control programs are typically monthly recurring
15 – not one-time – payments so in this case we'll assume that the incentive
16 payment is a recurring \$50 per year cost. Using NRDC-SACE's argument, the
17 Commission will evaluate the load control program using a "proxy" or
18 "cover" cost for incentives – the \$0 participant cost – instead of the recurring
19 \$50 annual incentive payment that will actually be made. All else equal, and
20 using NRDC-SACE's argument, the Commission would be shown a TRC test
21 evaluation that significantly overstated the cost-effectiveness of this DSM
22 option by using a \$0 "cover" cost for incentive payments that is far too low.

1 It is clear that for a prominent type of DSM option – load control programs
2 that have \$0 participant costs, but substantial incentive payments – NRDC-
3 SACE’s contention that participant costs “cover” for the omission of incentive
4 payments in TRC test is simply not accurate.

5
6 In addition, both examples point out that there is no way that the Commission
7 can ensure that a decision it would have to make regarding whether it is cost-
8 effective for all ratepayers to approve a DSM option is the correct decision if
9 it does not have the actual incentive payment value to consider – as will be the
10 case if the E-TRC test is used.

11
12 In fact, the only time NRDC-SACE’s statement about the participant-cost-
13 covers-incentive-payment is actually true is if the utility were going to make
14 an incentive payment that is 100% of the participant’s cost. For example, if a
15 customer were going to pay an incremental \$500 for a DSM measure, the
16 utility would pay the full \$500. It is not very likely that many, if any, such
17 DSM offerings will be forthcoming in the near future for the Commission to
18 review. This is because an incentive payment of 100% of the participant’s
19 incremental cost would result in a 0-year, 0-month, and 0-day payback. Such
20 an offering would immediately be accompanied by the sounds of large groups
21 of free-riders hastily assembling.

1 Therefore, I would suggest that NRDC-SACE's desperation "hail Mary" pass
2 was not only "incomplete", it was so far off the mark that it completely
3 missed the playing field.

4 **Q. Does section (b) of HB 7135 pose another problem for the TRC test?**

5 A. Yes. Let's return to section (b)'s language of: "the costs and benefits to the
6 general body of ratepayers as a whole". Another significant cost of DSM
7 measures is that of unrecovered revenue requirements. The impact of these
8 costs clearly impacts all ratepayers by putting upward pressure on electric
9 rates. The E-RIM test includes these costs, but the E-TRC test does not.
10 Consequently, section (b) of HB 7135 poses two insurmountable problems for
11 the TRC test: the TRC test does not include incentive payments nor does it,
12 include the economic impact of unrecovered revenue requirements, both of
13 which represent costs to the general body of ratepayers as a whole. However,
14 these mandated considerations are fully addressed when DSM measures are
15 evaluated using a combination of the Participant and E-RIM test as FPL
16 advocates.

17
18 While we are focused on the "ratepayers as a whole" language, I should point
19 out a misleading impression that the testimonies of NRDC-SACE witnesses
20 attempted to create. They mischaracterize the RIM (and by implication, the E-
21 RIM) test as applying primarily to non-participants, and not to ratepayers as a
22 whole, in an effort to create the impression that the E-RIM test does not
23 address "ratepayers as a whole." An example of this is found on page 5, lines

1 8 – 9 of Witness Cavanagh’s testimony where he states: “..RIM focuses
2 *exclusively on rates and particularly on potential impacts to non-*
3 *participants.*”

4
5 This view that the E-RIM test’s primary or sole focus is on non-participants is
6 hard to reconcile with the fact that rates are charged to all ratepayers, not just
7 DSM non-participants. The E-RIM test clearly focuses on the electric rate
8 impacts of DSM. Therefore, the E-RIM test clearly focuses on “the general
9 body of ratepayers.”

10 **Q. What were the comments that the NRDC-SACE witnesses made in**
11 **regard to the policy implications of using the TRC test that you will**
12 **discuss?**

13 A. In Witness Cavanagh’s testimony starting on page 7, line 10, he states that he
14 believes that the TRC test is preferable to the E-RIM test from a policy
15 perspective. On lines 11 – 13 of that same page, he instructs the Commission
16 what its policy should be: “*The PSC’s objective should be to minimize the*
17 *total cost to customers of receiving reliable energy services.*”

18
19 Now that he has instructed the Florida Commission as to what its policy
20 should be, Witness Cavanagh then explains his rationale for why the TRC test
21 is best for this specific policy. I summarize his key arguments defending the
22 TRC test as a policy instrument as follows: (i) the TRC test focuses solely on
23 total costs (not on costs and rates); (ii) concern with electric rate impacts will

1 close the door on numerous energy efficiency programs; and (iii) "few, if any
2 customers" (page 8, line 17) would not be eligible to participate in DSM if the
3 utilities offered more programs.

4 **Q. What is your reaction to these policy arguments?**

5 A. First, the suggestion that the impact on electric rates should be of little
6 concern in order to offer more DSM programs is in keeping with NRDC-
7 SACE's narrowly focused objectives statement that seeks to promote only
8 energy conservation. However, I disagree with his attempt to dismiss
9 consideration of electric rates, especially when one has a choice between two
10 or more viable resource options.

11
12 And I find that his opinion that "*the RIM test eliminates numerous highly*
13 *cost-effective efficiency measures*" (page 7, lines 16 - 17) both highly
14 misleading and irrelevant to the analyses FPL performed in this docket. It is
15 irrelevant because FPL did not use the RIM test. FPL used the E-RIM test that
16 accounts for environmental compliance costs as is stated numerous times in
17 the direct testimonies of FPL witnesses. By his statement, Witness Cavanagh
18 appears to be still fighting a battle from yesteryear.

19
20 Furthermore, an examination of the total number of DSM measures that
21 passed the E-RIM and E-TRC test in these analyses shows why his statement
22 is highly misleading. Exhibit SRS-4 of my direct testimony shows that 885
23 DSM measures passed the screening with the E-RIM and Participant tests, and

1 928 DSM measures passed the screening with the E-TRC and Participant
2 tests. More measures did pass the more lenient E-TRC test (that does not
3 account for all DSM-related costs that are borne by all customers), but 95.4%
4 as many measures passed the E-RIM screening path as passed the E-TRC
5 screening path. Although there will undoubtedly be some meaningful
6 differences in the specific measures that passed each test, the percentage
7 difference between the number of measures that passed the two tests is small.
8 This outcome from the actual analyses is certainly not what one would expect
9 from Witness Cavanagh's misleading statement.

10
11 Third, NRDC-SACE's witness appears to be little troubled by the fact that use,
12 of the TRC test instead of the E-RIM test would increase cross-subsidization
13 between groups of customers for each DSM measure that passed the more
14 lenient TRC (or E-TRC) test, but failed the E-RIM test. The fact that non-
15 participants would subsidize participants for each such DSM measure is
16 apparently not a concern for NRDC-SACE. Witness Cavanagh's answer to
17 this very real problem when using the TRC test seems a bit cavalier: offer
18 more of the same type of DSM programs that would cause the problem in the
19 first place.

20
21 His testimony points to the Hood River Conservation Project as evidence of
22 what is possible. On page 9, lines 9 – 12, he states: "*in a demographically*
23 *representative Northwest county in the mid-1980s, more than 90% of eligible*

1 *households accepted utilities' invitations to contribute to a county-wide*
2 *conservation resource...*"

3
4 It appears that this reference is intended to show that a very high participation
5 rate was able to be achieved in a conservation project 20 years ago, in one
6 county, presumably in the Northwestern U.S. That's fine, but the example also
7 shows that even in a very successful DSM project which this appears to be,
8 approximately 10% of eligible households chose not to participate. That
9 percentage of eligible customers alone that did not participate is significant.
10 However, his statement does not provide information as to how many
11 households were ineligible to participate, but it's probably safe to assume that,
12 the number is greater than zero or else he would not have needed the
13 "eligible" qualifier. Therefore, from his statement one may conclude that the
14 total percentage of non-participating customers – due to either ineligibility or
15 choice – may be significantly larger than 10%.

16
17 Therefore, his example is not very persuasive in regard to diminishing valid
18 concerns about cross-subsidization of customer groups regarding offering
19 DSM measures that fail E-RIM, but pass E-TRC. In addition, his suggestion
20 of simply offering more such programs – programs that will likely have
21 penetration rates substantially lower than his model example – is not
22 convincing, especially in a state such as Florida that has so many fixed- and

1 low-income residents that make the cross-subsidization issue of higher
2 concern.

3 **Q. Do you believe the E-RIM test is better from a policy perspective than the**
4 **E-TRC test?**

5 A. Yes. There are three main reasons why I believe that the E-RIM test is clearly
6 the better test from a policy perspective. First, the E-RIM test includes all
7 relevant DSM-related costs that will be borne by all of the utility's customers.
8 The E-TRC test does not include two of these costs as discussed previously.
9 This fact allows the Commission to have a complete picture of all DSM-
10 related costs and benefits that impact all customers when the Commission is
11 judging the cost-effectiveness of DSM options using the E-RIM test.

12
13 Second, the fact that the E-RIM test includes a complete picture of costs and
14 benefits, and also addresses the electric rates perspective, provides the
15 Commission with even more information with which to make its DSM
16 decisions.

17
18 Third, the use of the E-RIM test serves to ensure that non-participants in any
19 DSM program will not be subsidizing participants in that program. This
20 protects all customers, especially the most vulnerable customers such as fixed-
21 and low-income customers.

1 **Q. What testimony did NRDC-SACE witnesses provide which indicates that**
2 **the TRC test is too restrictive and should be made even more lenient to**
3 **“justify” even more DSM measures?**

4 A. Witness Steinhurst’s testimony provides ample evidence that NRDC-SACE
5 believes that the TRC test is too restrictive and should be modified to allow
6 even more DSM measures to “pass” an even more lenient “test”.

7
8 Starting on page 46, line 8, of his testimony, Witness Steinhurst states that: “I
9 *recommend three adjustments to the TRC test.*”: I’ll summarize those as
10 follows: (i) include values for carbon costs; (ii) increase by 10% the projected
11 benefits attributed to avoided T&D and other items; and (iii) lower by 10%
12 the projected costs of DSM measures.

13 **Q. What is your reaction to this?**

14 A. In regard to (i), I can only assume that he didn’t bother to read the utilities’
15 direct testimonies which repeatedly state that projected CO₂ costs were
16 included in both the E-RIM and E-TRC analyses, and that the original RIM
17 and TRC tests were not utilized by the utilities.

18
19 Regarding (ii) and (iii), I assume that he believes it is a “best practice” to
20 throw in arbitrary multipliers that act as “adders” to benefits and “reducers” to
21 costs. However, it doesn’t strike me as being the most rigorous or
22 intellectually honest way to conduct an analysis. (Also, because the benefit
23 calculations for the E-RIM and E-TRC tests are identical, Witness Steinhurst

1 probably would not object to throwing in the 10% adder for certain benefits
2 for E-RIM analyses as well. And, because a DSM option is the same
3 regardless of the test it is being evaluated under, he would probably not object
4 either with reducing DSM costs in an E-RIM test.)
5

6 However, FPL does not believe this is the proper way to conduct analyses of
7 resource options. Analyses of all resource options – Supply and DSM - should
8 strive to include all relevant costs and benefits that both impact all of FPL's
9 customers and which can be accurately quantified. Witness Steinhurst's
10 recommended approach of using arbitrary adders and reducers just invites
11 analytical chaos and guarantees less than optimal resource option decisions. ,
12

13 It should be noted, however, that Witness Steinhurst's recommendation makes
14 perfect sense when keeping in mind NRDC-SACE's very narrow objectives
15 statement that seeks to push energy conservation as their chosen resource
16 option. Witness Steinhurst's recommendation to boost certain DSM benefits
17 and drop DSM costs by an arbitrary amount would certainly result in more
18 DSM options "passing" his cost effectiveness test of choice, TRC. Apparently
19 the fact that the TRC test already presents a lower hurdle for DSM options is
20 not good enough for NRDC-SACE's objective. NRDC-SACE recommends
21 making the test even more lenient by changing what should be accurate cost
22 and avoided cost values by arbitrary multipliers to make DSM appear more
23 cost-effective.

1 **Q. Is this the extent of NRDC-SACE's recommendations regarding lowering**
2 **the already low hurdle posed by the TRC test?**

3 A. No. NRDC-SACE has more recommendations to make. On page 35, lines 11
4 – 13, Witness Steinhurst states: *"I would note that if the Florida State*
5 *incentives available for PV are counted as a reduction to the capital cost of*
6 *PV units – an assumption that is not normally made in the TRC – the*
7 *technology does pass the TRC."* NRDC-SACE, not content to merely modify
8 the cost and benefit inputs by arbitrary multipliers to make DSM measures
9 appear more cost-effective, is now considering changing the basic nature of
10 the TRC test itself so that the full participant cost of the equipment now
11 included in this societal test doesn't have to be counted. This would certainly
12 make even more DSM appear to be cost-effective.

13 **Q. Does NRDC-SACE propose any other changes to the TRC test?**

14 A. Yes. On page 53, lines 8 – 11, Witness Steinhurst suggests lowering the
15 threshold cost-effectiveness ratio (1.00 in Florida, but who knows what the
16 threshold is in "best practice" states) for programs that address various
17 customer groups.

18 **Q. How would you characterize NRDC-SACE's recommendations regarding**
19 **making the TRC test more lenient?**

20 A. I would characterize these recommendations as entirely consistent with
21 NRDC-SACE's objectives statement of promoting only energy conservation
22 options. Therefore, NRDC-SACE seeks to "justify" as many DSM measures
23 as they can. Accordingly, their witnesses advocate starting with the TRC test

1 that does not include all DSM-related costs that impact all utility ratepayers.
 2 Then they advocate the introduction of arbitrary adders to benefits and
 3 reducers to costs to lower the hurdle to passing the 1.00 benefit-to-costs
 4 threshold even more. They also suggest changing the basic nature of the TRC
 5 test to avoid having to account for the full participant cost of DSM equipment.
 6 Finally, they suggest lowering the threshold cost-effectiveness ratio for DSM
 7 measures that address certain groups of customers in order to “justify” even
 8 more measures.

9
 10 I would also characterize these recommendations as very disappointing if your
 11 objective is to evaluate DSM and Supply options on a level playing field using ,
 12 rigorous analyses.

13
 14 **IV. Errors Made by NRDC-SACE Witnesses**

15
 16 **Q. Did NRDC-SACE’s witnesses make errors in their statements regarding**
 17 **FPL’s analyses that were conducted for this docket?**

18 **A.** Yes. At least two such errors were made: one in the testimony of Witness
 19 Mosenthal, and one in the testimony of Witness Steinhurst.

20 **Q. What error did Witness Mosenthal make regarding FPL’s DSM**
 21 **analyses?**

22 **A.** On page 7, lines 13 – 15, Witness Mosenthal makes the following statement:
 23 *“The analysis inappropriately removes an additional large portion of*

1 *potential from any measures that do not pass the participant test absent any*
2 *utility incentives or federal tax credits.”* He then spends approximately 3
3 pages of his testimony starting on page 25, line 6, stating again that this
4 analysis step was wrong. He points to my direct testimony as proof that all of
5 the FEECA utilities did this (page 25, lines 18 -19 and footnote 22).

6
7 Witness Mosenthal’s unfortunate claim allows him to impressively make two
8 mistakes with just one statement. The first mistake is his assumption that my
9 testimony addresses the analytical processes for all FEECA utilities. It does
10 not. My testimony addresses only FPL’s analytical process. The second - and
11 more important - mistake is to claim that FPL’s analyses did this analysis step,
12 when FPL did not.

13
14 In a footnote, Witness Mosenthal refers to page 36 in my direct testimony.
15 This page provides an overview version of the basic steps in FPL’s analytical
16 process. However, there is nothing on page 36 that states that FPL will screen
17 out DSM measures by examining the Participant test results before applying
18 any incentive payment to participants, then dropping those measures that do
19 not pass the Participant test at that point.

20
21 Because he did not refer to the more detailed explanation of the individual
22 steps in FPL’s cost-effectiveness screening analysis of DSM measures that is
23 found in my testimony on page 48, line 1, through page 49, line 15, and in

1 Exhibit SRS-4, it is unclear if Witness Mosenthal actually read these portions
2 of my direct testimony. If he had read through this more detailed information,
3 he would perhaps have understood that at no time did FPL drop a measure for
4 failing the Participant test with the assumption of no incentive payment. In
5 fact, FPL did not screen out any measures based on the results of the
6 Participant test.

7
8 As part of its obligation to address/minimize free-riders, FPL appropriately
9 screened out measures most likely to result in free-riders and used a two-year
10 payback criterion for this purpose. (I note that the two-year payback criterion
11 for screening of DSM measures was a decision made by all members of the,
12 Collaborative, including Witness Wilson, who represented NRDC-SACE in
13 the Collaborative. I'll return to this issue momentarily.)

14
15 FPL addressed the two-year payback criterion in the DSM measure screening
16 work in two separate steps. These two steps appear as Steps 4 and 5 in Exhibit
17 SRS-4. In Step 4, FPL screened out measures that would result in less than a
18 two-year payback without any incentive payment. Setting aside overlap
19 measures that were screened out in both the E-RIM and E-TRC screening
20 paths, a total of 472 measures (= 197 measures in the E-RIM path plus 275
21 measures in the E-TRC path) were screened out in Step 4 because their
22 payback was less than 2 years without any incentive.

1 In Step 5, FPL screened out remaining measures that would result in less than
2 a two-year payback after first assuming an incentive payment level that would
3 result in the Participant test achieving a ratio of 1.00. A total of 5 measures
4 were screened out in this step. Therefore, of the total measures screened out in
5 these two steps due to the two-year payback criterion, 99% (= 472/477) of the
6 measures screened out were due to the measure having a payback of less than
7 2 years without any incentive payment (i.e., the results in Step 4).

8
9 Perhaps Witness Mosenthal was confused by the differences between the
10 Participant test and the application of a two-year payback criterion for
11 participants in Florida. The Participant test is a comparison of the net present
12 value costs and benefits for all participants over the entire period of the
13 analysis. Unless the assumption is that all participants in a DSM measure will
14 be signed up in a single year, the Participant test does provide a clear picture
15 of how long it may take for a participant's out-of-pocket costs to be recovered.

16
17 The two-year payback criterion is evaluated in a completely separate analysis
18 that looks solely at the first two years after a single participant chooses the
19 DSM measure. The two-year payback criterion analysis simply calculates
20 whether a participant's costs are fully recovered in less than 2 years.

21
22 In any case, Witness Mosenthal can now be assured that FPL did not perform
23 the analysis that he spent several pages deriding.

1 **Q. You mentioned that you would return to the topic of the two-year**
2 **payback criterion. Why?**

3 **A. I find the fact that at least two of NRDC-SACE's witnesses, Witness**
4 **Mosenthal and Witness Steinhurst, spent considerable time in their**
5 **testimonies stating that the use of the two-year payback criterion was in error**
6 **to be both amazing and troubling.**

7
8 During the Collaborative effort in which Witness Wilson represented NRDC-
9 SACE, all parties agreed to the use of the two-year payback. I was on the
10 Collaborative conference call the day this topic was discussed. When this
11 topic was addressed, Witness Wilson readily agreed with the two-year
12 payback criterion. He offered no alternatives and raised no objections.

13
14 At best, this is simply another instance in which NRDC-SACE witnesses do
15 not agree with each other. However, one might also question how serious
16 NRDC-SACE really was in attempting to work with the utilities in the
17 Collaborative effort if they are not willing to stand behind a decision
18 regarding the selection of a key criterion to use in the analyses which was
19 made with the agreement of NRDC-SACE's representative. I find this
20 possibility troubling.

1 **Q. What error did Witness Steinhurst make regarding FPL's DSM analyses**
2 **in his testimony?**

3 A. Starting on page 4, line 15, Witness Steinhurst assumes that the FEECA
4 utilities assigned "*zero capacity value prior to the date of the next avoided*
5 *generating units*" and says that is "*not necessarily*" appropriate. He does
6 admit that some of these benefits are "*hard to quantify*" (page 5, line 8.)

7
8 In regard to FPL's economic analyses of DSM for this docket, his assumption
9 that DSM was credited with zero capacity (and other) benefits prior to the
10 2019 in-service date of FPL's avoided unit is incorrect. (However, I do agree
11 with him that a number of the potential benefit categories he lists would be ,
12 very difficult, if not impossible, to quantify accurately. There are a number of
13 potential benefits that could be realized by DSM and/or by new generating
14 units that would be very difficult to quantify with any meaningful level of
15 accuracy.)

16
17 In all of FPL's economic analyses of DSM, the following categories of
18 benefits were credited to DSM in years prior to 2019: (i) avoided transmission
19 capital expenditures, (ii) avoided transmission O&M expenditures, (iii)
20 avoided distribution capital expenditures, (iv) avoided distribution O&M
21 expenditures, (v) reduced system fuel costs, and (vi) reduced system
22 environmental compliance costs.

1 **Q. Is there anything else about this subject that you wish to discuss?**

2 A. Yes. Witness Steinhurst's focus on identifying and including even hard-to-
3 quantify capacity benefits seems a bit at odds with Witness Mosenthal's
4 recommendation that energy goals are of paramount importance with demand
5 goals being merely an afterthought. Because capacity benefits are driven by
6 demand reduction, Witness Steinhurst is clearly pushing for demand-driven
7 benefits, but Witness Mosenthal is focused almost exclusively on energy
8 reductions. I interpret this as another lack of consistency between these two
9 NRDC-SACE witnesses in regard to what they believe the primary focus of
10 DSM goals should really be – demand or energy reductions.

11

12 **V. NRDC-SACE's "Economic Analysis"**

13

14 **Q. Did any of the NRDC-SACE witnesses provide a meaningful,**
15 **comprehensive economic analysis that showed what the results would be**
16 **for any Florida utility system if it were to adopt their recommended**
17 **approach to goals setting?**

18 A. No.

19 **Q. Did they provide any economic analysis at all?**

20 A. No. The entire extent of their "economic analysis" was to state in various
21 testimonies that (paraphrasing) it costs less on a cents/kWh basis to save a
22 kWh through DSM than to generate a kWh with a new power plant. Witness
23 Wilson's testimony includes an Exhibit JDW-3, page 9 of 15 that shows the

1 *“levelized cost of new energy resources in cents per kWh”* to be in the 2 to 4
2 cents/kWh range for energy efficiency and in the 7.3 to 10 cents per kWh
3 range for a combined cycle unit. (Other Supply options are addressed as well.)
4 Witness Mosenthal quotes this same price range of 2 to 4 cents per kWh for
5 DSM on page 34, lines 2 – 3 of his testimony. Witness Steinhurst’s testimony
6 states that *“the cost of saved energy for those leading DSM programs is on the*
7 *order of \$0.02 – 0.03/kWh”* on page 30, lines 1 – 2. Neither Witness
8 Mosenthal nor Witness Steinhurst state whether the values they quote are
9 levelized values or represent some other type of value.

10
11 Unfortunately, this is the full extent of NRDC-SACE’s “economic analysis” ,
12 that is provided to support their recommendation of how DSM goals should be
13 set for Florida.

14 **Q. Did their testimonies at least provide the information used to develop**
15 **these cents per kWh values so that one could determine key aspects of the**
16 **calculation including, but not limited to: which DSM programs were**
17 **examined, what costs were included in the calculations, what costs were**
18 **excluded in the calculations, the vintage of assumptions, what years the**
19 **calculation addressed, what year or years the costs were levelized to, and**
20 **how the calculations were performed?**

21 **A. No.**

1 **Q. Besides the fact that no explanation or detail is provided for these**
2 **calculations, what is your reaction to NRDC-SACE's use of a cents/kWh**
3 **approach for comparing resource options?**

4 **A. I was both surprised and disappointed in their "economic analysis." I was**
5 surprised because the testimonies of the NRDC-SACE witnesses repeatedly
6 attempt to make the case that the RIM test; i.e., a cost-effectiveness test that
7 measures the impacts to the utility system's cents/kWh electric rate of
8 competing resource options, is not the appropriate test to use in judging DSM
9 options that compete with Supply options. Nevertheless, all three of these
10 NRDC-SACE witnesses have attempted to compare competing resource
11 options on a cents/kWh basis and state that the results of this electric rate ,
12 comparison should be used to justify the selection of DSM options.

13
14 Therefore, despite their protestations to the contrary, it is obvious that the
15 NRDC-SACE witnesses really believe that a comparison of resource options
16 that is based on an electric rate comparison is the correct way by which to
17 conduct economic analyses of competing resource options. On that basic point
18 the NRDC-SACE and I are in complete agreement.

19
20 However, I was also disappointed because NRDC-SACE's witnesses have
21 selected an analytical approach that is fundamentally flawed for the analysis
22 they are trying to use it for: an economic comparison of two very different
23 resource options.

1 **Q. Why is their analytical approach fundamentally flawed when used to**
2 **compare two resource options that are as different as a DSM measure**
3 **and a Supply option?**

4 **A. The problems in using this analytical approach for comparing two widely**
5 **dissimilar resource options such as DSM and a Supply option have been**
6 **previously discussed in prior Commission proceedings. However, if NRDC-**
7 **SACE (and GDS) truly believe that this is a “best practice” analytical**
8 **approach, it is probably worthwhile to discuss this issue again in depth.**

9
10 Let’s start by focusing on Witness Wilson’s levelized cost values. (Although it
11 is reasonable to assume that the cents/kWh values used by witnesses,
12 Mosenthal and Steinhurst are also levelized cost values, their failure to
13 adequately describe what these values represent leaves one unsure.)

14
15 The analytical approach behind the levelized cost values presented by Witness
16 Wilson is generally referred to as a “screening curve” analysis. In a screening
17 curve analysis, one looks at a resource option, assumes that it operates at a
18 given capacity factor or a range of capacity factors, and then calculates the
19 present value costs of operating only this individual resource option over a
20 number of years. These costs are then typically presented in terms of a
21 levelized (or constant) \$/MWh, or the equivalent levelized cents/kWh, value
22 over the years addressed in the analysis.

1 By using this analytical approach to compare two very dissimilar resource
2 options - a DSM measure versus a Supply option (for example, a baseload
3 generating unit such as a combined cycle or nuclear unit) - NRDC-SACE (and
4 GDS) is making a classic error that I have seen beginning resource planners
5 and inexperienced analysts make of trying to utilize a screening curve
6 approach to analyze two resource options that impact the utility system in very
7 different ways.

8
9 The usefulness of a screening curve analysis is actually very limited. It can be
10 used in a meaningful way to compare the economics of two competing
11 resource options that are identical or very comparable in at least the following
12 four (4) key characteristics: (i) capacity (MW); (ii) annual capacity factors;
13 (iii) the percentage of the option's capacity (MW) that can be considered as
14 firm capacity at the utility's system peak hours; and (iv) the projected life of
15 the option. If two resource options are identical or very comparable in at least
16 these four key characteristics, then a screening curve analysis can be
17 meaningful and one could "screen out" the less attractive of the two almost
18 identical options. (This leads to the common terminology of this type of
19 analysis as a "screening curve" analysis.)

20
21 However, a screening curve analytical approach that attempts to compare
22 resource options that are not identical or even closely comparable in at least
23 these four characteristics will produce incomplete results that are of little

1 value. Indeed, the less comparable these characteristics are for the resource
2 options being analyzed, the less meaningful are the results. Because a DSM
3 measure and a combined cycle unit are about as different in terms of resource
4 options as one can get, a screening curve approach attempting to analyze these
5 types of resource options provides meaningless results.

6
7 The reason is because a typical screening curve analysis does not address the
8 numerous economic impacts that these resource options will have on the
9 utility system as a whole. Instead, a screening curve approach merely looks at
10 the cost of operating the individual option itself. One can think of a screening
11 curve analysis as examining the costs of a resource option if it were placed out
12 in an open field by itself and operated without its operation having any impact
13 on the utility system. The numerous impacts an individual resource option has
14 on the utility system – for example, how it impacts the operation of all the
15 other generating units on the system – is typically ignored in a screening curve
16 approach.

17
18 However, the system impacts of any resource option are very large and can
19 result in significant system cost savings that should be credited back to the
20 resource option in order to have a complete picture. Any analytical approach,
21 such as a screening curve approach, that ignores system cost impacts can only
22 provide an incomplete, and therefore incorrect, result.

1 **Q. Can you provide an example of a system cost impact that is not captured**
2 **in a screening curve analysis for a single new resource option?**

3 **A. Yes. Let's assume that the resource option in question is a combined cycle**
4 **unit. In a screening curve analysis, one assumes that this generating unit will**
5 **operate at a particular capacity factor (or range of capacity factors). For**
6 **purposes of this discussion, we'll assume the generating unit operates 90% of**
7 **the hours in a year. Then, using the generating unit's capacity and heat rate,**
8 **plus the projected cost of the fuel the generating unit would burn, the annual**
9 **fuel cost of operating the generating unit for 90% of the hours in a year is**
10 **calculated. This calculation is then repeated for each year addressed in the**
11 **screening curve analysis.**

12
13 **In a screening curve analysis, the unit's annual fuel costs – which will be very**
14 **large for a baseload generating unit – are added to all of the other costs**
15 **(capital, O&M, etc.) of building and operating this individual generating unit.**
16 **The present value total of these costs is then used to develop a levelized**
17 **\$/MWh or cents/kWh cost for this generating unit.**

18
19 **However, the screening curve analysis approach does not take into account the**
20 **fact that this new baseload generating unit would not operate on a utility**
21 **system at 90% of the hours in a year if it was not cheaper to operate this new**
22 **unit than to operate other existing generating units on the system. In other**
23 **words, for every hour the new baseload generating unit operates, the MWh it**

1 produces displace more expensive MWh that would have been produced by
2 the utility's existing generating units. Whatever the annual fuel cost is of
3 operating this new generating unit 90% of the hours in a year, the utility will
4 save an even greater amount of system fuel costs saved by reducing the
5 operation of one or more existing units during these hours.

6
7 For example, let's say that the new generating unit's annual fuel cost would be
8 \$100 million per year, but that the operation of this new unit will also result in
9 a savings of \$110 million in fuel costs from reduced operation of the system's
10 more expensive existing units. A typical screening curve analysis will include
11 the \$100 million cost value for the individual unit, but ignore the \$110 million
12 in system fuel savings that will also occur.

13
14 For this reason a typical screening curve analysis approach utilizes an
15 incomplete set of information and, therefore, is an incorrect way to thoroughly
16 analyze resource options. A complete analytical approach would take into
17 account the total system fuel cost impact of a net system fuel savings of \$10
18 million (= \$110 million in system fuel savings - \$100 million in unit fuel cost)
19 instead of only the fuel expense of the individual combined cycle unit.
20 Consequently, a typical screening curve analysis will grossly overstate the
21 actual net system fuel cost of the new generating unit.

1 In similar fashion, other system cost impacts, such as environmental
2 compliance costs and variable O&M, are not accounted for in typical
3 screening curve analyses because this approach does not take into account the
4 fact that the new generating unit will reduce the operating hours of the
5 utility's existing generating units. Nor does a screening curve approach
6 account for the impact the resource option will have in regard to meeting the
7 utility's future resource needs. Therefore, the screening curve approach
8 utilizes incomplete information for a number of cost categories, thus
9 providing incorrect results.

10 **Q. The discussion above showed how a screening curve analytical approach**
11 **utilizes incomplete information and leads to incomplete system cost**
12 **results for a single new resource option. Is the screening curve approach**
13 **become even more problematic when attempting to compare two or more**
14 **different types of resource options?**

15 **A. Yes. This can be shown by a qualitative discussion that looks at several**
16 **different types of resource options. Let's assume that a screening curve**
17 **approach is used in an attempt to economically compare a few different**
18 **resource options, three utility generating options and one DSM option:**

- 19
- 20 - Combined cycle option A (1,000 MW)
- 21 - Combined cycle option B (1,000 MW)
- 22 - Combined cycle option C (500 MW)
- 23 - DSM option (100 MW)

1 Let's assume that the first comparison attempted is of two virtually identical
2 combined cycle (CC) units, CC options A and B, in which the four key
3 characteristics of the two CC units are identical. But let's assume that the
4 capital cost of CC option A is lower by \$1 million than the capital cost of CC
5 option B.

6
7 In this comparison, even though a screening curve analysis will not provide an
8 accurate system net cost value as per the above discussion, because the
9 impacts to the operation of existing generating units on the system will be
10 identical from two CC units that are the same in regard to capacity (1,000
11 MW), capacity factor (due to an assumption of identical heat rates and other
12 factors that drive capacity factor), the amount of firm capacity (1,000 MW)
13 each unit will provide, and the life of the two units, a screening curve analysis
14 will give a meaningful comparison of the two options. (In other words, even
15 though the results will not be accurate from a system cost perspective for
16 either of the two options, the results will be "off" by the same amount and in
17 the same direction.) As would be expected, the screening curve results will
18 show that CC option A results in a slightly lower \$/MWh value for CC option
19 A compared to CC option B due to its \$1 million lower capital costs.

20
21 As this example shows, a screening curve analytical approach can produce
22 meaningful results in a case in which the four above-mentioned characteristics
23 of resource options are identical or very comparable. However, as the on-

1 going discussion will show, once these factors for competing resource options
2 are no longer comparable, a typical screening curve approach cannot produce
3 meaningful results.

4 **Q. Why would a screening curve approach break down if one attempted to**
5 **compare otherwise identical generating units that differ only by their size**
6 **such as CC option A (1,000 MW) and CC option C (500 MW)?**

7 **A.** Now at least one of the four key characteristics of resource options that must
8 be identical or very comparable in order for a screening curve approach to
9 provide meaningful results differ significantly between CC option A and CC
10 option C. This is the capacity of the two options: 1,000 MW for CC option A
11 and 500 MW for option C. Even if one were to assume that all other
12 assumptions for the two units were identical (capacity factor, percentage of
13 capacity that is firm capacity, life of the units, heat rate, capital cost per kW,
14 etc.), the significant difference in capacity offered by the two options would
15 cause a screening curve approach to yield incomplete, and therefore incorrect,
16 results.

17
18 The capacity difference between these options would result in at least two
19 system impacts that would not be captured by a screening curve approach.
20 The first of these is the impact of each of the two CC options on the utility's
21 future resource needs. The 1,000 MW of CC option A will address the
22 utility's future resource needs twice as much as will the 500 MW of CC
23 option C. Therefore, CC option A will avoid/defer future resource additions to

1 a greater extent that will CC option C. This will show up in a system cost
2 analysis in the form of different system capital, fuel, O&M, environmental
3 compliance, etc. costs beginning at some point in the future when the utility
4 begins to have resource needs.

5
6 In addition, even prior to that point in the future when new resources are
7 needed, the 500 MW greater capacity of CC option A will result in different
8 system fuel cost, variable O&M, and environmental compliance cost impacts
9 as the operation of the utility's existing generating units are reduced to a
10 greater extent than with CC option C.

11
12 None of these system economic impacts that are driven by the difference in
13 the capacity of two competing resource options are typically captured in a
14 screening curve approach. The earlier discussion pointed out that a screening
15 curve approach applied to even a single new resource option will omit a
16 variety of significant system cost information that is necessary to develop a
17 complete cost perspective of the one resource option. Now we see that an
18 attempt to use a screening curve approach to compare the economics of two
19 resource options that differ significantly in only their capacity will omit an
20 even greater amount of important system cost information. Therefore, the use
21 of a screening curve approach is definitely flawed when used to compare two
22 new resource options that differ in just one of the four key characteristics
23 listed above.

1 **Q. The previous examples discussed only Supply options. Do similar**
2 **problems exist if one were to attempt to compare DSM options to supply**
3 **side options using a screening curve approach?**

4 **A. Yes. All of the problems inherent in using a screening curve approach that**
5 **omits the system cost impacts discussed above are equally applicable whether**
6 **Supply or DSM options are being addressed.**

7
8 In this example, the system impacts of the lower amount of DSM (100 MW)
9 on future resource needs would not be captured in a typical screening curve
10 analysis. This would lead to the same type of incomplete and incorrect
11 analysis discussed previously. Even if one were to adjust the 100 MW of
12 demand reduction from DSM to account for the fact that 100 MW of DSM
13 would be equivalent to 120 MW of supply side capacity (if the utility had a
14 20% reserve margin criterion), 120 MW of one option will be at a
15 disadvantage compared to larger resource options in terms of
16 avoiding/deferring future resource needs of the utility.

17
18 In addition, DSM options vary widely in terms of their actual contribution
19 during system peak hours. Many DSM programs reliably reduce demand
20 during the summer and winter peak hours such as load control, building
21 envelope, heating/ventilation/air conditioning (HVAC) programs to name a
22 few. However, other DSM programs may contribute little or no demand

1 reduction at the summer peak hour, at the winter peak hour, or at either peak
2 hour. A streetlight program would be an example of such a program.

3
4 Presentations of screening curve analyses of DSM options, such as in Witness
5 Wilson's exhibit, typically lump a wide variety of DSM options together
6 regardless of the capability of these DSM options to lower peak hour demand.
7 This form of presentation further clouds one's understanding of what DSM
8 options are actually being addressed and does not allow an observer to fully
9 understand the breadth of the system impacts that are not being captured in a
10 screening curve analysis.

11 **Q. Please summarize why a comprehensive economic analysis that includes ,**
12 **system cost impacts of resource options, such as the analytical process**
13 **FPL utilized, is superior to the NRDC-SACE screening curve "economic**
14 **analysis" approach?**

15 **A.** *There are a large number of cost impacts to consider if one is attempting to*
16 *provide a complete analysis of competing resource options. Some of these*
17 *cost impacts are driven solely from the operation of the resource option itself*
18 *while other cost impacts are utility system impacts driven by integrating and*
19 *operating a resource option with the utility's existing generating units.*

20
21 A screening curve approach typically addresses only the costs of operating the
22 individual unit itself. As discussed above, this approach omits all of the

1 system cost impacts that are crucial to capturing the complete costs of a
2 resource option.

3
4 In contrast, a system economic approach – such as that utilized by FPL in the
5 analyses presented in this docket - not only captures all of the costs of
6 operating the individual resource option, but also captures the system costs
7 and cost savings of operating the entire FPL system with the resource option.

8 **Q. Can you provide a quantitative example of how the cents per kWh results**
9 **of a typical screening curve approach might change if one were to**
10 **account for even one or two system impacts that are typically omitted by**
11 **this analytical approach?**

12 **A.** Yes. Staff Interrogatory Number 57 in this docket requested the results of a
13 screening curve analysis of the 2019 combined cycle unit used in FPL's DSM
14 screening analyses. FPL provided these results, along with a condensed
15 version of the qualifiers discussed at length above that explain the significant
16 limitations of using this levelized cost value when comparing a combined
17 cycle unit to very dissimilar resource options.

18
19 The levelized cost value FPL provided in response to Staff's request is
20 \$162/MWh assuming a 90% capacity factor with costs levelized in 2019\$.
21 This value is equivalent to a levelized 16.2 cents/kWh in 2019\$. (Screening
22 curve analyses are often presented in levelized \$/MWh values for either the
23 in-service year of the unit or for the year in which the analysis was

1 performed.) As previously mentioned, NRDC-SACE provides no information
2 regarding what year \$ their levelized values are in. Let's give them the benefit
3 of the doubt and assume that they at least tried to put the values for the
4 resource options (which would almost certainly have different in-service
5 years) on a common year basis. This is most commonly done through
6 levelizing costs to the year in which the analysis was done. Therefore, let's
7 convert the \$162/MWh value in 2019\$ to an equivalent 2009\$ value.

8
9 Exhibit SRS-14 provides the summary page of that analysis. The levelized
10 value for this same unit at a 90% capacity factor now becomes \$69/MWh in
11 2009\$. This value is highlighted in the box on the left-hand side of the page.
12 This exhibit shows that FPL accounted for all projected costs of building and
13 operating this individual unit over the projected 25-year life of the unit. The
14 calculation does not account for offsetting system cost impacts as is typical in
15 screening curve analysis. Because NRDC-SACE presented their values in
16 terms of cents/kWh, I'll do so as well. The \$69/MWh value translates to 6.9
17 cents/kWh. (NRDC-SACE's value for a CC unit was in the 7.3 to 10.0
18 cents/kWh range.)

19
20 Exhibit SRS-15 now takes a more realistic, but still highly conservative
21 assumption (in order to make the math easier to follow and to be consistent
22 with the system fuel cost savings example discussed above). In Exhibit SRS-

1 15, the impacts of only two of the many system impacts have been included:
2 system fuel savings and system environmental compliance cost savings.

3
4 The conservative assumption used is that both the system fuel cost savings
5 and the system environmental compliance cost savings will be 10% of the
6 combined cycle unit's costs in those categories. For example, the fuel cost
7 value for this individual unit for the year 2019 in Exhibit SRS-14 is \$865,447
8 (in \$000). The new assumption used in developing Exhibit SRS-15 is that the
9 system would actually realize a saving of $1.10 \times \$865,447 (\$000) = \$951,992$
10 (\$000) from reduced operation of the other units on the system.

11
12 Consequently, a net system fuel savings of \$86,545 (\$000) ($= \$951,992 -$
13 $\$865,447$) would occur. This value shows up as a negative value, (\$86,545)
14 (\$000), in Exhibit SRS-15 for the 2019 fuel cost value to denote this savings.

15 A similar calculation is made for all years for the fuel costs and the
16 environmental compliance costs.

17
18 Even with this conservative assumption for FPL's system, the screening
19 curve's levelized cost value for the combined cycle unit at a 90% capacity
20 factor has now dropped from \$69/MWh or 6.9 cents/kWh to \$12/MWh or 1.2
21 cents/kWh.

1 Therefore, even by making a simple adjustment to a screening curve analysis
2 to account for only two of many system impacts of adding a combined cycle
3 to a utility system such as FPL's, the levelized cost projection from the
4 screening curve analysis is dramatically lowered from 6.9 cents/kWh to 1.2
5 cents/kWh. And, as discussed previously, there are a number of other system
6 impacts that still not accounted for in this example.

7
8 The moral of the story is that, by leaving out system cost impacts, typical
9 screening curve analyses are based on very incomplete information and can
10 provide very misleading results as demonstrated by this example. This points
11 out how meaningless the cents per kWh values are that NRDC-SACE
12 presented as its "economic analysis."

13 **Q. In summary, how should one view any economic analysis based only on a**
14 **screening curve analysis?**

15 **A.** When a person attempts to justify a resource option selection solely with a
16 screening curve analysis, the individual attempting to use such an analysis as
17 justification either does not understand how utility systems work, or knows
18 better but is trying to sneak out a decision that would be based on very
19 incomplete information.

20
21 The Commission, and any other interested party, should view a screening
22 curve analysis as an approach that utilizes only an incomplete subset of
23 information, and which, therefore, provides incorrect analysis results.

1 Therefore, resource decisions should not be based upon this analytical
2 approach because a full accounting of system cost impacts has not been
3 presented.

4
5 It is for these reasons that FPL does not make resource decisions, nor seek
6 Commission approval for resource additions, based solely on screening curve
7 analyses. FPL's IRP analyses are designed to capture all relevant, quantifiable
8 option costs and system cost impacts in its analyses of competing options
9 including Supply and DSM options. FPL utilized this comprehensive
10 analytical approach in the analyses presented in this docket.

11

12

VI. Summary

13

14 **Q. Please summarize your rebuttal testimony regarding NRDC-SACE.**

15 **A. I'll do so with the following summary statements.**

16

17 (1) What I have referred to as NRDC-SACE's objectives statement – to
18 reduce greenhouse gas emissions and to do so only with energy
19 conservation – drives the testimonies of NRDC-SACE's witnesses.
20 Without this objectives statement, the NRDC-SACE testimonies
21 would be very puzzling given that Florida utilities and NRDC-SACE
22 have just completed an expensive, many months long collaborative

1 effort to provide a sound analytical basis on which to set DSM goals
2 for Florida's electric utility customers.

3 (2) NRDC-SACE's testimonies completely ignore the results of this large-
4 scale analytical effort and, to a great extent, ignore the analytical
5 process except to claim that it is flawed. In so doing, NRDC-SACE's
6 witnesses appear to have amnesia in regard to the fact that Witness
7 Wilson was an active participant in the collaborative and helped shape
8 the process. In one instance when NRDC-SACE does discuss the
9 Collaborative's analytical work, NRDC-SACE now claims that one
10 key criterion – the two-year payback criterion utilized to
11 address/minimize free-riders as the utilities are required to do – was
12 something the utilities erred in choosing. NRDC-SACE ignores the
13 *inconvenient* fact that the selection of this key criterion was readily
14 agreed to by their representative, Witness Wilson. The impression
15 NRDC-SACE's testimonies have given me is that a great deal of their
16 testimony could have been written before the collaborative effort even
17 began. Therefore, NRDC-SACE has raised doubt as to how serious
18 they really have been in participating in, and contributing to, the
19 collaborative analytical effort that Florida's DSM goals are to be based
20 on.

21 (3) After completely ignoring the results of the Collaborative's analytical
22 efforts, NRDC-SACE has chosen to recommend that Florida set goals
23 almost exclusively on an energy reduction basis using an arbitrarily

1 chosen percentage value tied to energy sales. They offer no analysis at
2 all, much less a thorough analysis using Florida-specific information,
3 to support their position. The closest they came to an economic
4 analysis is to provide vague cents per kWh values for DSM and
5 Supply options with no explanation as to how those values were
6 derived. As discussed in section V of my testimony, the analytical
7 process they used is fundamentally flawed when used to compare two
8 such different resource options as DSM and baseload generating units.
9 Therefore, NRDC-SACE has provided absolutely no analyses to
10 support their recommended goals.

11 (4) NRDC-SACE completely ignores the fact that the utilities did not use
12 the original RIM and TRC tests in their analyses, and discuss only
13 those two tests that are not applicable to the current discussion.
14 However, NRDC-SACE clearly recognizes that the language in HB
15 7135 poses real problems for their position that the TRC test should be
16 used. These problems arise because the TRC test does not include all
17 DSM-related costs that impact all ratepayers which the amendment's
18 language requires be included. Neither incentive payments to
19 participants nor the reduction in recovered revenue requirements – two
20 costs that impact all ratepayers – are included in the TRC test. In
21 regard to incentive payments, NRDC-SACE's witnesses mounted a
22 creative, but desperate attempt to argue that the participant costs (costs
23 that are not borne by all ratepayers) can “cover” incentive payments.

1 Section III of my testimony points out that one simply needs to check
2 the Commission's approved cost-effectiveness methodology to see that
3 incentive costs are not included in the TRC test calculation page. This
4 section of my testimony also takes a look at how NRDC-SACE's
5 contention that participant costs "cover" incentive costs actually works
6 in practice. What is shown is that the Commission cannot get an
7 accurate picture of the impact of incentive payments on DSM cost-
8 effectiveness from looking at NRDC-SACE's suggested proxy,
9 participant costs. In regard to the other cost impact that is missing
10 from the TRC test (unrecovered revenue requirements), NRDC-SACE
11 does not even attempt to mount a defense.

12 (5) NRDC-SACE also recommends and suggests a number of ways to
13 further lower the bar for the already more lenient TRC test so that even
14 more DSM measures can be "justified". Their comments strongly
15 suggest a view that virtually all DSM options should be implemented
16 in Florida without any honest economic analysis.

17 (6) NRDC-SACE shows virtually no concern for the fact that use of the
18 TRC test will result in increased cross-subsidization of one customer
19 group by another for each DSM measure that fail the E-RIM test but
20 pass the more lenient E-TRC test. Their proposed solution – to
21 implement even more such DSM measures – would only aggravate
22 this problem. In fact, the sole example offered by NRDC-SACE for
23 how this could conceivably work is a 20 year old project in which 10%

1 of eligible customers didn't participate, and with an unknown number
2 of ineligible customers that also did not participate. All of these non-
3 participating customers would be subsidizing the participants in a
4 DSM measure that failed the E-RIM test. Therefore, NRDC-SACE's
5 example to show how cross-subsidization can be handled by
6 implementing even more such DSM measures falls far short of
7 convincing.

8 (7) Finally, NRDC-SACE's witnesses were completely wrong several
9 times in their testimonies when they attacked the practices of the
10 Florida utilities. This suggests a failure to thoroughly review, or to
11 understand, the utilities' testimonies. It also again suggests a mindset
12 of not caring what the Collaborative did because NRDC-SACE had
13 another agenda all along.

14
15 In conclusion regarding NRDC-SACE, the positions I see NRDC-SACE
16 taking – to ignore the Collaborative's extensive analyses in which they
17 participated, to recommend substituting arbitrarily set goals that focus almost
18 exclusively on energy reduction, to offer no analyses to support this
19 recommendation, to once again attempt to convince a Florida Commission to
20 ignore the fundamental flaws of the TRC test, to recommend that the already
21 more lenient TRC test be made even more lenient, and to essentially ignore
22 the cross-subsidization and electric rate impacts that will be of particular
23 concern to Florida's many fixed- and low-income residents – is directly

1 linked to the very narrow focus of their objectives statement in which energy
2 conservation is the only resource option. While this may make sense to
3 individuals who have such a single-minded focus, it is certainly not a
4 reasonable way to set DSM goals that will impact all of Florida's electric
5 utility customers.

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

7 **A. Yes.**

<u>EXHIBIT #</u>	<u>LINE #</u>	<u>CORRECTION</u>
Exhibit SRS-4	Step 5	In E-TRC Test Screening column, Change: "5" to "1", change "305" to "309" (twice) and change "928" to "941"

REBUTTAL TESTIMONY OF STEVEN R. SIM

<u>PAGE #</u>	<u>LINE #</u>	<u>CORRECTION</u>
29	17	Change "928" to "941"
29	20	Change "95%" to "94%"
33	23	Change "294" to "296"
34	1	Change "305" to "309"
69	1	Change "928" to "941"
69	3	Change "95.4%" to "94%"
78	3	Change "5 measures" to "1 measure"
78	5	Change "99%" to "99.8%" and "477" to "473"
78	14	Add "not" after "does"
88	4	Delete the word "saved"
89	12	Change "Is" to "Does"
98	6	Add "are" after "that"

Respectfully submitted this 10th day of August, 2009.

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1 **BY MS. CANO:**

2 Q. Have you prepared a summary of your rebuttal
3 testimony?

4 A. Yes, I have.

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

7 A. Yes, I will.

8 Good morning again, Chairman Carter and
9 Commissioners.

10 My rebuttal testimony addresses the direct
11 testimonies of all of the NRDC, SACE and GDS witnesses
12 and discusses a large number of problems in these
13 testimonies.

14 I'll summarize my rebuttal testimony as
15 follows. First, NRDC, SACE and GDS are recommending
16 goals that are arbitrary, extreme and unsupported.
17 These recommendations are not based on FPL's resource
18 planning process, as is required by the DSM goals rule.

19 Their decision to ignore FPL's resource
20 planning process results in a number of problems,
21 including failure to consider FPL's projected resource
22 needs, failure to determine the impacts on electric
23 rates for all of FPL's customers, failure to account for
24 cross-subsidization impacts and failure to perform any
25 economic analyses at all.

1 Instead of performing any economic analyses,
2 NRDC, SACE and GDS offered only comments which gave the
3 impression that it's cheaper to reduce a kilowatt hour
4 than it is to generate a kilowatt hour. These comments
5 were based on an analytical approach called a screening
6 curve approach that has long been recognized as being
7 fundamentally flawed if it is used to compare very
8 different resource options, and that's because this
9 approach does not account for a number of important
10 impacts to the utility system as a whole.

11 In lieu of offering any analyses or utilizing
12 FPL's resource planning process, NRDC/SACE's witnesses
13 made an all-out effort to portray House Bill 7135 as
14 requiring the use of the TRC Test. However, any fair
15 reading of that legislation would show that there is no
16 such requirement. The legislation simply directs the
17 Commission to consider four items. The use of the
18 Participant and E-RIM Test in combination fully address
19 the four items to be considered by this Commission.

20 Conversely, the use of the Participant and
21 E-TRC Tests do not address these considerations because
22 two significant DSM-related costs that will be borne by
23 all of FPL's customers are not addressed by the E-TRC
24 Test. Furthermore, NRDC, SACE and GDS are fighting
25 yesterday's battle of RIM versus TRC.

1 FPL did not use the original RIM and TRC Test
2 in its analysis. Instead, we used the enhanced E-RIM
3 Test that fully accounts for all system environmental
4 compliance cost impacts, including CO2. But if the
5 original RIM and TRC Tests had been used, the results of
6 FPL's analysis would have been very different.

7 If the economic screening of DSM collapsed
8 measures had used the original RIM and TRC Tests, 166
9 measures would have passed the original RIM Test and 296
10 measures would have passed the original TRC Test, or a
11 difference of 130 measures. However, when we used the
12 enhanced E-RIM Test, 279 measures passed, greatly
13 shrinking the difference from 130 to only 17 measures.
14 Clearly, the use of the enhanced E-RIM Test now results
15 in many more DSM measures that pass economic screening.

16 In conclusion, the recommendations of NRDC,
17 SACE and GDS are not based on FPL's resource planning
18 process or its resource needs, nor were any economic
19 analyses presented to support these recommendations. As
20 a result, their recommendations would result in higher
21 electric rates and cross-subsidization of customer
22 groups. Therefore, these recommendations do not deserve
23 serious consideration.

24 In stark contrast, FPL's proposed goals are
25 based on FPL's resource planning process, would fully

1 meet FPL's projected resource needs through 2019, will
2 result in the lowest electric rates and will minimize
3 cross-subsidization. Therefore, FPL's proposed DSM
4 goals based on the E-RIM Test are in the best interest
5 of FPL's customers.

6 Thank you.

7 **MS. CANO:** Thank you.

8 And I would just point out that we understood
9 there to be some questions with respect to the TRC Test
10 versus RIM or E-TRC versus E-RIM, and to the extent
11 there are, Dr. Sim would be the appropriate witness to
12 address those.

13 FPL tenders Dr. Sim for cross-examination.

14 **CHAIRMAN CARTER:** Okay. Ms. Kaufman?

15 **MS. KAUFMAN:** No thank you, Mr. Chairman.

16 **CHAIRMAN CARTER:** Mr. Cavros?

17 **MR. CAVROS:** No thank you.

18 **CHAIRMAN CARTER:** My good friend, Ms.
19 Brownless.

20 **MS. BROWNLESS:** No thank you, sir.

21 **CHAIRMAN CARTER:** Commissioners?

22 I'll come back to you, staff, in a minute.

23 Commissioners, anything from the bench?

24 Commissioner McMurrian, you're recognized.

25 **COMMISSIONER McMURRIAN:** Everyone else said no

1 thank you. I feel like I'm not being polite.

2 **CHAIRMAN CARTER:** Be nice to your elders, you
3 know.

4 **COMMISSIONER McMURRIAN:** Hi, Dr. Sim. How are
5 you?

6 **THE WITNESS:** I'm fine. Thank you,
7 Commissioner.

8 **COMMISSIONER McMURRIAN:** Were you here
9 yesterday -- I think it was yesterday. I'm sort of
10 losing track. But I think it was yesterday when Dr.
11 Steinhurst spoke with us, and I asked him some questions
12 about at-risk, DSM programs for at-risk citizens. Were
13 you here for that question?

14 **THE WITNESS:** I was not here for that. No.

15 **COMMISSIONER McMURRIAN:** Okay. Well,
16 essentially in Dr. Steinhurst's testimony he referenced
17 some shortcomings in the FEECA utilities' plans, and one
18 of the things was that there are significant benefits
19 from DSM programs for at-risk citizens. And we had a
20 discussion about whether or not there were programs that
21 would address those needs that could meet RIM or TRC. I
22 believe his testimony suggested that it could meet the
23 Participant Test. And I believe I'm characterizing his
24 testimony correctly, so -- I'm going by my recollection,
25 so that's a little scary.

1 But I believe he said that there weren't, he
2 didn't believe that there were programs that could meet
3 the RIM Test but that there would be things that could
4 meet TRC specifically geared to renters and folks that
5 lived in manufactured homes, and talked about some
6 barriers called split incentive barriers and some
7 programs that had been done in other states such as
8 Vermont that addressed those kinds of issues. So I
9 think I've characterized all that fairly.

10 And I guess I just wanted to give you a chance
11 to talk about whether or not FPL in particular had
12 programs aimed at at-risk citizens and what --
13 essentially give you a chance to respond to those kinds
14 of issues, and are there programs that could meet RIM
15 and/or TRC that could address particularly at-risk
16 citizen issues, including low income, senior citizens,
17 those types of at-risk citizens?

18 **THE WITNESS:** I believe Mr. Haney's testimony
19 discussed penetration of some of our existing programs
20 for low income customers and said that we'd been fairly
21 successful in addressing the low income community with
22 those programs. Unfortunately, I am probably not the
23 right person to talk about specific programs.

24 **COMMISSIONER McMURRIAN:** And I guess, in
25 fairness, I did say yesterday that this part of the

1 proceeding is really aimed at goals and not so much the
2 programs anyway. But I just wanted to give each company
3 a chance to respond to that before we moved on. So
4 that, that's okay.

5 And the other question I had was with respect
6 to the TRC Test, which I think Ms. Cano was referring
7 to.

8 I believe it was Dr. Mosenthal that gave
9 testimony about the TRC Test, and, and I conveyed some
10 of my confusion about what the TRC Test included on the
11 cost side. And I think we referred to the exhibit that
12 Ms. Brownless has handed out from the cost-effectiveness
13 manual. I don't know if you, if you recall.

14 And we had a discussion about whether or not
15 the box under the TRC Test that was labeled utility
16 program costs, whether or not that included utility
17 incentives. And I believe it was his testimony that
18 utility program costs included that, and that there was
19 some confusion about this chart, or created by this
20 chart because under the RIM Test it shows incentives as
21 a separate box.

22 So I guess my question is is it your
23 understanding that in the total resource cost test that
24 the cost or the denominator would include utility
25 incentives as part of the utility program costs?

1 **THE WITNESS:** For the TRC Test?

2 **COMMISSIONER McMURRIAN:** For the TRC Test.

3 **THE WITNESS:** My opinion is, no, it does not.

4 And if I may explain a bit?

5 **COMMISSIONER McMURRIAN:** Sure.

6 **THE WITNESS:** Okay. I have a copy of the
7 cost-effectiveness manual, staff's cost-effectiveness
8 manual dated July 17th, 1991, from which I think that
9 chart was taken. And what I'd like to point to is the
10 general description of cost language for both the Rate
11 Impact Test and for the TRC Test.

12 And let me preface this by saying this
13 language includes for both tests the term "and increased
14 supply costs." And I'm going to omit that from my
15 discussion, and let me explain why.

16 Increased supply costs generally refer to
17 programs, if any utility were going to offer one, that
18 was a load building program: Such as, for example, if
19 we were to go and try to convince customers to switch
20 out gas water heaters for electric water heaters. Those
21 would result in increased supply costs, and therefore
22 staff, in trying to fully develop the formula for the
23 various tests, included that in. But the increased
24 supply cost is simply not relevant when we're talking
25 about demand and energy reduction programs, which we are

1 in this docket. So if you will allow it, I'm going to
2 leave that out of reading these short sentences on the
3 general description of costs.

4 For the Rate Impact Test, the general
5 description of cost language reads as follows: The
6 costs include the program costs incurred by the utility.
7 That's one. The incentives paid to participants, two.
8 The costs also include any decrease in revenues caused
9 by the program, three. Therefore, staff has made a
10 clear distinction that there's a difference between
11 program costs incurred by the utility and incentives
12 paid to participants.

13 In the language for the TRC Test under general
14 description of costs, the language reads, the costs are
15 the program costs incurred by the utility. Same
16 language as number one for the Rate Impact Test. It
17 also says, all equipment costs, installation, operation
18 and maintenance and administration costs, no matter who
19 pays for them, are included in this test.

20 Therefore, my reading is, number one, a
21 disagreement with Mr. Mosenthal that clearly in Florida
22 the program costs do not include incentives. It is a
23 separate item.

24 **COMMISSIONER McMURRIAN:** Mr. Chairman, can I
25 ask a procedural question from staff?

1 **CHAIRMAN CARTER:** Yes, ma'am.

2 **COMMISSIONER McMURRIAN:** Is the
3 cost-effectiveness manual already in the record of this
4 case, the complete cost-effectiveness manual?

5 **MS. HELTON:** As I understand the
6 cost-effectiveness, cost-effectiveness manual, it is
7 incorporated into our rule and, as such, it's something
8 that I don't necessarily think needs to be officially
9 recognized. But if it makes you more comfortable, could
10 be officially recognized and everyone would realize that
11 it's at issue here today.

12 **COMMISSIONER McMURRIAN:** And I wasn't -- I do
13 recall now that coming up earlier, that that was
14 incorporated into our rule. I don't know which version
15 of it. I guess the rule would always be updated to
16 include the most updated version of the
17 cost-effectiveness manual.

18 **MS. HELTON:** The way the rulemaking process
19 works, the most recent version would have to be
20 incorporated into our rule to be able to -- for us to
21 rely on it.

22 **COMMISSIONER McMURRIAN:** Okay. Thank you.
23 I think that's all, Mr. Chairman. Thank you.

24 **CHAIRMAN CARTER:** Thank you.
25 Commissioners, anything further from the

1 bench?

2 Staff?

3 **MS. FLEMING:** No questions.

4 **CHAIRMAN CARTER:** Okay. Redirect?

5 **MS. CANO:** No redirect.

6 **CHAIRMAN CARTER:** Exhibits?

7 **MS. CANO:** FPL moves Exhibits 124 through 126
8 into the record.

9 **CHAIRMAN CARTER:** Are there any objections?

10 **MR. CAVROS:** Chairman, I would object for the
11 hearsay objection again for the same reasons stated for
12 Mr. Haney for the record.

13 **CHAIRMAN CARTER:** My ruling stands.

14 Okay. On the exhibits, any objections on the
15 exhibits? Hearing none, 124 through 126 entered into
16 evidence.

17 (Exhibits 124 through 126 admitted into the
18 record.

19 Anything further for this witness?

20 Thank you, Dr. Sim.

21 **THE WITNESS:** Thank you.

22 **MR. GUYTON:** Mr. Chairman, just as a follow-up
23 to Commissioner McMurrian's inquiry, you asked Dr. Sim
24 about low income efforts and he referred to Mr. Haney's
25 testimony. That's found at Pages 10, 11 and 12 of his

1 direct testimony, as well as his Exhibit JRH -- I'm
2 sorry. I should have that but I don't have it. But
3 it's one of the -- there's a summary of low income
4 survey that was one of his direct exhibits as well. I
5 apologize. I just want to make sure that the bench is
6 aware.

7 **CHAIRMAN CARTER:** Thank you.

8 Thank you, Dr. Sim.

9 **THE WITNESS:** Thank you.

10 (Transcript continues in sequence with Volume
11 9.)

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STATE OF FLORIDA)
 :
COUNTY OF LEON)

CERTIFICATE OF REPORTER

I, LINDA BOLES, RPR, CRR, Official Commission Reporter, do hereby certify that the foregoing proceeding was heard at the time and place herein stated.

IT IS FURTHER CERTIFIED that I stenographically reported the said proceedings; that the same has been transcribed under my direct supervision; and that this transcript constitutes a true transcription of my notes of said proceedings.

I FURTHER CERTIFY that I am not a relative, employee, attorney or counsel of any of the parties, nor am I a relative or employee of any of the parties' attorneys or counsel connected with the action, nor am I financially interested in the action.

DATED THIS 18th day of August, 2009.

Linda Boles
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