BEFORE THE
FLORIDA PUBLIC SERVICE COMMISSION

In the Matter of:

COMMISSION REVIEW OF NUMERIC CONSERVATION GOALS (FLORIDA POWER & LIGHT COMPANY).	DOCKET NO. 080407-EG
COMMISSION REVIEW OF NUMERIC CONSERVATION GOALS (PROGRESS ENERGY FLORIDA, INC.).	DOCKET NO. 080408-EG
COMMISSION REVIEW OF NUMERIC CONSERVATION GOALS (TAMPA ELECTRIC COMPANY).	DOCKET NO. 080409-EG
COMMISSION REVIEW OF NUMERIC CONSERVATION GOALS (GULF POWER COMPANY).	DOCKET NO. 080410-EG
COMMISSION REVIEW OF NUMERIC CONSERVATION GOALS (FLORIDA PUBLIC UTILITIES COMPANY).	DOCKET NO. 080411-EG
COMMISSION REVIEW OF NUMERIC CONSERVATION GOALS (ORLANDO UTILITIES COMMISSION).	DOCKET NO. 080412-EG
COMMISSION REVIEW OF NUMERIC CONSERVATION GOALS (JEA).	DOCKET NO. 080413-EG

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VOLUME 1

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PROCEEDINGS: HEARING

FLORIDA PUBLIC SERVICE COMMISSION

COMMISSIONERS PARTICIPATING:	CHAIRMAN MATTHEW M. CARTER, II COMMISSIONER LISA POLAK EDGAR COMMISSIONER KATRINA J. McMURRIAN COMMISSIONER NANCY ARGENZIANO COMMISSIONER NATHAN A. SKOP
DATE:	Monday, August 10, 2009
TIME:	Commenced at 9:33 a.m.
PLACE:	Betty Easley Conference Center Room 148 4075 Esplanade Way Tallahassee, Florida
REPORTED BY:	LINDA BOLES, RPR, CRR Official FPSC Reporter (850) 413-6734

PARTICIPATING:

JESSICA A. CANO, ESQUIRE, 700 Universe Boulevard, Juno Beach, Florida 33408-0420, and CHARLES A. GUYTON, ESQUIRE, Squire, Sanders & Dempsey, LLP, 215 South Monroe Street, Suite 601, Tallahassee, Florida 32301, representing Florida Power & Light Company.

STEVEN R. GRIFFIN, ESQUIRE, and RUSSELL A. BADDERS, ESQUIRE, Beggs & Lane Law Firm, Post Office Box 12950, Pensacola, Florida 32591-2950, representing Gulf Power Company.

JOHN T. BURNETT, ESQUIRE, Post Office Box 14042, St. Petersburg, Florida 33733-4042, appearing on behalf of Progress Energy Florida, Inc.

LEE L. WILLIS, ESQUIRE, and JAMES D. BEASLEY, ESQUIRE, Ausley & McMullen, Post Office Box 391, Tallahassee, Florida 32302, representing Tampa Electric Company.

ROY C. YOUNG, ESQUIRE, and CHRIS BROWDER, GENERAL COUNSEL, Young van Assenderp, P.A., 225 South Adams Street, Suite 200, Tallahassee, Florida 32301, representing Orlando Utilities Commission.

NORMAN H. HORTON, JR., ESQUIRE, Messer, Caparello & Self, P.A., Post Office Box 15579, Tallahassee, Florida 32317, appearing on behalf of Florida Public Utilities Company.

PARTICIPATING (Continued):

SUSAN CLARK, ESQUIRE, Radey, Thomas, Yon & Clark, 301 South Bronough Street, Suite 200, Tallahassee, Florida 32301, representing Florida Power & Light Company, Progress Energy Florida, Inc., Tampa Electric Company, Gulf Power Company, Florida Public Utilities Company, Orlando Utilities Commission and JEA.

GARY V. PERKO, ESQUIRE, Hopping, Green & Sams, P.A., Post Office Box 6526, Tallahassee, Florida 32314, appearing on behalf of JEA.

VICKI G. KAUFMAN, ESQUIRE, c/o Keefe, Anchors, Gordon & Moyle, 118 North Gadsden Street, Tallahassee, Florida 32301, representing the Florida Industrial Power Users Group.

SUZANNE BROWNLESS, ESQUIRE, c/o Suzanne Brownless, P.A., 1975 Buford Boulevard, Tallahassee, Florida 32308, representing Florida Solar Coalition.

JEREMY SUSAC, EXECUTIVE DIRECTOR, Florida Energy and Climate Commission, Governor's Energy Office, 600 South Calhoun Street, Suite 251, Tallahassee, Florida 32399-0001, representing the Florida Energy and Climate Commission.

PARTICIPATING (Continued):

E. LEON JACOBS, JR., ESQUIRE, c/o Williams & Jacobs, LLC, 1720 South Gadsden Street, MS 14, Suite 201, Tallahassee, Florida 32301; BENJAMIN LONGSTRETH, ESQUIRE, Natural Resources Defense Council, 1200 New York Avenue NW, Washington, DC 20005; BRANDI COLANDER, ESQUIRE, Natural Resources Defense Council, 40 West 20th Street, New York, NY 10011; DANIEL WEINER, ESQUIRE, Jenner & Block, 1099 New York Avenue NW, Washington, DC 20005; and GEORGE S. CAVROS, ESQUIRE, 120 East Oakland Park Boulevard, Suite 105, Ft. Lauderdale, Florida 33334, representing the Natural Resources Defense Council and the Southern Alliance for Clean Energy.

KATHERINE FLEMING, ESQUIRE, and ERIC SAYLER, ESQUIRE, FPSC General Counsel's Office, 2540 Shumard Oak Boulevard, Tallahassee, Florida 32399-0850, representing the Commission Staff.

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

I N D E X

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P R O C E E D I N G S

CHAIRMAN CARTER: I'd like to call this hearing to order. First of all, staff, would you please read the notice.

MS. FLEMING: Pursuant to notice issued by the Commission Clerk, this time and place has been set for a hearing in Docket No. 080407 through 080413-EG.

CHAIRMAN CARTER: Okay. Let's take appearances.

MS. CANO: Good morning. Jessica Cano and Charlie Guyton on behalf of Florida Power & Light Company.

MR. GRIFFIN: Good morning. Steven Griffin and Russell Badders on behalf of Gulf Power Company.

MR. BURNETT: Good morning. John Burnett for Progress Energy Florida.

MR. BEASLEY: Good morning. James D. Beasley and Lee L. Willis of Ausley & McMullen on behalf of Tampa Electric Company.

MR. YOUNG: Roy Young with the firm of Young van Assenderp here in Tallahassee on behalf of OUC, along with our general counsel, Chris Browder.

CHAIRMAN CARTER: Okay.

MR. HORTON: Norman H. Horton, Jr., Messer, Caparello & Self, on behalf of Florida Public Utilities

Company.

MS. CLARK: I'm Susan Clark with the Radey Law Firm on behalf of the FEECA utilities.

CHAIRMAN CARTER: Mr. Perko?

MR. PERKO: Gary Perko on behalf of JEA.

MS. KAUFMAN: Good morning, Commissioners. Vicki Gordon Kaufman of Keefe, Anchors, Gordon & Moyle here in Tallahassee on behalf of the Florida Industrial Power Users Group.

CHAIRMAN CARTER: Mr. Jacobs, good morning.

MR. JACOBS: Good morning, Commissioners. Leon Jacobs with the firm of Williams & Jacobs. And with me is Mr. Ben Longstreth, Ms. Brandi Colander, Mr. Dan Weiner, and Mr. George Cavros, and we're all appearing on behalf of the Natural Resources Defense Council and the Southern Alliance for Clean Energy.

CHAIRMAN CARTER: Ms. Brownless, good morning.

MS. BROWNLESS: Good morning. Suzanne Brownless, Suzanne Brownless, P.A., Tallahassee, here on behalf of the Florida Solar Coalition.

CHAIRMAN CARTER: Mr. Susac, good morning to you.

MR. SUSAC: Good morning, Chairman. Jeremy Susac, Florida Energy and Climate Commission.

CHAIRMAN CARTER: Before I go to staff, did we

get all the parties?

Staff, you're recognized.

MS. FLEMING: Katherine Fleming and Eric Sayler on behalf of the Commission.

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

CHAIRMAN CARTER: Okay. Commissioner Argenziano, can you hear us okay?

COMMISSIONER ARGENZIANO: Yes, I can. Can you hear me?

CHAIRMAN CARTER: Good morning to you.

COMMISSIONER ARGENZIANO: Good morning. And I will be listening as long as it takes.

CHAIRMAN CARTER: Okay. Thank you so kindly.

Commissioners and to the parties, we have a -- we're moving into the 21st century. And despite our best efforts to, to explain and recommend to people about the times that were in the orders, for whatever reason it seems like when we get to hearing time, people have amnesia. So we're going to help you today.

This is our timing system. Green means that's when you begin. Two minutes in you'll see the yellow light. Okay? And that means -- when you have two minutes left, you'll see the yellow light. Red, when it gets solid, you've got 30 seconds left. When the red

starts blinking, you're out of time. If you ignore the lights, we shut the mikes off. Okay? All righty. Good.

Now I'm sure that all the parties and the attorneys have looked over the, the order, the Prehearing Order in terms of the times for your opening statements as well as times for your, your witnesses to do their opening statements.

Now are there any questions pertaining to this before we get going?

MR. GUYTON: Mr. Chairman?

CHAIRMAN CARTER: Yes, sir.

MR. GUYTON: The investor-owned utilities are going to consolidate their statements so that the parties --

CHAIRMAN CARTER: Okay. We can work with that. We'll work with that. And you just let me know when we get there and we'll have Chris to set up an omnibus block of time and we can deal with it on that level.

MR. JACOBS: Mr. Chairman, on that note --

CHAIRMAN CARTER: Mr. Jacobs, yes, sir.

MR. JACOBS: On that note also I believe there will be some consolidation on our parts as well.

CHAIRMAN CARTER: No problem at all.

MR. JACOBS: Thank you.

CHAIRMAN CARTER: Just remember, green is good. Yellow is watch out. The blinking red is never good. Okay? But we can accommodate you with the time. It's just a matter of we'll -- all we need to know is what amount of time we're going to plug in and Chris will be dealing with that on that level. Okay?

Staff, are there any preliminary matters?

MS. FLEMING: Yes, Chairman, there are several preliminary matters. We would first like to note for the record that several witnesses have been excused from the hearing. And if you'd like, I can identify those at this time.

CHAIRMAN CARTER: You're recognized.

MS. FLEMING: Witnesses Eysie for FPUC; Rollins for FPUC; Kushner for FPUC, OUC, and JEA; Haddad for OUC; Pollock for FIPUG; and Cavanagh for SACE and NRDC. And staff would suggest that the stipulated prefiled testimony and exhibits can be taken up in turn as witnesses would be called on the order of witnesses list.

CHAIRMAN CARTER: Hang on one second. Let me step back here. Oh, I see some of those witnesses are also for rebuttal. That's why they're listed twice. Okay. Good.

All right. Now the next thing you were saying after --

MS. FLEMING: As far as when we move in the stipulated testimony and exhibits? We've provided the Commissioners a cheat sheet with the order of witnesses.

CHAIRMAN CARTER: Okay.

MS. FLEMING: And what we would suggest is when we get to those witnesses on the list, we would move in their prefiled testimony and any exhibits at that time.

CHAIRMAN CARTER: Okay. We'll do that. And we'll do that as the witnesses come up so that way we'll have a natural flow to things. You may proceed.

MS. FLEMING: Staff has prepared the Comprehensive Exhibit List, and at this time staff would ask the Comprehensive Exhibit List, which is Exhibit Number 1, be marked and moved into the record.

CHAIRMAN CARTER: Are there any objections by any of the parties? Without objection, show it done.

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

MS. FLEMING: Staff has also compiled stipulated exhibits which contain interrogatories, PODs, technical potential studies, as well as the Ten-Year Site Plans. Those are contained as Exhibits 2, 3, and 4

in the staff exhibit list. With respect to Exhibit 4, staff would like to note that Items 3 and 10, which is the deposition transcript of John Haney, and the late-filed deposition Exhibits 1 through 4 to the deposition of John Floyd are not in this exhibit as of yet. But staff would ask permission to supplement this exhibit after lunch, if, if that's possible. But staff would still ask that we go ahead and move in Exhibits 2 through 4 into the record.

CHAIRMAN CARTER: Are there any objections of the parties?

MR. GUYTON: Mr. Chairman, I just want to make sure, does that include the FECC?

MS. FLEMING: No, it does not.

MR. GUYTON: Okay. No.

CHAIRMAN CARTER: Okay. Without objection, show it done.

(Exhibits 2, 3, and 4 marked for identification and admitted into the record.)

You may proceed, staff.

MS. FLEMING: The next exhibit is a hearing exhibit, Number 133, which is what Mr. Guyton was just asking about. This is the FECC Governor's Action Plan. It was discussed at the prehearing conference that it would be identified as a hearing exhibit. And at this

point staff would ask that the hearing -- or the exhibit be moved into the record.

CHAIRMAN CARTER: Are there any objections?

MS. BROWNLESS: May I?

CHAIRMAN CARTER: Ms. Brownless, good morning. You're recognized.

MS. BROWNLESS: Thank you. Where is that on, on the pages you handed out to us, Katherine?

MS. FLEMING: It would be on Page 29. It's -- Page 29 starts the section with hearing exhibits, and we've designated as Exhibit Number 133.

MS. BROWNLESS: Okay. Thank you.

CHAIRMAN CARTER: Okay.

MR. GUYTON: Mr. Chairman --

CHAIRMAN CARTER: Yes, sir.

MR. GUYTON: -- if we might, we'd just simply like to lodge an objection for the record. If you'll indulge me, I'll just read it in. I understand it's going to be admitted.

CHAIRMAN CARTER: You may proceed.

MR. GUYTON: FPL objects to the report as evidence of what DSM, its goals should be on the grounds that the report is unsupported by a witness or testimony. FPL has had no opportunity to cross-examine the person or persons who prepared the report. FPL has

no opportunity to rebut the report. The report was prepared for the purpose of addressing an executive order, not a statutory mandate. The report was not prepared consistently with the standards set forth in FEECA and the DSM goals rule, and the report is hearsay and contains double hearsay. Thank you.

CHAIRMAN CARTER: Thank you.

Ms. Helton.

MS. HELTON: Mr. Chairman, as I understand Mr. Guyton's comments, he's just preserving his objection for the record. My recollection is at the prehearing conference you had already agreed to admit the exhibit and give it the weight it's due.

CHAIRMAN CARTER: And the ruling stands.

(Exhibit 133 marked for identification and admitted into the record.)

Let's proceed.

MS. FLEMING: Finally, Commissioners and Chairman, staff recently handed out a yellow exhibit. It is titled Gulf Power Company. It is related to Gulf's amended responses to certain interrogatories. The interrogatory responses were already included as part of staff's stipulated Exhibit Number 2, but for having a complete record we feel that the amended responses need to be put in the record. So we ask that

this be marked as Hearing Exhibit 134.

CHAIRMAN CARTER: For the record, Commissioners, that will be Exhibit Number 134. Any objection of the parties? Without objection, show it done.

(Exhibit 134 marked for identification and admitted into the record.)

Okay. Staff, you may proceed.

MS. FLEMING: Chairman, I am not aware of any other additional preliminary matters at this point.

CHAIRMAN CARTER: Are there any preliminary matters of any of the parties at this point in time?

MR. JACOBS: Mr. Chairman.

CHAIRMAN CARTER: Mr. Jacobs.

MR. JACOBS: There's one matter. We've discussed this. We will have some, some calculation corrections to one of our exhibits. We want to make sure that we get it out to the parties in advance of our witness taking the stand, so we'll probably have that available and ask that -- and distribute it to the parties. But we'll only mark it at the time he takes the stand.

CHAIRMAN CARTER: Okay. That'll be fine.

Anything further from any of the parties? Any preliminary matters from any of the parties?

Okay. We are ready to proceed with our opening statements. Each party is permitted -- has ten minutes.

Now let's go back to this -- you said that you wanted to combine yours; is that correct?

MR. GUYTON: That's correct.

CHAIRMAN CARTER: Turn your mike on.

MR. GUYTON: Thank you. That's correct. And we'll only take about 15 or 20 minutes instead of the 40.

CHAIRMAN CARTER: You want to just do 20?

MR. GUYTON: Yes, sir. Instead of --

CHAIRMAN CARTER: Okay. Chris will set it for 20.

MR. GUYTON: Yes, sir.

CHAIRMAN CARTER: Okay. You may proceed.

MR. GUYTON: Thank you. Commissioners, my name is Charlie Guyton, and it's a pleasure to appear before you again this morning. In the interest of time, the four investor-owned utilities have asked me to make one combined opening statement.

The fundamental legal requirements being implemented in this proceeding are the Florida Energy Efficiency and Conservation Act, commonly known as FEECA, and Rule 25-17.0021, your DSM goals rule, which,

as you know, was adopted in implementation of FEECA.

Now the evidence in this case provides a striking contrast. On the one hand, you have an analytically robust nearly yearlong evaluation of DSM performed by the FEECA utilities and a respected consultant, Itron. Those results were then integrated by the FEECA utilities into their respective resource plans. The methods that were followed by Itron and the utilities fully complied with FEECA as recently amended by House Bill 7135, and they even went beyond the requirements of your DSM goals rule.

On the other hand, you have proposed goals by NRDC, SACE and GDS that are back-of-the-envelope hurried type estimates. NRDC and SACE did not perform any study at all. They proposed arbitrary goals of 1 percent of sales per year. GDS's alternative, which they acknowledge is not a study, would force customers to acquire DSM resources that are not needed to provide service and it would result in rate increases in billions. Yes, I said billions of dollars.

As one rebuttal witness summarizes it, NRDC and SACE and GDS's estimates are, quote, legally bankrupt and analytically baseless, end quote. We respectfully submit that the proper choice is readily apparent and compelling.

The evidence will show that the deliberative and thorough analyses undertaken by Itron and the investor-owned utilities to develop proposed goals went beyond legal requirements because the FEECA utilities initiated a collaborative, including SACE and NRDC, to perform an exhaustive technical potential study. The NRDC and SACE had a full and equal opportunity to oversee that technical potential study, and in that study Itron analyzed 267 unique measures, 58 of which Itron, a respected consultant, had never analyzed before.

These robust technical potential results were then screened for cost-effectiveness by the investor-owned utilities under all of the Commission's approved cost-effectiveness methodology: The Participant Test, the rate impact measure or RIM Test, and the total resource cost or TRC Test. However, for the first time the RIM and the TRC Test were enhanced to capture the cost of anticipated greenhouse gas regulation emissions during the goals horizons.

This enhancement was made so that you now have two enhanced tests, E-RIM and E-TRC, so that a new requirement under FEECA could be met, that is, a consideration of cost of greenhouse gases. The use of a new E-RIM Test significantly increased the number of

measures found to be cost-effective compared to the number of cost-effective measures under the original RIM Test.

Those cost-effective measures were then screened to account for free riders. That is required by your DSM goals rule. We did this by using a two-year payback criterion, an approach that's been used in setting DSM goals in Florida for 15 years.

The fundamental idea underlying that is pretty simple. You have customer dollars that are pretty precious, and they shouldn't be given away to other customers who already have a sufficient economic incentive to embrace this measure on their own. We encourage those customers to invest in DSM through audits and through advertising, but we don't throw other customers' dollars at them when they should have a sufficient economic incentive to implement the measure themselves.

The remaining measures for each utility were then fed into Itron's sophisticated DSM ASSYST model, and two sets of achievable potential were developed for each utility. Achievable potential estimates are estimates of DSM that actually are achievable given underlying assumptions about measures, their costs, their savings, the markets, customer awareness,

incentives, and a host of other factors that Mr. Rufo will testify to.

One estimate was for the achievable potential measures that passed both the E-RIM and the participants test. The other estimate of achievable potential was for the measures that passed the E-TRC and the Participant Test. And then those two sets of achievable potential were then given back to the utilities for their integration into their respective planning processes.

For the four major IOUs the proposed goals were based on measures that passed E-RIM and the Participants test rather than measures that passed the E-TRC and the Participant Test.

Now that choice has several important advantages: One, it minimizes the DSM-related rate impacts. Two, it avoids customer cross-subsidization. Three, it avoids creating DSM winners and losers. And finally, it protects the most vulnerable customers, the low income customers. I want to address each one of those advantages.

In regard to minimizing rate impacts, measures cost-effective under the E-RIM Test will result in lower rates than if the utility built a supply-side option. In contrast, measures that are cost-effective under the

E-TRC Test will result in higher rates if the utility had built a supply-side option. So using E-RIM instead of E-TRC results in lower rates to customers.

Similarly, when one uses the E-RIM Test case to identify cost-effective measures, all customers win. They all experience lower rates than they otherwise would if the utility built to meet their need. In contrast, when one uses the E-TRC Test for cost-effectiveness, some customers win and some customers lose.

The winning customers are those that receive the incentives, reduce their kilowatt hour consumption through DSM, and even with higher rates enjoy a lower bill. But the losing customers under E-TRC are those who do not or cannot participate in DSM, and even some of the participating customers whose DSM savings, the reduced energy, is not sufficient to offset the higher rates that they'll have to pay. So the use of the E-TRC creates DSM winners and DSM losers.

An easier way or a more summary way of saying that is under E-TRC participating customers subsidize -- I'm sorry -- nonparticipating customers subsidize participating customers through higher rates.

E-RIM also better protects low income customers. E-RIM avoids the rate increases associated

with E-TRC. Low income customers have less ability to absorb discretionary rate increases. If they can't participate, then they're better served by measures that pass E-RIM that don't raise their rates, but they share in the benefits that they help pay for through ECCR.

Commissioners, the proposed goals that are based on E-RIM and the Participants test comply with your DSM goals rule in three important aspects. First, they're based on each utility's planning process, as is specifically required by (1) of your DSM goals rule. This results in utilities acquiring only the DSM that's needed to meet customer needs.

Second, these goals are reasonably achievable in that they incorporate expected participation rates that are aggressive but reasonable, not idyllic. And your DSM goals rule specifically establishes a standard of reasonably achievable, not maximum achievable.

And finally the DSM goals rule accounts for -- or the E-RIM and the participant portfolio accounts for all the specific measures that are required under your DSM goals rule in (3), such as minimizing free riders.

More importantly than satisfying your DSM goals rule, the proposals meet the requirements of FEECA as it's been amended by House Bill 7135. They reduce and control the growth rate of electric consumption.

They reduce the growth rate of weather-sensitive peak demand. They increase the conservation of expensive resources such as petroleum. They are based on the evaluation of full technical potential. They consider the cost and benefits to participants. They consider all the costs and all the benefits to the general body of ratepayers, including utility incentives and participant costs, because they pass both the E-RIM and the Participants test. They consider the need for incentives to promote energy efficiency and demand-side renewables. And, finally, they properly reflect the cost of the regulation of greenhouse gases as is required by the recent amendments to FEECA.

Now, Commissioners, you should also be aware that in addition to complying with all those legal requirements that there will be a significant amount of energy efficiency savings in Florida over the next ten years, independent of any DSM goals. The energy efficiency savings from new building codes, new federal appliance efficiency and lighting standards will be achieved without the first DSM program, and they're huge.

Those energy efficiency savings will exceed the utilities' proposed DSM goals by a factor of two. And in fact, those savings actually reduce the

utilities' achievable potential because it used to could -- we could have met it before but we can't now because it's going to be captured by a code.

And more importantly, or just as importantly, they're going to reduce the utilities' resource needs that will have to be met either through DSM or building a power plant. And you need to be aware of that in terms of examining goals in this context. Now that's the utilities' case.

In stark contrast you will hear testimony from NRDC, SACE, and GDS witnesses, and they offer a multitude of criticisms of Itron and the utilities' analyses.

Now particularly ironic are NRDC's and SACE's criticisms of Itron, the consultant that they helped to select as part of the Collaborative. Also ironic are the attacks of decisions for which they're partially responsible, such as the scope of the technical potential study, the measures chosen by the Collaborative to be analyzed, and the use of a two-year payback criterion to address free ridership.

They use scattergun criticisms to try to convince you that the deliberative, comprehensive analyses undertaken should be ignored, and instead their hurried, back-of-the-envelope calculation should be

embraced.

Now because of the radical nature of NRDC's, SACE's, and GDS's proposals, the utilities and Itron have responded extensively in rebuttal. Mr. Rufo, the Itron witness, and 12 utility witnesses rebut each of the criticisms offered to show that they are groundless. Similarly we rebut their extreme goals proposals. We show an important part, that their proposals fail to meet the new amendments to FEECA which they supposedly championed, as well as the basic fundamental requirements of the DSM goals rule.

As analytically infirm as their criticisms are, their legal analysis is even more flawed. They completely fail to acknowledge that House Bill 7135 only modestly amended FEECA, leaving intact most of the parts of FEECA that the Commission has relied upon for its historic and successful implementation. They also fail to recognize the Commission's extensive authority under Chapter 366 to set fair, just and reasonable rates remains unchanged by House Bill 7135. They read far too much into selective amendments of FEECA. They completely ignore, completely ignore the substantial body of law, both statutory and decisional, that remains unchanged. And that decisional law, that includes a Florida Supreme Court decision upholding the

Commission's use of the RIM Test in setting DSM goals.

One of the SACE nonlawyer witnesses even goes so far as to say the Commission can no longer focus on electricity rates and cannot even use or consider its Commission-approved RIM Test.

Commissioners, you have a rich heritage when it comes to your reasoned and consistent implementation of FEECA. You have led Florida to a place of leadership in your implementation of FEECA. Other states are now trying to adopt extreme measures and play catch-up for what you've achieved over the course of a deliberative 30-year period.

NRDC, SACE, and GDS disparage your implementation of FEECA, your DSM goals rule and the successful performance of Florida utilities. They erroneously suggest that Florida is not a leader in DSM, and they encourage you to abandon this reasoned and proven approach and embark on a new radical approach.

This new approach would no longer rely on utility planning processes. This new approach would no longer minimize rate impacts. This new approach would no longer avoid creating DSM winners and losers. For NRDC and SACE, this new approach is designed to achieve one primary goal, reduction of air emissions through DSM, and they would have you disregard the other

important considerations like rate impact and the resource needs of utilities.

Commissioners, the choice in this case is a choice that has been faced by other Commissions over a course of decades. In the past this Commission has consistently taken the position of protecting customers by aggressively pursuing DSM that is cost-effective and that has the results of lowering customer rates. In this case the investor-owned utilities' proposed goals meets the needs of their customers with the lowest rate impact. The utilities' proposed goals meet all the requirements of FEECA, including a new requirement that greenhouse gas costs be considered. And the utilities' proposed goals are the only goals before you that meet the requirements of your DSM goals rule.

Commissioners, please, please do not allow customer-funded acquisition of DSM to change from the reasonable pursuit of needed resources designed to minimize rates to an aggressive and costly pursuit of energy savings with little or no capacity to fuel (phonetic) benefits or reliability value. Thank you.

CHAIRMAN CARTER: Thank you very kindly. And your comments were for?

MR. GUYTON: Florida Power & Light Company, Progress Energy, Tampa Electric Company and Gulf Power

Company.

CHAIRMAN CARTER: Okay. Very good.

Good morning, Mr. Horton.

MR. HORTON: Good morning, sir.

CHAIRMAN CARTER: You're recognized, sir.

MR. HORTON: Thank you. I'm going to need five minutes or less.

CHAIRMAN CARTER: Five minutes. Let's give him five minutes, Chris.

Hang on one second. Okay. You're recognized, sir.

MR. HORTON: Thank you, sir. I'm Doc Horton on behalf of Florida Public Utilities Company, and we certainly as an investor-owned utility also concur with the comments that Mr. Guyton has presented. But in the next few days you're going to hear from a number of witnesses, but you're not going to hear any witnesses from Florida Public Utilities. Nobody had any questions and our witnesses have been excused.

But I wanted to take a second to tell you a little bit what would Mr. Eysie and our witnesses would have said had they appeared. You're familiar with our company and you know our areas of operations and the fact that we are an IOU and a FEECA utility, but we're a nongenerating utility, and there are some differences

between us and some of these other parties.

Mr. Eysie in his testimony addressed FPUC's historical and ongoing commitment to conservation, the overall process to develop goals, and he explained FPUC's approach and proposal. Goals were first established for and programs approved for FPUC in 1996 and most recently in 2005. Now these consolidated dockets that are here before you this week, FPUC was part of the Collaborative and participated in that process.

Mr. Guyton reviewed some of Itron's responsibilities, and you're certainly going to hear more as the week goes on as far as Itron's involvement in this proceeding. But in addition to the work performed for all of the FEECA utilities, Itron also conducted the economic potential for Florida Public Utilities as well as for the municipalities. Itron's analysis indicated that there is no achievable potential for residential and commercial industry energy efficiency for FPUC, and therefore FPUC has not submitted goals for 2010, 2019 in this, in this docket.

FPUC has had and met goals since 1996 and certainly since last approved in 2005, and proposes to continue the existing programs. FPUC has put a lot of effort into the development and implementation of the

existing programs, and we believe that they are in the overall best interest of our customers.

Thank you, sir.

CHAIRMAN CARTER: Thank you so kindly, Mr. Horton.

Mr. Young?

MR. YOUNG: Yes, sir. I think we'll be about maybe ten minutes.

CHAIRMAN CARTER: Ten minutes?

MR. YOUNG: Or less.

CHAIRMAN CARTER: You're recognized.

MR. YOUNG: My name is Roy Young, and I'm speaking on behalf of OUC and JEA at this time. I will allow time for JEA's attorney to add to my comments if I don't cover everything that he thinks is important.

Our colleague from Florida Power & Light has given you a very concise statement on behalf of the IOUs and we endorse most of what he said. But I would refer you to the Prehearing Order Issue Number 7. It's the issue that is of the most concern to JEA and OUC. It simply says, "In setting goals, what consideration should the Commission give to the impact on rates?" We will be focusing on that, our testimony focused on that, and that will be the primary motivation for us in this whole hearing. We don't think there's anything any more

important than the impact on rates to our customers and we hope that you will agree with that.

We, of course, are different from our fellow FEECA utilities, and we think that that difference could be profound in regard to these proceedings. As JEA and OUC are munis, you have no ratemaking authority regarding the rates that are charged to our customers. That's the responsibility of the governing body of JEA and OUC, and it's a responsibility that they take very seriously. That's why this proceeding is so important to them and their customers.

OUC and JEA are not against conservation. They are against anything that would cause the rates to its customers to increase without across-the-board benefits to all of its customers. JEA and OUC, we don't have -- they don't have stockholders that want dividends. Their stockholders are really their customers, and the dividend to their customers is the commitment to provide reliable service at the lowest possible rate.

Some of the intervenors want you to ignore the rate impact of goals on customers. Believe me, OUC and JEA cannot ignore this impact. Their customers are right in their face every day when they have Commission meetings and when they set rates.

Under FEECA law you can reward IOUs if they exceed their goals. You can add to their rate of return on equity, you can give consideration to their goal performance when you're establishing their rates, but not true, not available for OUC and JEA. Their only reward is the satisfaction that they are treating all customers fairly.

The intervenors say their suggested goals will mean lower bills. Why would our customers not like this? The answer is that the bills will only be lower for some, but the rates will be higher for all. Those unable to participate, the lower income, the seasonal, the renters, the folks that OUC and JEA have probably as much, if not more, than any other utilities in the state, they cannot absorb any kind of rate increase. And in order to make sure that all benefit from the goals is why the RIM Test is used.

As Jim Dean says in his filed testimony, it's what he refers to, I think a good statement, it's the no losers test. In all the other tests there are winners and losers. But in order to treat all of our customers fairly, the RIM Test is a no losers test.

Itron, in providing technical and achievable potential for OUC and JEA, also conducted the economic potential analysis that the investor utilities did on

their own. When Itron had finished this, and this was a much more robust study than the FIRE (phonetic) model that has been used in the past by the munis to set -- in the past conservation goal dockets. But the same result came about, and that is that none passed the RIM Test.

It is our contention that any other test other than RIM will impact rates, and I think the testimony of all the parties in this proceeding will attest to that.

OUC and JEA customers cannot stand an increase in rates. These are bad times. And even though some pushing more aggressive measures mean well, I guess, they don't put themselves in the shoes of those who are living day to day. An increase of any amount is too much at this time for a significant, significant number of folks that live in the OUC and JEA area.

$25 might not seem like a lot to a lot of folks, maybe a lot of folks in this room. But when you don't have $25 and you've got to look at where do you get that 25, do you take it from your medicine, where do you take it from, that's the point that we're concerned about. That's why we think that the impact of this proceeding on the rates is the most important thing that you can consider in this proceeding.

It might be of interest to you and I hope those well-intended intervenors to know that we at OUC

at least have recently experienced consumption levels below those proposed by them in this proceeding. With bad economic times no further incentive is needed to reduce consumptions. People are turning off their air conditioners, they're turning off their water heaters, they're turning off their TVs for a very simple reason: They don't have the money to pay their utility bill.

I think OUC at least is experiencing the worst delinquency rate that they have in the history of the company, and they're trying to work with those customers. They know that people are having bad times and you just don't want to cut people off. You want to give them every opportunity, and they're working hard with all of those.

In the last goals hearing, the PSC set OUC's DSM goals at zero for the period 2005 to 2014. In that order the PSC agreed with OUC that where no DSM measure passed both the Participant and the RIM cost-effectiveness test, no DSM measures were appropriate. None of the DSM measures evaluated by Itron passed the RIM Test. However, as I think our witnesses Mr. Halley and Mr. Vento for JEA will testify, they both offer DSM, they both offer conservation and they both offer renewable energy programs.

As to those programs, again in the last order

the Commission noted, "It is reasonable to allow OUC to determine whether or not such programs should be continued because OUC is in the best position to determine its customer needs." We ask that you in this proceeding go forth and do likewise. Thank you very much.

CHAIRMAN CARTER: Thank you, Mr. Young.

Mr. Perko.

MR. PERKO: Thank you, Mr. Chairman. In the interest of time, we'd just confirm Mr. Young's remarks.

CHAIRMAN CARTER: Thank you.

Ms. Kaufman.

MS. KAUFMAN: Thank you, Mr. Chairman, Commissioners. As I said earlier, I'm Vicki Gordon Kaufman, and I'm here on behalf of the Florida Industrial Power Users Group.

And as you're probably aware from other proceedings --

CHAIRMAN CARTER: How much time are you going to take, ten minutes?

MS. KAUFMAN: I imagine it would be less than ten minutes.

CHAIRMAN CARTER: Okay. Well, we have to have a specific time to set it to, so have you got --

MS. KAUFMAN: Okay. Eight minutes. It will

probably be less.

CHAIRMAN CARTER: Okay. Good. Thank you. You may proceed.

MS. KAUFMAN: Thank you. Sorry.

I was saying that as you probably are aware from other proceedings, FIPUG members are large industrial consumers, and electricity represents the biggest variable cost in their operations.

Having said that though, I think it's important to tell you that FIPUG members are proponents of cost-effective conservation, and in fact have implemented many conservation measures including cogeneration on their own in order to reduce consumption and demand. So FIPUG believes that cost-effective conservation is important and that it should be an aspect of each utility's portfolio.

Mr. Pollock's testimony, who is FIPUG's witness, was stipulated into the record, so you won't hear him. But I commend his testimony to you. It makes some important points.

And along those lines I would point out to you that load management programs, such as interruptible rates, play an important role in conservation and should be encouraged. In addition, cogeneration, in which waste heat which would otherwise go into the atmosphere

is used to create power, is also a very efficient method and it should be encouraged.

Now, as Mr. Pollock described in his testimony, however, there are barriers that exist currently to utilizing the full range of cogeneration, and we would ask you to consider removing such barriers, particularly the large cost differential between average fuel costs, which is what customers pay to the utility, and the costs that are paid from the utility to the cogenerator when the cogenerator is selling his power.

We would also ask you to take a look at a program that would allow customers to centrally manage their energy usage at multiple locations, and Mr. Pollock describes that and calls it multiple, multiple load management.

In addition, as has been mentioned before, as you consider the goals that you're going to set for the FEECA utilities, we strongly urge you to consider rate impact, the rate impact that such programs will have on all consumers, residential, commercial and industrial. One of your main charges is to keep rates as low as you can.

I know that, that some of us in this room have recently sat through the Tampa Electric rate case in which you granted a base rate increase to Tampa

Electric, and soon you'll have the Florida Power & Light case, the Progress case. Increase upon increase is very difficult for all consumers to deal with, and we ask you to be fully aware of the impact of some of the goals that are being suggested to you, as well as the fact that some of the goals that are on the higher end, as I understand it, the witnesses who are proponents of those goals have not even attempted to calculate what the rate impact would be. We think that's a critical question for you.

You're going to hear a lot of testimony, I am sure, about what is the most appropriate cost-effective test -- cost-effectiveness test, and we believe you should give significant weight to the RIM Test. But whatever test you ultimately choose as a result of this docket, we think that you should ensure that all utilities are performing that test in the same way, they're using the same calculations, assumptions and inputs.

And, lastly, our recommendation to you is that you open a separate docket or investigation to review how these avoided costs are being calculated and in determining why there is this big differential for the realtime payments for cogenerated power, and that you also consider implementation of the multiple load

management program that Mr. Pollock describes in his testimony. Thank you.

CHAIRMAN CARTER: Thank you, Ms. Kaufman. Mr. Jacobs. Or Ms. Brownless.

MS. BROWNLESS: Yes, sir. I'll go next, sir.

CHAIRMAN CARTER: How much time?

MS. BROWNLESS: Well, I timed mine to be five minutes and 56 seconds, so we'll go for six minutes.

CHAIRMAN CARTER: How about we give you six minutes?

MS. BROWNLESS: And I'll cede my four minutes of my ten to Mr. Jacobs.

CHAIRMAN CARTER: No problemo. Ready, Chris? You're recognized.

MS. BROWNLESS: Thank you. Good morning. I'm here today representing the Florida Solar Coalition. The Florida Solar Coalition is comprised of three groups, the Florida Solar Energy Industries Association, FlaSEIA, the Vote Solar Initiative and the Solar Alliance.

This docket will determine the megawatt goals associated with energy efficiency and demand-side renewable energy measures, which include solar water heating and solar photovoltaic systems under 2 megawatts for the five Florida investor-owned utilities and the

state's two largest municipal utilities, JEA and OUC.

FPL, TECO, Gulf and FPUC have excluded all solar technologies from the technologies used to set their goals on the grounds that they are not cost-effective under either the E-RIM or the E-TRC Test. To its credit, Progress has included solar technologies by combining solar and load management technologies and developed goals based on those programs. The other IOUs should be required to combine solar technologies with other energy efficiency measures as well.

Likewise, OUC and JEA have programs for solar hot water and PV systems in place and will continue those programs. These munis have evaluated their programs on a portfolio, not an individual measured basis. And their portfolio has been capped at 1.0 or above, so it's effective under the RIM Test on a portfolio basis.

For the Florida solar industry this docket has a significant and immediate practical impact. If solar programs are included in the IOUs' DSM programs, incentives will be paid by the IOUs for those programs and the solar industry will be able to grow, bringing the price of technology down until it reaches a cost-effective level as measured by the E-RIM and E-TRC Test. This is the recommendation of Mr. Spellman.

We support Mr. Spellman's recommendation with the suggestion that the amount allocated to solar technologies be increased to 1 percent of each IOU's 2008 retail sales revenues during the five-year goal period. This is an increase from roughly the 24.4 million recommended by Mr. Spellman for the four largest IOUs, and that's FP&L, Progress, TECO, and Gulf, to roughly 184 million.

We recommend that the funds be used to set rebates of $2 a watt for photovoltaic systems up to 50 kW, a kilowatt hour payment program be set up for larger PV systems, with incentive levels to decline according to market penetration and the decline in system-involved costs -- installed costs. We also suggest that PV customers taking advantage of this IOU incentive programs not be eligible for any other state rebate.

For solar water heating systems we recommend that the rebates be set consistent with the currently available combined state and utility rebates. From the customers' perspective it is the total out-of-pocket cost that matters, and a state rebate program without funding does not decrease that out-of-pocket cost. It is a benefit in name only.

Finally, you're going to hear a lot of testimony from both the IOU and intervenor witnesses

regarding the effect of the statutory revisions to Section 366.82 made by House Bill 7135 last year. If you listen closely, the IOU bottom line is that nothing has changed and that the Commission should continue doing exactly what it has always done for the last 15 to 20 years when setting goals. That simply is not true.

The new statutory language does make a significant difference. It specifically requires this Commission to encourage the development of demand-side renewable energy resources, solar resources less than 2 megawatts. It requires that the cost of regulating greenhouse gas emissions be taken into account. It establishes the TRC, not the RIM Test, as the appropriate test for screening demand-side and energy efficiency technologies. It provides for the Commission to give incentives when an IOU exceeds its goals and penalties when it does not.

If the Commission simply continues to do what it has always done, it is ignoring the Legislature's clear directives as stated in Section 366.82. We are confident that the Commission will closely examine the statute and will not do so, meaning will not ignore the legislative intent.

The solar industry is ready to work with Florida to realize this opportunity to build a robust

and sustainable solar energy industry and market, a market that will reduce its dependence on fossil fuel and create a strong 21st century renewable energy economy.

In this docket Florida can begin the process of creating solar energy programs that take advantage of the existing 30 percent federal tax investment credit, solar programs that can generate renewable energy credits or attributes which can be used to comply with anticipated federal and state renewable portfolio standards.

The process of making Florida the Sunshine State in reality as well as in name starts with this Commission, and the Florida Solar Coalition looks forward to working with the Commission to fulfill that goal.

CHAIRMAN CARTER: Thank you.

Mr. Jacobs, four minutes.

MR. JACOBS: I'm sorry?

CHAIRMAN CARTER: Four minutes.

MS. BROWNLESS: No. Fourteen minutes.

MR. JACOBS: Fourteen. I'm sorry.

MS. BROWNLESS: I ceded my four to him.

MR. JACOBS: We have ten and she, she ceded the remaining.

CHAIRMAN CARTER: Oh, I see how it is. Okay.

MR. JACOBS: It was the same consolidation as the other --

CHAIRMAN CARTER: That's okay. Not a problem. Not a problem. Give Chris a moment to reset the timer.

Fourteen minutes. Chris, you got it?

Mr. Jacobs, you're recognized, sir.

MR. JACOBS: Thank you, Mr. Chairman and Commissioners. On behalf of the Natural Resources Defense Council and the Southern Alliance for Clean Energy, we thank you for the opportunity to participate in this important docket, these dockets.

And these dockets are significant opportunities for the Commission. First, you have a tremendous opportunity to affect the economy of the State of Florida. Consumers in Florida have spoken. They've spoken loudly. On the bottom lines of each one of these utilities is evidence of that. They want ways to cut their bills. They're doing it, as has already been described to you, in fairly significant levels.

So they're looking for ways to, to reduce a household expense that has proven itself to be highly volatile and very unmanageable.

Second, at the same time you have an opportunity to address a critical matter of public

policy, energy policy. You stated on many occasions that we need to decrease energy diversity. Here is an incredible way to do that.

Thirdly, the Commission has the opportunity, while it addresses these goals, to address some important public policy goals that the Legislature has clearly enunciated: The reduction of the state's reliance on fossil fuels and the alleviation of state carbon emissions.

Energy efficiency is that critical resource. Consumers in Florida understand that. They've resorted to that. They know the reduction of consumption is the direct path to managing this incredible resource expense in their households. There can no longer be any question then about the viability of energy efficiency. The question simply is whether the Commission should pursue the full range of cost-effective energy options that will benefit Florida's consumers. They need to lower their bills and they will continue to follow that path. Now the question becomes do we follow the preference that the utilities have expressed to you today?

Historically the Commission has tended to defer to the utilities and has adopted only selective energy efficiency measures. As a consequence, Florida

has not realized the full and true potential of this resource and has left on the table significant savings that consumers can reap through this one policy initiative.

According to energy statistics, Florida's track record supports the utilities' claims that they have reduced peak demand through demand reduction programs. These favor utility operations. However, those same statistics show very clearly that utilities have missed opportunities to diversify Florida's energy portfolio through energy efficiency.

Our witness John Wilson identifies a persistent pattern of sacrificing energy reduction programs in order to reduce peak system demand, thus leaving Florida's consumers to contend with this ever increasing burden of energy expense in their homes and their businesses. Customers, customers in Florida are harmed by this because of highly beneficial energy efficiency programs which have not been introduced. As a result, Florida consumers are paying extra on their portions of their household income to energy.

Now the evidence of successful energy efficiency programs exists right here in Florida among utilities that have appropriately valued and deployed energy efficiency measures. These utilities have

recently achieved energy efficiency gains of close to 1 percent of their sales.

In contrast, the seven utilities in this proceeding have asked for goals between zero and 1.5 percent over ten years versus an annual reduction for the other utilities who have looked at it more aggressively. Such goals are, for these, for this docket are astonishingly low and undermine the potential of Florida utilities to better serve their customers, while depriving this agency and the citizens of this state of an incredibly important resource to address challenges in energy markets.

There can be little question as to why the utilities strenuously resist goals that would provide customers greater relief. Under the current structure, when utilities -- when customers pay lower bills, the utilities' opportunities to achieve greater profit is compromised.

Question: If you accept the premise that simply the reduction in consumption yields rate impact, the consumers would be ill-advised, if not unintelligent, to be reducing their consumption today. They're just putting off a payoff for later. For them to be reducing their consumption today, as is clearly evident by the sales of these utilities, simply means

they want to have their rates increased later. That's, that's the premise that you'll hear today. Reduced consumption yields greater rate impact. I don't think consumers are saying that to you.

In 2008 I think the Legislature said as much. It acknowledged the trend of, of minimal impact from energy efficiency and it determined that more was required of this important resource. The Legislature made careful amendments to the statutes which make up the federal energy, Florida Energy Efficiency and Conservation Act, known as FEECA.

These revisions are clear and direct. Any reasonable legal interpretation must conclude that the amended statute requires this Commission to use a new test for setting energy efficiency goals, a test that will allow Florida's consumers viewed as a whole to benefit from the full range of energy efficiency measures.

Commissioners, you earlier indicated in your response to our petition for rulemaking that you would address these public policy changes in these proceedings. We welcome this opportunity and we ask that you would seriously consider and fulfill that promise.

As our witness Ralph Cavanagh demonstrates,

the amended statute requires a changed analysis from this Commission. The utilities would have you think today that that's a great loss, that there's a great evil in doing that. Simply put, the amendments made by the Legislature require both specific direction and changes in manner and process by which a cost-effectiveness test is done, and a greater consistency in the overall implementation of this important public policy initiative so as to eliminate barriers and disincentives used to resist the application of many energy efficiency measures.

Commissioners, this is not a rate case, but rather a balancing process that considers rates. Totally different perspective. Specifically we believe that all seven utilities have unfortunately viewed it in such a way as to devalue energy efficiency, and they've done so in several ways. First of all, by screening out measures of high potential value using the rate impact test and recommending their demand-side management goals. This is contrary to the clear language of the amended statute.

The Commission should follow the Legislature's direction and use the total resource cost test to qualify measures in setting DSM goals. Only by employing the TRC Test, which considers the full range

of benefits to customers as a whole, will this Commission ensure that it complies with the amendments and the Legislature's overarching directive to maximize the potential of energy efficiency in the state's energy portfolio.

It is also critical that the Commission reevaluate a very onerous tactic that's implemented in this statute, the two-year payback restriction. This is a particularly onerous tactic used by the utilities to devalue energy efficiency. Through this restriction the utilities have arbitrarily eliminated the most cost-effective measures which have a payback of less than two years. This tactic amounts to a reverse cost-effectiveness test and has the effect of arbitrarily eliminating hundreds of measures that go directly to consumers' pocketbooks.

As we will demonstrate, omitting such measures does not make sense and results in Florida leaving the opportunity for millions of dollars of savings on the table in this proceeding.

Finally, all the utilities have devalued energy efficiency by significantly underestimating their avoided cost when an appropriate DSM plan is implemented. We urge you to devote a high degree of scrutiny to the avoided cost calculus in this proceeding

because it holds deep and lasting impact for your ability to set sound public policy. All avoided costs should be included in the calculation and all plants might -- for all plants that might be avoided, even those that have received a certificate of need. Should -- these should be the correct measurement and the correct bucket of avoided cost that you use to generate these goals.

Fortunately you have some important precedents to help you guide your decision, particularly in the experiences of the City of Gainesville. In 2005, the City of Gainesville adopted policies which we believe are virtually identical to those that the Legislature has prescribed by the 2008 FEECA amendments. The success of Gainesville's program demonstrates that the course established by this Legislature will lead to significant savings by the Legislature -- by customers and make Florida more competitive and energy secure.

The city of Gainesville has been able to help their customers lower their bills while concurrently meeting the city's public policy objectives. These policies in Gainesville are now reaping real and significant benefits both on behalf of the city's electric utility and its customers.

Thus, far from sending you off into a deep

void, as has been, has been suggested today, we're here for a very important and I think a very deliberate process. The focus of these proceedings must be reasoned and purposeful implementation of the amended, of the amended statute. This will require, as the Legislature directed, that this Commission assess the full technical potential of all available measures.

While we have pointed out some omissions in the technical study, the most significant flaws in the utilities' programs concern the assessment of the economic and achievable potential. The record presented by the utilities shows that energy efficiency gains of at least 1 percent are achievable, and we recommend that these be adopted immediately while we, while the utilities are required to correct the deficiencies in their existing analysis.

We believe that your discretion in implementing the new statute must adhere to a consistent, rational balancing of the public policy initiatives on the FEECA. Yes, there is legal precedent. We believe now that you have the ability to look, to reassess and relook at your discretion under the amended statute, and I think you will find that the Legislature has given you somewhat of a narrow road as to how you will do that.

As members of NARUC, you're probably aware of a national discussion on this topic that prescribes a least-cost life cycle approach to these, to these questions. The State of California has followed these recommendations and instituted a formal broad rulemaking in which it is looking at the full scope of issues as to how you do a full and robust full-bodied DSM program. I would recommend that proceeding to you. I'm sure you're well aware and have the ability to do much on your own.

Under this approach there is -- this long-term least-cost approach, there's negligible impact on rates. That evidence is becoming very clear. And so the hue and cry about the mere presence of rate impact I think is misguided.

The Commission has prescribed a rich -- I'm sorry. Again, the evidence presented to you and the recommendation of the utilities in this proceeding completely fail to propose such a reasoned process. For these reasons we ask that you exercise your discretion to fully balance the record in this proceeding and devote particular scrutiny to the evidence presented regarding the potential of energy efficiency in Florida, that you accord energy efficiency its true value to all those affected in achieving the public policy objectives set out by the Legislature, that you set standards of a

new potential study, and upon the basis of a complete and equitable potential analysis establish final goals.

In the interim, we request that you establish goals for each jurisdictional utility under FEECA that ramp up to 1 percent of these sales over a three- to four-year horizon.

Again, we thank you for the opportunity and we look forward to this proceeding.

CHAIRMAN CARTER: Thank you, Mr. Jacobs. I finally got a chance to see the red light today.

MR. JACOBS: It didn't blink, I think.

CHAIRMAN CARTER: It did not blink. You're correct. And we'll reset it.

Good morning, Mr. Susac. You're recognized.

MR. SUSAC: Good morning, Chairman. I think you will be happy to hear that we will yield our time to the red light in less than 30 seconds.

We would like to just thank you as Prehearing Officer granting our intervention, working with your professional staff to enable us to file posthearing comments. Thank you.

CHAIRMAN CARTER: Thank you, Mr. Susac.

And thank you to all of the parties. I appreciate your adherence to our new system here, and I think it kind of helps us all do what we need to do.

Staff, are there any other preliminary matters before we start with the witnesses?

MS. FLEMING: I'm not aware of any matters, Chairman.

CHAIRMAN CARTER: Any of the parties, before we start with the witnesses, are there any other preliminary matters from any of the witnesses? Okay. I'll take your silence as being golden, as being no. Right?

Now the witnesses --

MR. JACOBS: One moment. I'm sorry.

CHAIRMAN CARTER: Oh, Mr. Jacobs, you're recognized, sir.

MR. JACOBS: One brief matter, Mr. Chairman.

CHAIRMAN CARTER: Okay. You're recognized.

MR. JACOBS: There will be a series of counsel appearing to cross-examine. We have submitted qualified representation petitions on each of them, just for your information.

CHAIRMAN CARTER: Okay. And I think that -- Ms. Fleming, I think that we -- most of those we've already taken care of; is that correct?

MS. FLEMING: Yes. The order was issued this morning. For your reference, it's Order Number PSC-09-0554-FOF-EG.

MR. JACOBS: Thank you.

CHAIRMAN CARTER: Okay. And before we begin, always let's remember -- I'm going to give you the shorthand version of it. No friendly cross. And if you have to know -- if you don't know what that means, then you're in the wrong place.

I think Judge Padovano states it clearly in his book on civil procedure. But, again, let's conduct ourselves -- this is a hearing. We have to respect the process. In America we believe in the rule of law. That's what keeps us from going out back of the building with guns and knives and resolving issues. This is a far more civilized approach, I think.

With that, no preliminary, no additional preliminary matters. For those of you that are wishing to speak today, are there any witnesses that will be speaking, would you please stand and I can swear you in as a group.

(Witnesses collectively sworn.)

Thank you. Please be seated.

Now let me just say to those of you that will be giving your statements, for each one of the witnesses, the order states that you'll have five minutes for your summation of your testimony, and we'll have the same illumination system here. I hope there's

no one color blind here today. If so, just go in order of the lights, and I'll turn it so you can see it better. But we'll have the same system for our witnesses here. And I think with that, that will be most convenient for all parties involved.

Let me take one second and see, check with our court reporter and then we'll begin. One second.

(Pause.)

Okay. Thank you so kindly. We -- we've got a good -- we're off to a good start. We're off to a real good start this morning.

Would you please call your first witness.

MS. CANO: Thank you, Chairman Carter. FPL calls John Haney.

Oh, I apologize. I apologize. FPL calls Steven Sim.

CHAIRMAN CARTER: Okay. Steven Sim.

You did say Steven Sim, didn't you?

MS. CANO: Yes.

Whereupon,

STEVEN SIM

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

DIRECT EXAMINATION

BY MS. CANO:

Q. Good morning, Dr. Sim.

A. Good morning.

Q. Have you just been sworn in?

A. Yes, I have.

Q. Would you please state your name and business address?

A. 9250 West Flagler Street, Miami.

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

A. By Florida Power & Light Company as Senior Manager, Integrated Resource Planning, in the Resource Assessment and Planning Department.

Q. Have you prepared and caused to be filed 86 pages of prefiled direct testimony in this proceeding?

A. Yes.

Q. And did you also prepare and cause to be filed one errata sheet to your direct testimony?

A. Yes.

Q. Do you have any other changes or revisions to your prefiled direct testimony to make at this time?

A. No, I don't.

Q. With the errata, if I were to ask you the same questions contained in your prefiled direct testimonied today, would your answers be the same?

A. Yes.

MS. CANO: Chairman Carter, I ask that the prefiled direct testimony of Dr. Sim be inserted into the record as though read.

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

BY MS. CANO:

Q. Are you also sponsoring exhibits to your testimony?

A. Yes, I am.

Q. And are those exhibits true and correct to the best of your knowledge?

A. Yes.

Q. Do those consist of Exhibits SRS-1 to SRS-12?

A. Yes.

MS. CANO: Mr. Chairman, I would note that these exhibits have been premarked for identification on staff's exhibit list as Numbers 5 through 16.

CHAIRMAN CARTER: For the record, exhibits for identification only, 5 through 16.

(Exhibits 5 through 16 marked for identification.)

MS. CANO: At this time I also have one additional exhibit to distribute. This is the errata sheet to the deposition transcript of Dr. Sim.

CHAIRMAN CARTER: Okay. You may proceed. Let's take a moment, everyone. Let's kind of -- leave one for Commissioner Skop as well. There you go. Thank you. Just hang on before you begin. I want to make sure that --

MS. CANO: I would just point out that his deposition transcript has already been stipulated into the record, so this is just the errata sheet.

CHAIRMAN CARTER: Okay. Let me make sure that all the parties have a copy before we proceed further, and give our staff a copy. Staff?

MS. FLEMING: We haven't received a copy yet.

But, Chairman, I would ask that this be marked as hearing Exhibit 135.

CHAIRMAN CARTER: Okay. For the record, Commissioners, this will Exhibit Number 135, the errata sheet for the deposition of Dr. Steven Sim, 135 from the exhibit list.

(Exhibit 135 marked for identification.)

Okay. You may proceed.

MS. CANO: Thank you.

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

FLORIDA POWER & LIGHT COMPANY

DIRECT TESTIMONY OF DR. STEVEN R. SIM

DOCKET NO. 080407 - EG

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Q. Please state your name and business address.

A. My name is Steven R. Sim, and my business address is 9250 West Flagler Street, Miami, Florida 33174.

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

A. I am employed by Florida Power & Light Company (FPL) as Senior Manager of Integrated Resource Planning in the Resource Assessment & Planning Department.

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

A. I supervise and coordinate analyses that are designed to determine the magnitude and timing of FPL's resource needs and then develop the integrated resource plan with which FPL will meet those resource needs.

Q. Please describe your education and professional experience.

A. I graduated from the University of Miami (Florida) with a Bachelor's degree in Mathematics in 1973. I subsequently earned a Master's degree in Mathematics from the University of Miami (Florida) in 1975 and a Doctorate in Environmental Science and Engineering from the University of California at Los Angeles (UCLA) in 1979.

While completing my degree program at UCLA, I was also employed full-time as a Research Associate at the Florida Solar Energy Center during 1977 - 1979. My responsibilities at the Florida Solar Energy Center included an evaluation of Florida consumers' experiences with solar water heaters and an analysis of potential renewable resources including photovoltaics, biomass, wind power, etc., applicable in the Southeastern United States.

In 1979 I joined FPL. From 1979 until 1991, I worked in various departments including Marketing, Energy Management Research, and Load Management, where my responsibilities concerned the development, monitoring, and cost-effectiveness of demand side management (DSM) programs. In 1991 I joined my current department, then named the System Planning Department, where I held different supervisory positions dealing with integrated resource planning. In late 2007 I assumed my present position.

Q. Are you sponsoring any exhibits in this case?

A. Yes. I am sponsoring Exhibits SRS-1 through SRS-12, which are attached to my testimony:

Exhibit SRS-1	Projection of FPL's Resource Needs for 2010-2019 with No Incremental DSM Signups After 2009;
Exhibit SRS-2	Economic Elements Included in the DSM Cost-Effectiveness Tests: Benefits Only;
Exhibit SRS-3	Economic Elements Included in the DSM Cost-Effectiveness Tests: Benefits and Costs;

Exhibit SRS-4	Summary Results of the DSM Cost-Effectiveness Screenings;
Exhibit SRS-5	Results of Sensitivity Case Analyses of DSM Cost-Effectiveness Screening: Economic Potential Screening Analysis Only;
Exhibit SRS-6	Fuel Cost Forecast Values Utilized in the Analyses;
Exhibit SRS-7	The Environmental Compliance Cost Forecasts Utilized in the Analyses;
Exhibit SRS-8	Comparison of the Five Resource Plans: Economic Analysis Results and Consequences;
Exhibit SRS-9	Example of Levelized System Average Electric Rate for One Resource Plan: E-RIM 664 MW;
Exhibit SRS-10	Projection of Average Customer Bill and Bill Differentials Assuming 1,200 kWh Usage;
Exhibit SRS-11	Comparison of the Five Resource Plans: Projection of System Emissions; and,
Exhibit SRS-12	Comparison of the Five Resource Plans: Projection of System Oil and Natural Gas Usage.

Q. What is the scope of your testimony?

A. My testimony addresses ten main points.

(1) I briefly discuss FPL's resource planning process.

(2) I discuss how FPL determines what its future resource needs are projected to be. I also discuss FPL's projection of additional resource needs for the 2010-2019 time period assuming no incremental DSM signups after 2009.

(3) An overview of FPL's general approach to evaluating DSM resource options is provided.

(4) I briefly discuss the various cost-effectiveness tests that FPL used to analyze DSM options versus a competing Supply option and describe enhancements that FPL has made to its DSM cost-effectiveness analyses. I also discuss these cost-effectiveness tests in regard to the cost-effectiveness analysis language in HB 7135.

(5) An overview of FPL's DSM Goals analytical process that was used to first develop four DSM portfolios, and was then used to develop five resource plans with which the DSM portfolios were analyzed, is provided.

(6) I provide details of the DSM cost-effectiveness screenings that led to the development of the DSM portfolios, and I discuss the results of a number of DSM cost-effectiveness sensitivity case analyses that were performed at the request of the Florida Public Service Commission ("Commission" or "FPSC") Staff.

(7) I discuss the development of the four DSM portfolios and the creation of four DSM-based resource plans that included these DSM portfolios. I also discuss a fifth resource plan - a Supply Only resource plan that contained no incremental DSM.

(8) The results of the economic analyses of the five resource plans are presented.

(9) The results of the non-economic analyses of these resource plans are presented.

(10) I summarize the results of the economic and non-economic analyses of the resource plans and draw a conclusion as to what DSM-based resource plan, and accompanying DSM portfolio, is the best overall choice for FPL's customers as the basis for FPL's DSM Goals for 2010 – 2019.

Q. Please summarize your testimony.

A. In FPL's resource planning work in 2009, FPL evaluated how much incremental DSM was cost-effective and feasible for the 2010 through 2019 time period; i.e., the time period to be addressed in this DSM Goals docket.

This evaluation began with an assumption that FPL would add no incremental DSM signups beyond what is currently planned through the year 2009. Based on this assumption, two projections of FPL's incremental resource needs for the years 2010 through 2019 were made. One projection was made assuming that all of these incremental resource needs would be met only with Supply options (i.e., new generation and/or firm capacity purchases). The other projection was made assuming that all of these incremental resource needs would be met only with DSM options.

Using the results of the collaborative analysis of the technical potential for DSM that is addressed in FPL witness Haney's testimony, FPL first applied the Participant cost-effectiveness test, and enhanced versions of the Rate Impact Measure (RIM) and Total Resource Cost (TRC) cost-effectiveness tests, to the DSM measures identified in the technical potential work. (The enhanced versions of these tests are referred to as the E-RIM and E-TRC tests and these will be discussed later in my testimony.) In addition, FPL's two-year payback criterion that is designed to minimize potential "free riders" (i.e., customers who would have adopted a specific DSM measure without a utility DSM program and/or incentive payment from the utility) was applied to these DSM measures.

These analyses determined which DSM measures were potentially cost-effective on the FPL system and the incentive level that could be paid to potential participants under each of the two "utility perspective" cost-effectiveness tests, E-RIM and E-TRC. Using this information, FPL developed two different pairs of projections of the achievable potential for DSM measures; one pair of projections for the DSM measures identified in the E-RIM test as potentially cost-effective and one pair of projections for the DSM measures identified in the E-TRC test as potentially cost-effective. (The term "achievable potential" as used in my testimony refers to the maximum number of signups for each DSM measure without any adjustments.) Each of these projections provided, for each DSM measure that remained after the

cost-effectiveness screening, the projected maximum numbers of annual participants, MW reductions, and GWh reductions.

This information was then utilized to develop four separate DSM portfolios of DSM measures:

- An E-RIM-based portfolio (i.e., a portfolio of measures passing both the E-RIM and Participant tests) that had sufficient DSM to at least meet FPL's projected resource needs through 2019;
- An E-TRC-based portfolio (a portfolio of measures passing both the E-TRC and Participant tests) that had sufficient DSM to at least meet FPL's projected resource needs through 2019;
- An E-RIM-based portfolio that utilized all of the achievable potential DSM based on the E-RIM test; and,
- An E-TRC-based portfolio that utilized all of the identified achievable potential DSM based on the E-TRC test.

These four DSM-based portfolios were developed after accounting for various criteria and/or constraints that will be addressed later in my testimony.

These four DSM portfolios were then used to develop four DSM-based resource plans: two E-RIM-based resource plans and two E-TRC-based resource plans. In order to both assist with the development of, and to provide a more meaningful analysis of, these four DSM-based resource plans, a fifth

resource plan was also developed: the Supply Only resource plan that included no incremental DSM signups after 2009.

FPL then analyzed the five resource plans from both economic and non-economic perspectives. In the economic analysis, the levelized system average electric rate perspective was utilized to compare the five resource plans. In addition, the economic analysis evaluated the resource plans in regard to whether the incremental DSM included in each plan would result in cross-subsidization of one customer group by another customer group. In the non-economic analysis, two perspectives were taken. First, for each of the five resource plans, the projected FPL system emissions of sulfur dioxide (SO_2), nitrogen oxides (NO_x), and carbon dioxide (CO_2) were compared. Second, the five resource plans were compared in regard to projections of FPL system usage of oil and natural gas.

In regard to the economic analyses alone, the E-RIM 664 MW plan emerged as the clear winner. Regarding the non-economic analyses alone, no one plan emerged as the clear winner. However, all of the economic impacts of system fuel usage and emissions were fully accounted for in the economic analyses that identified the E-RIM 664 MW plan as the best plan for FPL's customers, i.e., the non-economic portion of the analysis has been effectively included in the economic portion.

FPL concludes that the E-RIM 664 MW portfolio should be the basis for FPL's DSM Goals for the 2010 – 2019 time period. This DSM portfolio fully meets FPL's projected resource needs through 2019, results in the lowest levelized average electric rates over the 34-year term of the analyses for all five plans, results in the lowest average rates and bills among the four DSM-based resource plans for the 2010 – 2019 time period, best avoids or minimizes cross-subsidization of one customer group by another, results in lower SO_2 and NO_x system emissions and system oil usage than the Supply Only plan for most years, and results in the lowest system SO_2 and NO_x emissions and system oil usage of any plan for at least one year.

Consequently, FPL's petition for approval of its DSM Goals for the 2010 – 2019 time period is a request for the Commission to approve the E-RIM 664 MW portfolio.

I. FPL'S RESOURCE PLANNING PROCESS

Q. What are the objectives of FPL's resource planning process?

A. FPL's basic integrated resource planning (IRP) process was developed in the early 1990s and, with numerous enhancements over the years, has been used since that time to determine: 1) the timing of when new resources are needed, 2) the magnitude (MW) of the needed resources, and 3) the types of resources that should be added. The determination of the types of resources that should

be added is typically based primarily on what resources result in the lowest average electric rates for FPL's customers.

It should be noted that when only Supply options (i.e., power plants or power purchases) are the resources in question, the determination can be made on the basis of lowest total costs. In cases addressing only Supply options, the outcome when viewing results from the lowest total cost perspective is the same as when viewing results from the lowest average electric rate perspective, because the number of kilowatt-hours (kWh) over which the costs are distributed or recovered from customers does not change, as would be the case when DSM resources are being examined. Consequently, when only Supply options are being analyzed, the results of a total cost analysis indicate simultaneously both a total cost and an electric rate perspective.

Q. Please provide an overview of this resource planning process.

A. The IRP process has four main tasks. These four tasks are as follows:

- Task 1: Determine the magnitude and timing of FPL's new resource needs.
- Task 2: Identify the resource options and resource plans that are available to meet the determined magnitude and timing of FPL's resource needs (i.e., identify the available competing options and resource plans).
- Task 3: Evaluate the competing resource options and resource plans in regard to system economics and non-economic factors.

- Task 4: Select a resource plan from which FPL management will commit, as needed, to the nearer-term options.

Q. Was this resource planning approach used to analyze the DSM resource options?

A. Yes. The IRP process outlined above describes the basic approach that FPL takes in its major resource planning efforts, including previous DSM Goals dockets, and which was taken in the analyses presented in this filing.

In regard to the analysis work conducted for this filing, each of the four tasks outlined above was performed. Once the timing and magnitude of FPL's resource needs were established, FPL then identified resource options that could meet those needs. These options included a wide range of DSM measures that were applicable to FPL and potentially cost-effective, plus Supply options with which the DSM options must compete. FPL then developed five resource plans that included these competing resource options. System economic and non-economic analyses were then conducted, and a decision was made as to the best resource plan and associated resource options for FPL's customers.

II. FPL'S PROJECTION OF RESOURCE NEEDS FOR 2010-2019

Q. How does FPL decide whether it needs additional future resources?

A. FPL uses two analytical approaches in its reliability analyses to determine the timing and magnitude of its future resource needs. The first approach is to make projections of reserve margins both for Winter and Summer peak hours for future years. A minimum reserve margin criterion of 20% is used to judge the projected reserve margins. The 20% reserve margin criterion is based on the reliability planning standard that FPL believes is the appropriate criterion, that FPL is committed to maintain, and that the Commission approved in Order No. PSC-99-2507-S-EU issued in Docket No. 981890-EU.

The second approach is a Loss-of-Load-Probability (LOLP) methodology. Simply stated, LOLP is an index of how well a generating system may be able to meet its demand (i.e., a measure of how often load may exceed available resources). In contrast to the reserve margin approach, the LOLP approach looks at the daily peak demands for each year, while taking into consideration the probability of individual generators being out-of-service due to scheduled maintenance or forced outages. LOLP is typically expressed in units of "numbers of times per year" that the system demand could not be served. FPL's LOLP criterion is a maximum of 0.1 days per year. This LOLP criterion is generally accepted throughout the electric utility industry.

For a number of years, FPL's projected need for additional resources has been driven by the Summer reserve margin criterion. This again was the case in FPL's reliability analysis that was the basis for FPL's projected resource needs for 2010-2019.

Q. In making its projection of FPL's future resource needs, what were the assumptions used?

A. The primary assumptions used in making the projection of resource needs include: FPL's January 2009 load forecast, FPSC-approved generating unit additions, a projection of new firm and non-firm capacity renewable additions, the temporary removal from active service of specific generating units as they are placed on Inactive Reserve status and their return to active service, and no incremental DSM signups after the end of 2009.

Q. What is the implication of assuming no incremental DSM signups after the end of 2009?

A. This assumption has two implications. First, it allows FPL to start its DSM Goals analyses for the 2010 – 2019 period with the proverbial "clean sheet of paper" in which previous decisions regarding DSM implementation for 2010 and beyond are discarded, allowing a fresh look at DSM in light of current load forecasts, fuel cost forecasts, etc. Second, the removal of the previously projected DSM signups after 2009 increases the magnitude (MW) of FPL's projected resource needs and moves those projected resource needs closer to the present. The resulting greater magnitude of, and earlier timing of, future

resource needs will tend to increase the projected cost-effectiveness of DSM options by showing a greater resource need.

Q. What was the magnitude and timing of the projection of resource needs?

A. The incremental resource need projection for 2010-2019 is presented in Exhibit SRS-1. Column (9) of this exhibit shows what the projected resource needs are if the resource needs are met solely by Supply options while Column (10) shows what the projected resource needs are if the resource needs are met solely by DSM options.

These columns show that FPL's first resource need is in 2017. In 2017, the resource need is relatively small: 160 MW if the need is met solely by Supply options or 134 MW if met solely by DSM options. (The difference in the two values is caused by FPL's 20% reserve margin criterion. For example, if FPL's projected load grows by 100 MW, FPL can meet this need by either implementing 100 MW of new DSM or by adding 120 MW of new Supply options. Either option would result in an identical reserve margin value.)

There is no resource need in 2018, due to the projected addition of the Turkey Point Unit 6 nuclear unit, but there is an additional resource need in 2019. In 2019, the projected resource need is 796 MW if the need is met solely by Supply options or 664 MW if met solely by DSM options.

Exhibit SRS-1 also shows that, if these levels of Supply or DSM additions are added to meet the Summer resource needs, these additions will also satisfy the lower resource needs dictated by the Winter reserve margin criterion.

(Note: The MW values mentioned above, and which are presented in Exhibit SRS-1, are MW values "at the generator"; i.e., after line losses have been accounted for. FPL's resource planning work typically uses only MW values "at the generator". Therefore, unless otherwise noted in either my testimony or exhibits, all MW values will be "at the generator" values.)

Q. What was the impact of FPL's current load forecast on FPL's projected resource needs?

A. FPL's 2009 load forecast is lower than FPL's 2007 and early 2008 load forecasts, both in terms of peak demand and annual net energy for load. There are two basic impacts of the current peak demand forecast on FPL's projection of resource needs compared to previous resource need projections based on prior load forecasts.

First, FPL's projected next resource need is pushed out in time. As mentioned above, FPL's projected first resource need does not appear until 2017 and the first resource need of any significant size is projected to occur in 2019. Second, the magnitude of FPL's projected resource need is smaller. As discussed above, the total resource need through 2019 is approximately 664 MW if that resource need were to be solely met by incremental DSM signups

starting in 2010. This projected resource need over ten years is significantly smaller than with previous load forecasts.

Consequently, the impact of FPL's new, lower load forecast is that FPL's need for new resource additions – whether Supply or DSM resources – is later and smaller than previously projected.

Q. What does this lower load forecast and projection of lower resource needs mean in regard to energy efficiency for FPL's customers?

A. It means that energy efficiency and/or DSM will continue to play a growing role for FPL's customers, but that the relative amounts of energy efficiency that are delivered to FPL's customers through two different "paths" will likely change compared to what has occurred in previous years.

One of the two paths to providing energy efficiency/DSM to FPL's customers is through cost-effective FPL DSM programs and the other is through federally mandated appliance efficiency and lighting standards. The impacts of the latter, appliance efficiency and lighting standards based on the 2005 National Energy Policy Act (NEPACT) and the 2007 Energy Independence and Security Act (EISA), are already reflected in FPL's lower load forecast.

These updated appliance efficiency and lighting standards are one of several significant "drivers" of the new lower load forecast. FPL's 2009 load forecast reflects a projection of approximately 895 MW of Summer peak load

reduction, and a projection of approximately 8,925 GWh of annual energy reduction, by 2019 due to these updated standards, over and above the projected impact of federal standards in FPL's previous load forecast. This large amount of additional energy efficiency projected to be realized from the updated federal standards lowers FPL's forecasted load which, in turn, significantly lowers FPL's future resource needs through 2019. As a consequence, there is less need for any new resource, whether DSM or Supply options, through 2019.

There is another impact from these updated federal standards beyond a lowering of FPL's projected needs. Prior to these updated federal standards, the large amount of energy efficiency projected to be realized from the standards would have been available for utility DSM programs to address. Thus, the potential for energy efficiency delivered through utility DSM programs is diminished by the updated federal standards.

FPL's IRP process recognizes the reality of the growing impact of appliance efficiency and lighting standards through the incorporation of the energy efficiency impacts of these standards in FPL's load forecast, resulting in projections of lower resource needs through 2019. The analyses conducted for this DSM Goals docket uses this projection of lower resource needs as the starting point to determine the appropriate role for FPL's DSM programs to meet those lower resource needs.

In summary, the updated federal appliance efficiency and lighting standards result in two impacts to DSM cost-effectiveness analysis. The first impact is a lower projection of need for additional resources, regardless of whether the resources are Supply or DSM options. The second impact is that higher appliance efficiency and lighting standards lower the potential efficiency gains that utility DSM programs can deliver.

Q. Are you suggesting that one should consider both the updated federal appliance efficiency standards and utility DSM programs when viewing how much energy efficiency/DSM will be ultimately delivered to FPL's customers over the next 10 years?

A. Yes. As described above, FPL's customers are projected to receive approximately 895 MW and 8,925 GWh of additional energy efficiency through these federally mandated standards by 2019. FPL's January 2009 load forecast reflects these reductions and the forecast is the starting point for FPL's analyses of how much utility-sponsored DSM is cost-effective for its customers. Therefore, this amount of utility-sponsored DSM, which will be discussed later in my testimony, should be added to the approximately 895 MW from the federal standards to obtain a full and complete picture of how much total energy efficiency/DSM FPL's customers will receive in the 2010 – 2019 time frame.

III. FPL'S GENERAL APPROACH FOR EVALUATING DSM OPTIONS

Q. Earlier you provided an overview of FPL's integrated resource planning (IRP) process. How does FPL approach the analysis of DSM resource options within this IRP process?

A. A fundamental guiding principle of integrated resource planning is that all resource options, Supply and DSM options, are competing options and that analyses should evaluate all resource options on a level playing field in order to determine which of these competing options is (are) the best choice(s) for a utility's customers. FPL agrees with this guiding principle and seeks to incorporate it in its IRP process.

FPL's view is that, to the extent practical, a Supply option must compete both with other Supply options and with DSM options to earn a place in FPL's resource plan. Similarly, a DSM option must compete both with other DSM options and with Supply options to earn a place in FPL's resource plan. In addition, FPL's IRP process is designed to evaluate all resource options, both Supply and DSM options, on a level playing field.

Q. How do FPL's IRP analyses seek to achieve a level playing field for Supply and DSM options?

A. FPL's analyses are designed to achieve a level playing field through two approaches. First, FPL's IRP analyses typically compare each resource option's impacts on the FPL system from both economic and non-economic

perspectives. The economic perspective considers the impact on electric rates and also examines the question of "cross-subsidization"; i.e., whether one group of customers is subsidizing another group due to the selection of a resource option. The non-economic perspective considers the impacts on system emissions and system fuel usage.

Both emissions and fuel usage have economic impacts, and these impacts are fully captured in the economic analyses. However, emissions and fuel usage are frequently discussed in non-economic terms such as tons of emissions and mmBTU of fuel usage. I will discuss them in similar terms in this testimony. The use of these different perspectives in examining the various impacts of the competing resource options on the FPL system ensures that resource decisions are made with broad knowledge of the variety of impacts resource options will have on the FPL system and FPL's customers.

FPL's IRP process also seeks to evaluate resource options on a level playing field in another very important way. For each resource option, FPL's analyses attempt to include a complete set of costs and benefits that will directly impact FPL's customers for each of the perspectives discussed above. This ensures that the analyses are as complete as possible and that a level playing field is maintained throughout the analyses.

Q. Did FPL incorporate these two approaches to achieve a level playing field in its analyses presented in this docket?

A. Yes. Later in my testimony I will present the results of the analyses of resource plans based on DSM and Supply options from each of these four system perspectives: electric rates, cross-subsidization of one customer group by another group, system emissions, and system fuel usage. I will also discuss the aspect of using a complete set of costs and benefits in DSM analyses when discussing the different DSM cost-effectiveness tests.

IV. VARIOUS COST-EFFECTIVENESS TESTS USED TO ANALYZE DSM OPTIONS

Q. Which DSM cost-effectiveness tests were used in FPL's analyses that are presented in this docket, and what information are the tests intended to convey?

A. FPL utilized three basic DSM cost-effectiveness tests in these analyses: the Participant test, the RIM test, and the TRC test. All three tests are designed to provide economic information regarding the DSM option being evaluated. The intent of the Participant test is to determine if it makes economic sense for a potential participant to participate in a specific FPL DSM program. The purported intent of the other two tests is to determine if it makes economic sense for the utility system as a whole; i.e., for non-participants as well as for participants, for FPL to offer the DSM option. However, as will be discussed

in my testimony, only one of these two tests really addresses the issue of whether it makes sense for a utility to offer a DSM option when considering all customers on a utility system.

Q. Are all three cost-effectiveness tests currently required by the Florida Public Service Commission?

A. Yes. All three tests, the Participant test, the RIM test, and the TRC test, are currently required by the Commission as part of the Commission-approved cost-effectiveness methodology.

Q. Please discuss the primary differences in these three tests.

A. The differences in the three tests can best be described by comparing the specific economic elements that are included in each test. Exhibit SRS-2 presents a comparison of the economic elements that are included in the calculation of the benefits for each test.

A listing of the types of DSM-related economic benefits that DSM program participants obtain, and that utility systems obtain, from DSM measures appears in the two shaded columns. Adjacent to the shaded columns are columns that indicate whether a specific cost-effectiveness test actually incorporates those economic benefits in the test.

Two main conclusions can be drawn from this exhibit. First, all three tests include all of the relevant economic impacts that represent benefits from either participating in, or from implementing, a DSM measure. This is

obviously a desirable characteristic for these tests to have. Second, in regard to the RIM and TRC tests, the tests are identical in regard to the calculations of benefits that can be derived from DSM measures. In other words, these two tests will provide an identical calculation of benefits for a specific DSM measure.

Q. Do the three tests also include all relevant DSM-related costs, and do the RIM and TRC tests provide an identical calculation of costs for a specific DSM option?

A. No, not all of the tests include all of the relevant DSM-related costs. Exhibit SRS-3 expands the benefits-only perspective presented in Exhibit SRS-2 to also include DSM-related costs. Several additional conclusions can be drawn from this exhibit that presents a complete perspective of these cost-effectiveness tests.

First, the Participant test includes all of the relevant DSM-related costs that will be incurred by a customer who may participate in a DSM program. Therefore, the Participant test fully accounts for all benefits and costs that are received and/or incurred by a potential participant in a DSM program. This is obviously a good thing.

Second, the RIM test also includes all of the relevant DSM-related costs that will be incurred by the utility and its customers, both DSM participants and non-participants. Therefore, the RIM test fully accounts for all benefits and

costs that are received and/or incurred by all of a utility's customers if the utility decides to offer a DSM program. This is obviously a good thing as well.

Third, the TRC test does not include all of the DSM-related costs that will be incurred by the utility and all of its customers. This so-called "total resource cost" test omits the incentive payments made to DSM program participants, costs that are recovered from all of the utility's customers. The TRC test also omits the economic impact of unrecovered revenue requirements on the utility's electric rates. In addition, the TRC test includes the participant's out-of-pocket costs for participating in the DSM program. These participant's out-of-pocket costs are not recovered from all of a utility's customers, and these costs are already captured in the Participant test.

Therefore, only the combination of the Participant and RIM tests correctly include all of the economic impacts, benefits and costs, which are incurred by all of a utility's customers when DSM options are implemented. The TRC test omits two important costs/economic impacts and "double counts" the participant's costs which are already captured in the Participant test.

The use of the combination of both the RIM and Participant tests achieves the objective of creating and maintaining a level playing field for IRP analyses because all of the relevant DSM-based benefits and costs are included. On the

other hand, because the TRC test does not include all of the relevant DSM costs and economic impacts when comparing DSM to Supply options, the TRC test, whether alone or paired with the Participant test, does not allow DSM options to be compared on a level playing field to Supply options.

In summary, the Participant test includes all of the relevant benefits and costs that a customer who is considering participating in a DSM measure would consider. Similarly, the RIM test includes all of the relevant benefits and costs that all of the utility's customers would incur if the utility implements a DSM measure. Conversely, although the TRC test includes all of the relevant DSM-based benefits that a utility's customers would realize, this test does not include all of the DSM-related costs. This is a fundamental flaw in the TRC test.

Q. What is the practical result of the TRC test omitting some significant DSM-related costs?

A. Because the TRC test only recognizes a subset of DSM-related costs, more DSM options, either in the form of the number of measures or the amount of MW or GWh, will "pass" the TRC test than will pass the RIM test, which correctly includes all of the relevant costs and economic impacts of DSM options.

All relevant costs and benefits are included in FPL's analyses of Supply options. The inclusion of all relevant costs and benefits of DSM options that is

accomplished by using the RIM test allows FPL to evaluate Supply and DSM options on a level playing field; i.e., a principle of IRP analyses.

Conversely, comparing resource options on a level playing field is simply not possible with the TRC test, because this test omits significant DSM-related costs, thus giving an erroneous advantage to DSM options when they are compared to Supply options. As a result, a resource plan developed based on the TRC test would not be the most cost-effective resource plan for the utility's customers.

Q. If one were to overlook the fact that the TRC test gives an erroneous advantage to DSM options over Supply options, would there be other undesirable consequences?

A. Yes. There are a number of serious and undesirable consequences. First, the use of the TRC test would violate the fundamental principle of integrated resource planning: evaluating competing resource options on a level playing field.

Second, the use of the TRC test rather than the RIM test would tend to lead to the selection of more DSM than is truly cost-effective if all DSM-related costs were accounted for. Such an occurrence would, in turn, lead to a sub-optimal resource plan.

Third, the inclusion in a resource plan of DSM measures that "passed" the TRC test, but did not pass the RIM test, would result in higher electric rates than if either the competing Supply option or RIM-based DSM measure had been chosen.

Fourth, the inclusion in a resource plan of DSM measures that "passed" the TRC test, but did not pass the RIM test, would result in customer cross-subsidization with non-participants in those DSM measures paying higher bills due to the higher electric rates than if either the competing Supply option or RIM-based DSM had been chosen. Therefore, the use of TRC-based DSM measures results in "winners" (participants in TRC-based DSM measures) and "losers" (all other customers) among a utility's customers. I'll return to the issue of cross-subsidization later in my testimony as I discuss the economic analysis results.

Fifth, from the Commission's perspective, the use of the TRC test would prevent the Commission from having a complete picture of all of the costs of the DSM options being compared to a competing Supply option. From my experience in a variety of need determinations and prior DSM Goals filings, I believe that the Commission always seeks to have a full accounting of costs associated with both Supply and DSM options. The use of the TRC test would not provide the Commission with a full accounting of DSM-related costs for their deliberations.

Q. Has FPL made any enhancements to its analytical approach regarding these cost-effectiveness tests?

A. Yes. FPL's analyses in support of its recent determination of need filings, including the filings for the supercritical coal units, the nuclear uprates, the Turkey Point Units 6 & 7 new nuclear units, the West County Energy Center Unit 3, and the conversions/modernizations of FPL's existing Cape Canaveral and Riviera units, have each included the economic impact of environmental compliance costs for specific emissions including sulfur dioxide (SO_2), nitrogen oxides (NO_x), and carbon dioxide (CO_2). These analyses first determined the projected system net emissions (after accounting for any allowances that FPL is projected to have) for resource plans that each included a specific competing resource option. Then projected environmental compliance costs (generally in terms of $/ton of a given emission) were applied to the projected system emissions for each resource plan to ensure that the costs of these system emissions are captured in the economic analyses.

In order to maintain a level playing field for all resource options, FPL has enhanced its DSM analyses to include these environmental compliance costs. This accounting for projected environmental compliance costs is included in all of the analyses of Supply and DSM options that are presented in FPL's filing in this docket. In this way, FPL is able to economically quantify the impacts that DSM options have on a utility's system emissions in the same way they are quantified when analyzing Supply options. This helps ensure that

all resource options are analyzed on a level playing field in FPL's IRP process.

Q. Therefore, is it correct to assume that the RIM and TRC test methodologies that FPL now utilizes are not the same as FPL has utilized in the past?

A. Yes. FPL's inclusion of environmental compliance costs in both the RIM and TRC cost-effectiveness methodologies results in both cost-effectiveness calculation approaches being significantly different from those used by FPL in the past. Taking the RIM test methodology for example, one could correctly view the new RIM calculation methodology as an Environmental RIM (E-RIM) methodology. The new E-RIM methodology allows DSM options to continue to be analyzed on a level playing field with Supply options for which environmental compliance costs are included.

Therefore, the two cost-effectiveness tests will generally be referred to as the E-RIM and E-TRC tests in the remainder of my testimony.

Q. Because this same improvement was made to the previously used version of the TRC test, does this change overcome the previously discussed problems with the TRC test?

A. No. The correct way to interpret FPL's changes to the TRC test to now include environmental compliance costs, thus resulting in an E-TRC test, is that these changes prevent the still fundamentally flawed E-TRC test from falling even further behind the E-RIM test in its ability to allow comparison of

DSM and Supply options on a level playing field. The fundamental flaws in the TRC test, its failure to account for the significant DSM costs and economic impacts of incentive payments to participants and unrecovered revenue requirements, and its "double counting" of participant costs already accounted for by the Participant test, still remain in the E-TRC test. These flaws are as detrimental as ever when trying to analyze competing resource options on a level playing field.

Q. In practical terms, what is the impact of incorporating environmental compliance costs in the cost-effectiveness screening of DSM options?

A. The basic outcome of incorporating environmental compliance costs in DSM cost-effectiveness screening is two-fold when compared to DSM screening results in which these environmental compliance costs are not included. First, DSM programs with higher kWh reduction to kW reduction ratios (such as certain energy efficiency programs) will generally have higher total benefit values than they otherwise would have. Second, DSM programs with lower kWh reduction to kW reduction ratios (such as load management programs) will generally have lower total benefit values than they would have had otherwise.

This does not mean that all energy efficiency programs will now pass both the E-RIM and E-TRC tests, nor does it mean that all load management programs will now fail both the E-RIM and E-TRC tests. What it means is that the benefit-to-cost ratios under both tests will move in the directions described

above: assuming all else remains the same, the benefit-to-cost ratios for energy efficiency programs will be higher and the benefit-to-cost ratios for load management programs will be lower.

Q. *In your opinion, does the enhanced E-RIM test fully account for the costs and benefits of DSM programs with higher kWh reduction to kW reduction ratios?*

A. Yes. Historically, the TRC test – despite its obvious fundamental flaws – has been favored by some in large part because it tended to favor DSM programs with larger kWh reductions which might fail the RIM test. These proponents of the TRC test willingly overlooked the obvious flaws in the TRC test because this flawed test generally "passed" more DSM measures and/or DSM MW or GWh. Passing more DSM, particularly DSM measures with high kWh-to-kW reduction ratios, was seen as inherently "good", because it was believed these measures would reduce a utility system's emissions, even though these emission "benefits" were often not quantified.

However, the enhanced E-RIM test not only incorporates the emission impacts of these (and all other) DSM measures, but also places a monetary value on the emission impacts in the same way monetary values are calculated for the emission impacts of Supply options.

Therefore, the E-RIM test is a significant advancement in regard to continuing to analyze DSM programs and Supply options on a level playing field. The E-

RIM test retains the fundamental concept found in the previously used version of the RIM test - the incorporation of all DSM-related costs that allow a comparison of options on a level playing field. In addition, the E-RIM test now incorporates environmental compliance costs, using the same bases for these costs as are used when analyzing Supply options, thus accurately quantifying the monetary impact of system emission impacts from all DSM programs.

Now one no longer needs to settle for – and there is no logical rationale for using - a fundamentally flawed test such as TRC based on the notion that it favors higher kWh reduction DSM programs. The E-RIM test gives full economic value to emission reductions for all DSM programs and does so while retaining the IRP objective of a level playing field for both DSM and Supply options which is necessary to arrive at an optimal resource plan for a utility's customers.

Q. Do the DSM cost-effectiveness tests used by FPL in the analyses presented in this docket meet all of the items listed in HB 7135 that the Commission, according to HB 7135, "shall take into consideration"?

A. The answer is "yes" for the E-RIM and Participant tests and "no" for the E-TRC test.

HB 7135 lists the following four items that the "commission shall take into consideration" in regard to cost-effectiveness tests used in DSM evaluation:

a) "The costs and benefits to customers participating in the measure."

b) "The costs and benefits to the general body of ratepayers as a whole, including utility incentive and participant contributions."

c) "The need for incentives to promote both customer-owned and utility-owned energy efficiency and demand-side renewable energy systems."

d) "The costs imposed by state and federal regulations on the emission of greenhouse gases."

In regard to item (a), "The costs and benefits to customers participating in the measure," FPL's analyses use two pairs of cost-effectiveness tests: the E-RIM and Participant tests, and the E-TRC and Participant tests. The Participant test is specifically designed to account for all DSM-related costs incurred by, and all DSM-related benefits provided to, DSM program participants. Therefore, the pairing of either the E-RIM or E-TRC test with the Participant test ensures that all of the costs and benefits to customers participating in a DSM measure are accounted for.

Regarding item (b), "The costs and benefits to the general body of ratepayers as a whole including utility incentives and participant contributions", the use of the E-RIM and Participant tests allow this requirement to be met. As previously explained, although both the E-RIM and E-TRC tests account for all DSM-related benefits that are realized by all ratepayers, only the E-RIM

test accounts for all DSM-related costs, including utility incentive payments made to program participants, that are passed on to all of FPL's ratepayers, and the negative impacts of unrecovered revenue requirements on customers' electric rates. Furthermore, the pairing of the E-RIM test with the Participant test ensures that all participant contributions are fully accounted for because of the inclusion of the Participant test.

Conversely, the E-TRC test, even when paired with the Participant test, does not comply with item (b) because it omits the two DSM-related costs/economic impacts described above.

Item (c), "The need for incentives to promote both customer-owned and utility-owned energy efficiency and demand-side renewable energy systems," is a moot point in regard to the cost-effectiveness tests that FPL is utilizing in the analyses presented in this docket. At this time, FPL is neither receiving nor requesting such incentives.

Item (d), "The costs imposed by state and federal regulations on the emission of greenhouse gases" s fully addressed in the E-RIM and E-TRC tests that FPL used for the analyses in this docket. Although there are currently no state or federal regulations regarding the emission of greenhouse gases, FPL's analyses in this docket utilized a projected set of compliance costs for carbon dioxide (CO_2) in both its E-RIM and E-TRC analyses.

In summary, the analyses based on the use of the E-RIM and Participant tests fully address all of these four items listed in HB 7135. Conversely, the analyses based on the use of the E-TRC and Participant tests fail to address item (b) of HB 7135 because the E-TRC test does not account for all DSM-related costs that are incurred by all of FPL's ratepayers.

V. AN OVERVIEW OF FPL'S DSM GOALS ANALYTICAL PROCESS

Q. Please provide a brief description of FPL's DSM Goals analytical process?

A. The analytical process that FPL utilizes in its DSM Goals work consists of seven main steps. These analytical steps are typically performed sequentially over a number of months by two FPL departments - the Resource Assessment & Planning (RAP) department and the Demand Side Management (DSM) department. For the 2009 DSM Goals analyses, an outside consultant, Itron, was utilized for some of the steps.

Q. Please provide a brief summary of these seven steps in the analytical process.

A. These seven analytical steps can be summarized as follows:

Step 1: Determine DSM Technical Potential:

In this first step, a wide variety of DSM measures is examined to determine which measures are technically feasible for application in FPL's service territory. This step results in a large number of DSM measures being identified as technically feasible. In 2009, these efforts utilized a collaborative approach and an outside consultant, Itron. FPL witness Haney discusses the Step 1 activities in more detail in his testimony. All of the DSM measures identified in this step as technically feasible for FPL are carried forward to the second step in the process.

Step 2: Initial Cost-Effectiveness Screening of DSM Measures:

In this step, the DSM measures identified as being technically feasible for application in FPL's service territory undergo initial economic screening to judge the potential cost-effectiveness of the measures if implemented on FPL's system. Both the E-RIM and E-TRC cost-effectiveness tests are used in a pairing with the Participant test in this step. In addition, a two-year payback criterion is used to minimize the potential for free riders.

For those measures that pass this cost-effectiveness screening step, a maximum incentive amount for each measure that results in at least a "breakeven" result (benefits equal costs; i.e., a 1.00 benefits-to-cost ratio) for each of the cost-effectiveness test pairs is identified. These measures and their associated maximum possible incentive levels are carried forward to Step 3 to

finalize the cost-effectiveness screening analyses and determine the final incentive amount. Those measures that do not pass this initial cost-effectiveness screening in Step 2 are not evaluated further.

Step 3: Determine Maximum Incentive Levels for DSM Measures and Finalize Cost-Effectiveness Screening:

In Step 3, this maximum possible incentive amount identified in Step 2 for each remaining DSM measure is further evaluated and may be adjusted. Using this value as a starting point, FPL may adjust the incentive amount for a particular DSM measure downward for one or two reasons.

First, in regard to the analyses conducted with the E-RIM and Participant tests, FPL wants each DSM measure to result in positive net benefits under the E-RIM test. It may not be able to do this if the previously calculated maximum possible incentive value is used without an adjustment.

For example, suppose that the maximum possible incentive level results in total costs equaling total benefits in the E-RIM test results; i.e., a net benefits value of zero. In such a case, FPL may lower the incentive by an amount which will result in positive net benefits for the measure and which allows some cushion for the measure to remain cost-effective if other costs and/or benefits change over time as they frequently do.

Second, an adjustment in the incentive payment level may occur when FPL determines the years-to-payback period for a potential participant in the DSM measure. If this projected period is less than two years, FPL would typically lower the incentive amount to a point where the projected payback period is at least two years. This "two-year payback" criterion is designed to minimize the occurrence of free riders. The two-year payback criterion is applied to DSM measures when using either the E-RIM and Participant tests approach or the E-TRC and Participant tests approach. FPL witness Haney discusses the concept of free riders and the two-year payback criterion in his testimony.

If, after the previously identified maximum possible incentive value has been appropriately lowered as described above, and a non-zero incentive amount remains, the DSM measure is judged to have survived Step 3 of the analysis process.

At the end of Step 3, an incentive amount for each surviving DSM measure under both pairs of cost-effectiveness tests has been identified. These surviving or remaining DSM measures under both pairs of cost-effectiveness tests, and their associated incentive amounts, are carried forward to Step 4.

Step 4: Determine DSM Achievable Potential:

In this step, the remaining DSM measures and their associated incentive amounts under each of the cost-effectiveness tests are used to develop

projections of the maximum number of participants that can reasonably be signed up for each DSM measure annually over the 10-year period of 2010 through 2019.

The resulting projection of the maximum number of participants that can be reasonably signed up annually for each DSM measure over the 10-year period without any adjustments, and the corresponding projected MW reductions, are referred to in my testimony as the achievable potential of DSM. Three sets of achievable potential values for both pairs of cost-effectiveness tests were developed. I will return to these three sets of achievable potential values later in my testimony. FPL witness Haney and Itron witness Rufo also discuss this concept and related work in their testimonies.

Step 5: Develop DSM Portfolios:

Four DSM portfolios are developed in this step, two associated with each of the pairs of cost-effectiveness tests. (Note: in my remaining testimony, I will refer solely to the E-RIM and E-TRC portfolios with the understanding that the results of the Participant test have been accounted for in all portfolios.)

For each specific cost-effectiveness test, a list of all DSM measures that survived the economic screening, the associated incentive amount for each DSM measure and the corresponding achievable potential projections (annual participants and MW reductions) serve as inputs to the work. This information

is used to develop specific DSM portfolios that at least meet FPL's projected resource needs with the lowest total DSM-related costs that are applicable to the specific cost-effectiveness test being used. Each portfolio must also meet certain practical program implementation constraints.

The four DSM-based portfolios can be described as follows:

1) E-RIM 664 MW portfolio;
2) E-TRC 664/1,093 MW portfolio;
3) E-RIM 949 MW portfolio; and,
4) E-TRC 1,153 MW portfolio.

The first two portfolios are designed to meet at least all of FPL's resource needs through the 2019 time period. The third and fourth portfolios are based on the maximum achievable potential MW projections. These projections, 949 MW for E-RIM and 1,153 MW for E-TRC, are for DSM amounts that are clearly greater than what is called for (664 MW) to meet FPL's projected resource needs by 2019.

Each DSM portfolio will have specific characteristics that include its annual MW reduction capability, annual GWh reduction capability, and associated costs. Once the four DSM portfolios are completed, these portfolios are carried forward to Step 6.

Step 6: Develop Resource Plans:

The four DSM portfolios are then used to create four DSM-based resource plans that will be referred to by the same names as the portfolios. These four resource plans are created by examining FPL's projected remaining resource needs once the DSM portfolio has been accounted for, then adding Supply options "after" the DSM portfolio to address years beyond 2019 in the analyses. This ensures that each resource plan meets FPL's reliability criteria and that the resource plans are comparable. These four DSM-based resource plans, plus a Supply Only resource plan that includes no additional DSM signups beyond 2009, are then analyzed in Step 7.

Step 7: Analysis of Resource Plans:

As previously discussed, these five resource plans are then evaluated in a system analyses that determine the levelized system average electric rates, the ability to avoid or minimize cross-subsidization of one customer group by another, system emission levels for SO_2, NO_x, and CO_2, and system usage levels of oil and natural gas for each resource plan. These results for each resource plan are then compared to each other.

VII. DETAILS OF THE DSM COST-EFFECTIVENESS SCREENINGS AND THE RESULTS OF VARIOUS SENSITIVITY CASE SCREENING ANALYSES

Q. Which of the seven steps listed in the previous section will your testimony address in more detail?

A. My testimony will address the work that was performed for the following four analytical steps:

- Step 2: Initial Cost-Effectiveness Screening of DSM Measures;
- Step 3: Determine Maximum Incentive Levels for DSM Measures and Finalize Cost-Effectiveness Screening;
- Step 5: Develop DSM Portfolios;
- Step 6: Develop Resource Plans; and,
- Step 7: Analysis of Resource Plans.

FPL witness Haney's testimony will address the work that was performed for Steps 1 and 4.

Q. What are the objectives of the initial screening calculations of DSM measures performed in Step 2?

A. The objectives of the initial cost-effectiveness screening performed in Step 2 are to: (i) compare the present value of the DSM-related benefits and costs, to all customers, that are applicable to the cost-effectiveness test being utilized, and (ii) compare the present value of the DSM-related benefits and costs that apply to DSM participants. Those DSM measures that emerge with positive

net benefits (i.e., the present value of benefits is greater than the present value of DSM costs accounted for by each cost-effectiveness test) are said to have "survived" the initial screening. These surviving DSM measures are potentially cost-effective DSM resource options for the FPL system. As previously discussed, these DSM measures are evaluated further in Step 3 to finalize the cost-effectiveness analysis for each measure and to finalize the incentive payment amount for each measure.

Q. How are these initial screening calculations carried out?

A. FPL's cost-effectiveness screening of each DSM measure that emerged from Step 1 followed two cost-effectiveness screening "paths." One path examined the cost-effectiveness of each DSM measure from the perspective of the E-RIM test, the Participant test, and the two-year payback criterion that addresses the issue of free riders. The other path examined the cost-effectiveness of each DSM measure from the perspective of the E-TRC test, the Participant test, and the two-year payback criterion.

Prior to proceeding down each of these two cost-effectiveness screening paths, FPL first took the 2,321 DSM measures that were identified for FPL in the technical potential analyses and reduced those measures to a more workable number of measures. This reduction was accomplished by grouping certain commercial and industrial measures that are identical except for the fact that the measure would be applied to a different building type. Each of these identical commercial and industrial measures was reduced to a single

"collapsed" DSM measure for purposes of cost-effectiveness screening. (Residential and new construction measures were not collapsed.) Then, at the conclusion of the cost-effectiveness screening work, those "collapsed" measures that passed all of the screening steps are "expanded" so that all of the applicable building types for those measures are individually accounted for in the achievable potential work that follows.

Therefore, FPL's cost-effectiveness screening work evaluated 844 DSM measures, some of which had been collapsed as mentioned above. These 844 measures then started down the two screening paths described above. Each path utilized up to five screening steps as applicable to the cost categories that are included in the specific cost-effectiveness test, E-RIM or E-TRC, being utilized, the Participant test, and the two-year payback criterion.

These five cost-effectiveness screening steps each utilize a full accounting of projected benefits from DSM and a step-by-step accounting of DSM-related costs. These screening steps can be summarized as follows:

Screening Step (1): In the initial screening step, each of the 844 DSM measures is evaluated using only the costs of unrecovered revenue requirements for the E-RIM test, and the participant's out-of-pocket costs for the E-TRC test. For purposes of this docket, the results of this screening step are referred to the "economic potential" for DSM (despite

the fact that these results represent only the beginning step of a multi-step economic analysis). Those measures passing this screening step are carried forward to Screening Step (2), while measures failing at this step are dropped from further analyses.

Screening Step (2): In the second screening step, administrative costs are now added to those costs considered in the initial screening step for both the E-RIM and E-TRC paths. As before, only those measures passing this step are carried forward.

Screening Step (3): This screening step applies only to the E-RIM screening path and only to certain DSM measures. In this step, for those remaining measures that do not pass the Participant test without an incentive payment, the amount of incentive payment needed to be added to result in a Participant test benefit-to-cost ratio of 1.00 is first calculated. Then that incentive payment is also applied for the E-RIM test, and it is determined if the measure still passes the E-RIM test. Those measures passing this step are carried forward. (Note that this screening step does not apply to the E-TRC path because the TRC test does not account for incentive payments made by a utility to participating customers.)

Screening Step (4): The two-year payback criterion is applied in this step to both of the paths. For each remaining measure, a calculation is made to

see if a participant's incremental out-of-pocket costs will be fully recovered from bill savings in two years or less without any incentive payment from the utility. Only those measures for which the participant's costs are not fully recovered in two years are carried forward to the last screening step.

Screening Step (5): The two-year payback criterion is again applied in this step to both of the paths, but this time the utility's incentive payment is included. The incentive payment needed, for certain measures, to make the Participant test equal 1.00 is now included in the two-year payback calculation. Those measures passing this final screen are deemed to have passed FPL's cost-effectiveness screening.

Q. How did FPL determine what the type and cost of the competing generating unit would be that the DSM measures would be compared to in these cost-effectiveness screening steps?

A. Using the projection of resource needs presented in Exhibit SRS-1, it is clear that FPL's next significant resource need is projected to be in the year 2019. FPL projects that if the 2019 resource need were to be met with a Supply option, FPL's construction option would be a combined cycle (CC) unit similar to the 3x1 G CC units now being constructed at FPL's West County Energy Center (WCEC). Because no site for a potential generating unit to be added in 2019 has been selected, it was assumed that, for cost-effectiveness

screening purposes, the generating unit that DSM would be compared to would be a greenfield CC unit.

FPL developed a "Supply Only" resource plan for purposes of the analyses in this docket which meets the capacity needs outlined in Exhibit SRS-1. This resource plan assumes no incremental DSM signups after 2009, includes a short-term purchase in 2017 to address the small one-year resource need in that year, and includes a new greenfield CC unit in 2019. The Supply Only resource plan is similar to the resource plan presented in FPL's 2009-2018 Ten Year Site Plan with three exceptions: incremental DSM signups after 2009 have been removed, the return-to-service dates of some of FPL's generating units that will be temporarily placed on Inactive Reserve status have been changed, and a five-month firm power purchase in 2017 for 160 MW has been added.

The cost and performance inputs assumed for this 2019 CC unit are similar to those for the CC unit used in FPL's determination of need filings for WCEC Unit 3 and for the conversions/modernizations of FPL's existing units at the Cape Canaveral and Riviera sites. The capital and operating costs were updated to account for current projections of cost escalation to an in-service year of 2019, while the size of the unit (1,219 MW summer rating) and the heat rate (6,582 BTU/kWh) were unchanged.

Q. What were the results of the cost-effectiveness screenings performed in Step 2?

A. The results of the cost-effectiveness screenings are presented in Exhibit SRS-4. As shown in this document, FPL started with 844 DSM measures in both its E-RIM and E-TRC cost-effectiveness screening paths after first collapsing the original list of 2,321 total DSM measures as explained above.

In screening Step (1), the E-RIM test screening, 665 DSM measures remained in the E-RIM path after accounting for unrecovered revenue requirements, and 641 DSM measures remained in the E-TRC path after accounting for participants' out-of-pocket costs.

The inclusion of administrative costs in screening Step (2) resulted in the remaining number of measures further lowering to 602 in the E-RIM path and 585 in the E-TRC path.

Screening Step (3), which accounts for incentive payments and applies only to the E-RIM path as explained above, resulted in the number of remaining measures in the E-RIM path being reduced to 476 measures. The number of remaining measures in the E-TRC path remained unchanged at 585.

Screening Step (4) applies the two-year payback criterion without incentives to the remaining DSM measures in both paths. This resulted in the number of

remaining measures lowering to 279 in the E-RIM path and 310 in the E-TRC path.

Finally, the two-year payback criterion with incentives was applied in screening Step (5) to determine the final number of collapsed DSM measures that passed FPL's cost-effectiveness screening: 279 for E-RIM and 305 for E-TRC.

These DSM measures were then expanded back to derive a total number of DSM measures passing FPL's cost-effectiveness screening for both paths. Those numbers were 885 measures for E-RIM and 928 measures for E-TRC. These measures, along with their respective incentive payment levels, were then transmitted to Itron in order to calculate the achievable potential for each of these measures. FPL witness Haney's and Itron witness Rufo's testimonies discuss the achievable potential work.

Q. Did FPL perform any sensitivity case analyses in regard to DSM cost-effectiveness screening?

A. Yes. The FPSC Staff requested that the utilities involved in this docket perform sensitivity cases in regard to DSM cost-effectiveness screening in order to better understand what impact various assumptions might have on the cost-effectiveness of DSM measures. To that end, FPL performed five sensitivity DSM cost-effectiveness screening analyses in which only one or two assumptions were changed from the assumptions used in the "base case"

analyses previously described. All other assumptions from the base case were unchanged in these sensitivity cases.

The five sensitivity cases FPL analyzed are the following:

- Sensitivity Case 1: increase the capital cost of the avoided generation unit by 10%;
- Sensitivity Case 2: decrease the capital cost of the avoided generation unit by 10%;
- Sensitivity Case 3: use a high band fuel cost forecast and a high band CO_2 compliance cost forecast;
- Sensitivity Case 4: use a low band fuel cost forecast and a low band CO_2 compliance cost forecast; and,
- Sensitivity Case 5: assume there are no compliance costs for CO_2.

Q. Please discuss the basis for these changed assumptions.

A. For Sensitivity Cases 1 and 2, the amount of change, a 10% increase or decrease from the base case assumption, in the projected capital cost of a future generation unit was selected because it was deemed to be within the range of change in the projected capital cost for new generation that FPL might see over the course of a typical year or so; i.e., if this screening analysis had been done a year earlier or later than now.

For Sensitivity Cases 3 and 4, FPL used its November 2008 fuel cost forecast base case assumption as the starting point for the high and low fuel cost

forecasts. These base case forecasted costs for all fuel types were then increased in the high fuel cost forecast (and decreased in the low fuel cost forecast) by certain fixed percentage values. These percentage values typically vary from one fuel type to the next and from one forecast to another.

Regarding the CO_2 compliance cost forecasts, FPL used forecasts that were prepared at the same time its base case CO_2 compliance cost forecast was prepared. (All of these compliance cost forecasts were used in FPL's most recent determination of need filings and are being used in FPL's current nuclear cost recovery filing.) The highest forecasted CO_2 compliance cost was used in Sensitivity Case 3, and the lowest non-zero forecasted CO_2 compliance cost was used in Sensitivity Case 4. In both of these sensitivity cases, the base case assumptions for SO_2 and NO_x compliance costs were unchanged.

Finally, FPL assumed that there were no CO_2 compliance costs in Sensitivity Case 5. Just as in the previous two sensitivity cases, the base case assumptions for SO_2 and NO_x compliance costs were unchanged.

Q. What was the nature of the sensitivity case screening analyses that were carried out?

A. These sensitivity case analyses were "economic potential" analyses as previously described. This means that only a subset of DSM-related costs are included in the sensitivity case analyses. The subset of DSM-related costs that

are included are unrecovered revenue requirements for the E-RIM test and participant costs for the E-TRC test. This is analogous to Step 1 shown previously in Exhibit SRS-4.

Using the changed assumptions for each sensitivity case, FPL performed a DSM cost-effectiveness screening on the same 844 collapsed DSM measures as in the base case analyses. The measures that passed this one-step screening were then expanded back to capture the full number of DSM measures that passed the sensitivity screening. Next, FPL matched those measures to the corresponding technical potential projections of MW and GWh reduction for each measure.

The number of passing measures, the MW reduction potential, and the GWh reduction potential were then totaled to provide an "economic potential" set of values for each sensitivity case. Finally, the number of measures, MW reduction potential, and GWh reduction potential values for the sensitivity cases were compared to the corresponding "economic potential" values from the screening Step 1 analysis in the base case. This comparison allows one to roughly gauge the impact that the assumption change has for a one-step-only screening of DSM cost-effectiveness.

It is important to note that the results of these one-step-only screening analyses of the sensitivity cases played no role in the full base case analyses

that are presented in the subsequent sections of my testimony. As previously mentioned, the sole intent of these sensitivity cases was to respond to Staff's inquiry regarding what impact various assumptions may have on DSM cost-effectiveness.

Q. What were the results of these sensitivity case analyses?

A. The results of these sensitivity case analyses are presented in Exhibit SRS-5 with the E-RIM test results presented first, followed by the E-TRC test results. Both sets of results begin by listing the number of expanded DSM measures that passed a comparable analysis using all base case assumptions, plus the projected total MW and GWh reduction potential values for these passing measures. Then the resulting number of measures, MW reduction potential, and GWh reduction potential for each of the five sensitivity cases are shown.

These results are presented in Columns (1), (2), and (3), respectively, of Exhibit SRS-5. Then the changes in the number of passing measures, MW reduction potential, and GWh reduction potential for each sensitivity case compared to the base case are presented in terms of the percentage increases or decreases. These results are presented in Columns (4), (5), and (6).

Based on the results of these sensitivity analyses (that include only a subset of the total DSM-related costs), I offer the following observations:

- The overall results of the sensitivity cases show that changing to these assumptions would decrease the "economic potential" DSM

value for FPL much more than it would increase that value. Consequently, one could contend that the assumptions used in FPL's base case analyses are, if anything, biased towards more DSM rather than less. However, FPL believes that it is simply using the best assumptions available for its DSM Goals work.

- The E-RIM results are more impacted by the sensitivity case assumptions than are the E-TRC results. This is due to the fact that the E-RIM test, because it includes all DSM-related costs while the E-TRC test does not, generally has a lower benefit-to-cost ratio for a given DSM measure than does the E-TRC test. Therefore, any change in assumption is more likely to "move" a DSM measure that passes the E-RIM test from cost-effective to non-cost-effective, and vice versa, than is the case with a DSM measure that only "passes" the E-TRC test.
- The projected capital costs of the avoided generating unit in Sensitivity Cases 1 and 2 have a minimal impact on these results.
- The high fuel plus high CO_2 assumptions in Sensitivity Case 3 have a moderate impact on the results and affect potential GWh savings more than MW savings.
- The low fuel plus low CO_2 assumptions in Sensitivity Case 4 have a more pronounced impact on the results –and in the negative direction – they lower the DSM potential, than did Sensitivity Case 3.

- Finally, the assumption of no CO_2 costs in Sensitivity Case 5 had a very large negative impact on the E-RIM results, but a much smaller negative impact on the E-TRC results. (This helps point out what a significant change the incorporation of environmental compliance costs into the previous version of the RIM and TRC tests to produce the E-RIM and E-TRC tests were. In addition, these results again point out that the E-TRC test, because it does not account for all DSM-related costs, typically results – erroneously –in much larger benefit-to-cost ratios than does the E-RIM test. Therefore, even the loss of the CO_2 compliance costs does not appreciably affect the results from this sensitivity case.)

VII. THE DEVELOPMENT OF THE DSM PORTFOLIOS AND THE DSM-BASED RESOURCE PLANS

Q. Once FPL had received the projected achievable potential values for each measure, how were these projections then utilized to develop the four DSM portfolios?

A. After the achievable potential work was completed, FPL had two lists (one for E-RIM and one for E-TRC) of DSM measures that included three achievable potential projections of DSM measures, MW reductions, and GWh reductions.

The development of three achievable potential projections was agreed to in the collaborative effort. These three achievable potential projections were based on three different levels of incentives for each measure: (i) the maximum incentive level for each measure that did not violate the two-year payback criterion; (ii) the lower of this two-year payback maximum incentive level or 33% of the participant's cost for the measure; and (iii) the lower of the two-year payback maximum incentive level or 50% of the participant's cost for the measure. FPL witness Haney's testimony discusses how these three incentive levels were selected as part of the collaborative effort.

For purposes of its economic and non-economic analyses, FPL chose to focus on the first achievable potential projection; i.e., the projection based on the maximum incentive level that did not violate the two-year payback criterion. The use of this projection is consistent with FPL's prior DSM analyses and results in the largest achievable potential of the three projections.

The E-RIM and E-TRC lists of DSM measures and their corresponding achievable potential values were then applied to solve the same question: how much DSM should be included in a DSM portfolio that addressed at least FPL's projected annual resource needs to meet those needs at the lowest present value DSM costs associated with the cost-effectiveness test in question.

Four DSM portfolios were then developed: two portfolios were based on the E-RIM list of DSM measures, and two were based on the E-TRC list of DSM measures. Two portfolios, one for E-RIM and one-for E-TRC, were designed to utilize at least 664 MW of incremental DSM by 2019 (which will allow FPL to fully meet all of its projected resource needs through 2019), and to do so with the lowest present value costs that are applicable to each of the cost-effectiveness tests.

The resulting E-RIM portfolio utilized 664 MW and the E-TRC portfolio utilized 1,093 MW. More MW were utilized in the E-TRC portfolio because the costs applicable to the E-TRC test were lowered to the maximum extent possible by utilizing more than the 664 MW required to meet FPL's resource needs. These two portfolios are labeled the E-RIM 664 MW portfolio and the E-TRC 664/1,093 portfolio.

The other two portfolios simply utilized all of the projected achievable potential DSM. This resulted in 949 MW of incremental DSM by 2019 for the E-RIM based portfolio and 1,153 MW of incremental DSM by 2019 for the E-TRC based portfolio. These two portfolios are labeled the E-RIM 949 MW portfolio and the E-TRC 1,153 MW portfolio. The rationale for the latter two portfolios was that although the first two portfolios described above would allow FPL to fully meet all of its resource needs through at least 2019, FPL wanted to analyze whether the highest projected level of potentially cost-

effective DSM might be even more cost-effective by deferring generation additions after 2019 and/or further delaying the return to active service of the units that will be placed temporarily on Inactive Reserve status.

Q. How did FPL perform the analyses with which these four DSM portfolios were developed?

A. These analyses were performed using linear programming (LP) analysis techniques. In LP analyses, many potential solutions – in this case, different potential DSM portfolios - are examined by the LP model until one solution is selected that alone accomplishes the "objective function" after meeting all necessary constraints for a solution.

In these LP analyses, the objective function was to minimize the present value of the net DSM-related costs of a DSM portfolio that are applicable to the specific cost-effectiveness test in question, E-RIM or E-TRC. The DSM-related net costs are derived by first calculating all of the DSM costs that are applicable to the specific cost-effectiveness test in question, then subtracting out certain system costs that will be avoided by DSM but which may vary from the analysis of one DSM measure to another. These system avoided costs represent a subset of the benefits projected for a DSM measure and include: emission and fuel costs avoided by the kWh reduction aspect of a DSM measure, and transmission capital and O&M fixed costs that are avoided by the kW reduction aspect of a DSM measure. The LP's solution is the DSM portfolio that results in the lowest present value of these net costs.

There were three types of constraints utilized in the LP analyses. First, the DSM portfolio must at least meet FPL's projected annual resource needs: 664 MW by the end of 2019. Second, the different DSM measures must meet a set of DSM practical constraints relating to DSM implementation. Third, the total amount of additional load control must be limited to the amount of load control that is usable by the utility from a load shape perspective.

Q. Why are the first two types of constraints needed?

A. The first type of constraint, at least meeting projected annual resource needs, ensures that the DSM portfolio will enable the FPL system to meet its reserve margin reliability criterion and provide reliable electric service for its customers. The second type of constraint ensures that the DSM portfolio is practical to implement. FPL witness Haney's testimony addresses this second type of constraint.

Q. Why is the third type of constraint needed?

A. The third type of constraint is needed to ensure that the amount of incremental load control that is signed up is actually usable on the FPL system on Summer peak days. FPL has utilized this constraint in its DSM analyses, and in its DSM Goals filings, for many years.

FPL's analyses of the amount of incremental load control from 2010 through 2019 that would be usable on its system showed that value was approximately 350 MW. However, the projection of the achievable potential for load control was 304 MW. Therefore, the projection of the achievable potential amount of

incremental load control became the limiting factor in regard to incremental load control by 2019.

Q. FPL then utilized the four DSM portfolios discussed earlier to develop four DSM-based resource plans. Why is it appropriate to develop multi-year resource plans for the analysis of DSM options?

A. It is not only appropriate to do this, but also necessary if one is to capture and fairly compare all of the impacts that competing resource options with different capacity amounts, terms-of-service, heat rates, types of fuel, MW and GWh reduction impacts, and costs will have on FPL's system.

For example, assume we are comparing two Supply options, Option A and Option B, that both offer the same amount of capacity. Option A has a heat rate of 7,000 BTU/kWh and is offered to FPL for 15 years. Option B has an 8,000 BTU/kWh heat rate and is offered for 20 years. Evaluating these options from a resource plan perspective allows one to capture the economic impacts of both the heat rate and term-of-service differences. The lower heat rate of Option A will allow it to be dispatched more than Option B, thus reducing the run time of FPL's existing units more than will Option B. This results in greater production cost savings for Option A. However, Option B's longer term-of-service means that it defers the need for future generation for a longer period. Therefore, Option B will provide capacity avoidance benefits for more years.

Only by taking a multi-year resource plan approach to the evaluation can factors such as these for competing Supply options be captured and effectively compared. In the case of DSM options, there are similar somewhat contradicting impacts upon the utility system. For example, the GWh reduction effect of DSM lowers the amount of energy that must be served, but the MW reduction effect of DSM is designed to defer/avoid the addition of new generating units that, if added, may significantly improve the fuel efficiency of the utility system. Consequently, one aspect of DSM (GWh reduction) can decrease system fuel usage, but the other aspect of DSM (MW reduction) will avoid the addition of fuel-efficient new units that would have also lowered system fuel usage if the DSM options had not been implemented, thus increasing system fuel usage.

Once again, only by taking a multi-year resource plan approach to the evaluation can these contradicting impacts of DSM upon the utility system be properly captured and compared.

Q. Why are "filler" units needed in a multi-year resource plan evaluation?

A. The "filler" units are needed in a multi-year resource plan analysis to ensure that FPL's capacity needs are met for 2021–2043 (i.e., after the new nuclear Turkey Point Units 6 & 7 are added, respectively, in 2018 and 2020, and the 2010 through 2019 DSM portfolios have been added.) In this way the resource plans being compared all meet FPL's reliability criteria for each year

in the analysis period, ensuring both that the resource plans are comparable and that the comparative results of the evaluation are meaningful.

Q. Please discuss how these resource plans were developed and describe the resulting resource plans.

A. Using the projection of FPL's resource needs that were presented in Exhibit SRS-1, and the four DSM portfolios previously discussed, four DSM-based resource plans were created. Using each of the four DSM portfolios, the MW reductions for that DSM portfolio were first applied to Exhibit SRS-1, resulting in a new projection of remaining resource needs. FPL then added new generating units (each a 553 MW CC unit) as needed to meet these remaining resource needs in all years. In addition, the return-to-active service date of the FPL units about to be temporarily placed on Inactive Reserve status also varied according to reserve margin levels.

The resulting four DSM-based resource plans are similar to the Supply Only plan except that the incremental DSM altered three aspects of the Supply Only plan: the 160 MW five-month purchase has been removed, the return-to-service dates for FPL's units that will be temporarily placed on Inactive Reserve status change, and the timing and number of filler units added after 2020 change. These four DSM-based resource plans, and the previously developed Supply Only resource plan were then evaluated from both an economic perspective and a non-economic perspective.

VIII. THE RESULTS OF THE ECONOMIC ANALYSES

Q. What fuel cost and environmental compliance cost forecasts were used in the economic analysis?

A. In the economic analysis, FPL used the same fuel cost and environmental compliance cost forecasts used in developing FPL's January 2009 load forecast and which are being used in FPL's current nuclear cost recovery filing. These fuel cost and environmental compliance cost forecasts represent medium-level natural gas costs and medium-level CO_2 compliance costs. Selected fuel cost forecast values are presented in Exhibit SRS-6 and the environmental compliance cost projections are presented in Exhibit SRS-7.

Q. Were these fuel cost and environmental compliance cost projections used in all of the economic analyses conducted for this filing?

A. Yes. With the sole exception of the five sensitivity cases requested by Staff, these fuel cost and environmental compliance cost projections were used in the cost-effectiveness screening analyses of individual DSM measures, the development of the DSM portfolios, and in the economic analyses of the resource plans.

Q. What were the results of the economic analysis of the resource plans?

A. The results of the economic analyses of the resource plans are presented in Exhibit SRS-8. As previously discussed, the projected levelized system average electric rate for each resource plan is developed and compared.

In addition to these levelized electric rate results of the economic analyses, Exhibit SRS-8 also states whether each resource plan will result in one group of customers subsidizing other groups of customers in regard to the resource plan's effect on electric rates – a very important consideration. This impact is referred to as cross-subsidization of different groups of customers.

Q. Would you please discuss the results presented in Exhibit SRS-8?

A. Yes. The five resource plans are first presented in order of their projected levelized system average electric rate. The resource plan with the lowest projected levelized system average rate is the E-RIM 664 MW plan. The Supply Only plan is projected to have the next lowest levelized rate. The remaining three DSM-based plans have higher projected levelized system average electric rates than the Supply Only plan. The two E-TRC-based plans are projected to have the highest levelized rates by a substantial margin.

The exhibit also indicates whether each resource plan will avoid or minimize the cross-subsidization of one customer group by another. In the absence of a DSM-based resource plan, the Supply Only plan would do so. However, the E-RIM 664 MW plan has an even lower levelized rate and will also avoid or minimize cross-subsidization of customers. The other three DSM-based plans are projected to result in higher levelized rates than either the E-RIM 664 MW or Supply Only plan. Therefore, these plans will not avoid or minimize cross-subsidization of customers. I will return to the issue of cross-subsidization later in my testimony.

Q. Were the five resource plans evaluated on the basis of the total costs of the plans?

A. No, because an evaluation of system costs alone would be meaningless when analyzing DSM options versus Supply options.

As discussed previously in Section I of my testimony, it is appropriate to conduct analyses of competing Supply options on a total cost basis (such as cumulative present value of revenue requirements) because in such a case a total cost analysis equates to a rate analysis. This is because the number of kWh over which the system costs are recovered does not change. Therefore, the lowest cost plan will also be the lowest plan in terms of levelized system average electric rates.

However, when evaluating DSM options versus Supply options, the number of kWh over which the system costs are recovered does change with the DSM options. Therefore, an evaluation of only total system costs in such a comparison of Supply versus DSM options cannot tell one which option results in the lowest rates. One needs to account for the number of kWh that the system costs will be recovered over in order to determine the option that results in the lowest electric rates. FPL has used exactly this approach in its calculation of levelized system average electric rates.

Q. How is the levelized system average electric rate for a resource plan calculated?

A. Exhibit SRS-9 presents the calculation of the levelized system average electric rate for one of the resource plans, the E-RIM 664 MW resource plan. The calculation consists of three basic steps. First, the projected annual revenue requirements and annual kWh served are used to calculate a projected system average electric rate for each year. Second, each of these projected annual electric rates is present valued and these present values are summed. Third, an annual electric rate value is developed that, when held constant in each year, with these values present valued and summed, has an identical present value sum to that of the present value sum in the second step. This constant electric rate value is the levelized system average electric rate for this resource plan. A levelized system average electric rate for each of the other four resource plans is calculated in the same manner.

Q. Are the differences in the levelized system average electric rates between the five resource plans presented in Exhibit SRS-8 meaningful?

A. Yes. Because a levelized system average electric rate perspective is not typically used in analyses of Supply options (because a comparison of system costs in Supply Option-only evaluation equates to a rate comparison as previously discussed), the significance of the differentials in these levelized rates may not be readily apparent.

A cursory glance at these levelized system average electric rates appears to show relatively little differences between the values. However, after one considers that these rates will are applicable to energy usage of more than 100,000 GWh per year over a 34-year period, the differences shown in Exhibit SRS-8 take on more significance.

The significance of these differences is perhaps most readily seen by determining the amount of additional cost that would need to be incurred to raise the levelized system average electric rate of 14.7183 cents/kWh for the E-RIM 664 MW plan to the levelized rate for another plan. For example, let's take the E-TRC-based plan with the lowest levelized system average rate of the two E-TRC-based plans, the E-TRC 664/1,093 plan's rate of 14.7779 cents/kWh.

In terms of a one-time additional cost, the E-RIM 664 MW plan would have to incur an additional cost of approximately $830,000,000 in 2010, or of approximately $2,180,000,000 in 2019, in order to raise its levelized system average rate to match that of the E-TRC 664/1,093 plan.

As evidenced by this example, the levelized system average electric rate differences are meaningful, and the E-RIM 664 MW plan's advantage is significant.

Q. For this docket, the FPSC Staff requested that a projection of customer bills be made assuming a usage of 1,200 kWh. What were the results of this projection?

A. Exhibit SRS-10 presents the projected annual electric rates and the projected bills corresponding to a usage of 1,200 kWh for the time period of 2010 through 2019. Also included in this exhibit is the projection of the differentials in the customer bills between each DSM-based resource plan and the Supply Only plan. The results of these projections can be summarized as follows:

- Higher customer bills are projected for each year from 2010 through 2018 for each of the four DSM-based resource plans compared to the Supply Only plan which is projected to have the lowest customer bills for this time period.
- During 2010-2018, the E-RIM 664 MW plan results in the lowest bills of the four DSM-based plans. The E-RIM 949 MW plan provides the next lowest bills. The two E-TRC-based plans result in the highest bills.
- In 2019, when the new CC unit being added in the Supply Only plan comes in-service, the bill differentials for all of the DSM-based plans compared to the Supply Only plan are substantially lowered. However, only the two E-RIM plans are projected to have lower bills than the Supply Only plan with the E-RIM 664 MW

plan projected to provide the lowest bill. The E-TRC-based plans are projected to continue to result in higher bills than with the Supply Only plan.

These results are expected. DSM typically puts upward pressure on rates, and bills, in the years prior to avoiding the generating unit the DSM is "aimed at". This is typically seen in cost-effectiveness analyses of individual DSM measures. Also expected is that this near-term impact of placing upward pressure on rates and bills is minimized by the E-RIM test. Conversely, the E-TRC test does not allow the consideration of impacts on electric rates and, because this test does not include all relevant DSM-related costs for a DSM measure, the use of this test typically results in higher electric rates.

Q. Returning to Exhibit SRS-8, this exhibit presents information regarding *which of the five resource plans will avoid/minimize the potential for* cross-subsidization of one customer group by another. Would you please explain what is meant by this?

A. Yes. When a resource option, Supply or DSM, is selected, it will have an impact on FPL's electric rates that apply to all customers and on the bills all customers will pay. The basic concept is whether the impact of the resource selection on electric rates and bills will result in one group of customers subsidizing other customers. Stated another way, does the resource selection create two groups of customers: one group of "winners" and one group of "losers" from the resource selection.

For example, consider the case when FPL evaluates only Supply options. Because all customers on FPL's system are served by the Supply option if that option is chosen, all customers are "participants" in the selected Supply option. All customers' rates and bills move in the same "direction"; either up or down from year to year compared to another Supply option that could be selected. Therefore, there is no subsidization of one group of customers by another group.

However, the same is not true for DSM options. With DSM options, customers have a choice to participate or not participate in DSM options for which they are eligible. Furthermore, customers cannot participate in DSM options they are ineligible for or in measures which they may have already installed. This leads to an additional, and important, consideration of how different groups of customers, participants and non-participants, are impacted when DSM options are selected. If the utility selects to offer a DSM option that places upward pressure on electric rates, the result will be the formation of two groups of customers: one group of "losers" who do not, or cannot, participate in the DSM option and face higher rates and bills, and one group of "winners" who can and do, participate in the DSM option and, through reduced usage, reduce their bills.

This outcome is undesirable because one group of customers (the non-participants) subsidizes the other group of customers (the participants)

through higher electric rates caused by the imposition of the DSM option; i.e., cross-subsidization of one customer group by another. Avoiding this undesirable outcome is accomplished by accounting for the effect on electric rates when selecting DSM options. Therefore, the choice of which DSM cost-effectiveness test is used to select DSM programs is crucial.

When using an E-RIM cost-effectiveness test, only those DSM options that are not projected to increase system electric rates over the life of the analysis period above what the electric rates would be if the competing Supply option had been chosen are selected. This means that all customers, participants and non-participants alike, are at least as well off in regard to electric rates and bills over this period than if the Supply option had been chosen. Non-participants will be no worse off because their rates, and therefore their bills, will be no higher than if the competing Supply option had been chosen. Participants will be better off due to reduced usage lowering their bills.

Therefore, when selecting DSM options using the E-RIM test, cross-subsidization of customers is avoided or minimized. This is shown in Exhibit SRS-8 by the fact that the projected levelized system average rate for the E-RIM 664 MW plan is the lowest of any of the five plans. Furthermore, the E-RIM 949 MW plan has lower projected levelized rates than does either of the E-TRC-based plans.

Thus, the use of the E-RIM test is clearly the best cost-effectiveness test to use in regard to the objective of avoiding or minimizing cross-subsidization of customer groups, and the E-RIM 664 MW plan is the best plan in regard to avoiding or minimizing cross-subsidization of customer groups.

Q. Is it possible for a utility to avoid having any "losers" and avoiding the cross-subsidization problem by simply offering enough DSM options so that all customers will participate in a DSM program?

A. No. Although this sounds nice in theory, it is simply not possible for at least two reasons. First, DSM options are voluntary and customers cannot (and should not) be forced to participate in these options.

Second, a large electric utility like FPL serves a wide diversity of customers and customer groups. FPL serves large numbers of residential, small business, and large commercial and industrial customers. An even greater diversity of individual customers exists, including low-income, fixed income, middle class, and wealthy customers. In addition, these customers live in many types of homes, including single-family detached homes, single-family attached homes, multi-unit homes, and manufactured homes. Some of these customers live in the area year-round, while others live in FPL's service territory only part-time.

These, and other, diverse aspects of FPL's customers result in FPL offering many different DSM options in order to reach as many customers as possible.

As a consequence, not all DSM programs are attractive and/or appropriate for all customers. A few examples of this include:

- A business customer will not be eligible for any residential DSM program (and vice versa);
- A low-income or fixed income residential customer may not be eligible for, or interested in, a DSM program that focuses on expensive equipment such as very high efficiency air conditioners, renewable energy equipment, or swimming pool pump controls, etc.;
- Conversely, a more affluent customer may not be eligible for a program designed to address the energy use of low-income or fixed income customers;
- Customers with special medical needs may not be interested in DSM programs in which the utility has direct control of customer appliances or equipment; and,
- Customers who have already installed a number of energy efficient devices in their home or business may simply not be interested in, or helped by, additional DSM options.

These examples serve to point out that no matter how many DSM options a utility offers, there will always be customers who either cannot, or who choose not to, participate in a number of specific DSM options. Each such

DSM option that is offered that does not pass the E-RIM test automatically creates new classes of winner and losers with one class subsidizing the other.

Therefore, although it may at first appear to some that one could address a cross-subsidization problem caused by the introduction of a DSM program that failed the E-RIM test by introducing other DSM programs that also failed the E-RIM test, such an approach is not feasible. As was pointed out in the discussion above, participation in DSM programs is voluntary and DSM programs typically have eligibility requirements (such as programs addressing specific rate classes). Therefore, attempting to remedy a cross-subsidization problem by adding even more of these DSM programs that result in cross-subsidization cannot succeed. Instead of solving the original cross-subsidization problem, the result will be a cascading series of cross-subsidizations that aggravates the original problem.

I believe that this outcome will occur in any electric utility that would try to take this approach. However, the possibility of such an approach is of particular concern in Florida. This state has a large number of residents living on fixed- or low-incomes that will not be able to participate in a variety of DSM options. This ineligibility, coupled with their limited income, makes it even more important to avoid having these more vulnerable customers subsidizing other customers who could participate in DSM options that would

raise electric rates higher than the rates would be if the Supply option had been chosen.

In summary, an approach of trying to address a problem of cross-subsidization resulting from one program by offering even more such DSM options only complicates the problem and makes it bigger. Furthermore, due to Florida's large numbers of low- and fixed-income residents, this incorrect approach is especially troubling because of the increased financial strain this would place on these more vulnerable residents. This issue may become even more important in years in which the economy is "down".

Q. How would you summarize the economic analyses results?

A. There are two results from the economic analyses that stand out. First, the E-RIM 664 MW plan meets FPL's resource needs through 2021 while providing the lowest levelized system average electric rates over the analysis period and the lowest rates of any of the four DSM-based resource plans for 2010- 2019. Second, the E-RIM 664 MW plan meets FPL's resource needs while best avoiding or minimizing cross-subsidization of one customer group by another. These two factors combine to make the E-RIM 664 MW plan the best resource plan from an economic perspective.

IX. THE RESULTS OF THE NON-ECONOMIC ANALYSIS

Q. What different perspectives of the FPL system were considered in the non-economic analysis?

A. The non-economic analysis focused on two perspectives in regard to the five resource plans. The first perspective is a direct comparison of projected system SO_2, NO_x, and CO_2 emissions for the FPL system for each of the resource plans. The second perspective is a direct comparison of projected system oil and natural gas usage for the resource plans.

Q. What were the results of the Non-Economic Analysis from the first perspective, a comparison of system emissions for the resource plans?

A. A comparison of projected system SO_2, NO_x, and CO_2 emissions for each resource plan is presented in Exhibit SRS-11.

In regard to projected annual SO_2 and NO_x usage, the results can be summarized as follows:

- For the years 2010 through 2018, all of the DSM-based plans are projected to have lower system emissions than the Supply Only plan. The E-TRC-based plans, due to their greater energy reduction, result in lower projected system emissions usage than the E-RIM-based plans.
- However, in 2019, the introduction of the 2019 CC unit in the Supply Only plan flips these results as this new CC unit enables

the Supply Only plan to have the lowest projected system emissions of any plan. The reason for this is that the highly efficient CC unit, which has very low SO_2 and NO_x emission rates compared to most units on FPL's system and which will operate at a high capacity factor, lowers system emissions more than the combined effect of ten years of incremental DSM that "operates" on FPL's system for many fewer hours per year than does the CC unit. The relative positions of the four DSM-based plans remain unchanged.

- Then, in 2021, the results flip again as the E-RIM 664 MW plan emerges as having the lowest projected system emissions of the four DSM-based plans. The reason for this is that in 2021, two 2x1 CC filler units are added in the E-RIM 664 MW plan while only one 2x1 CC filler unit is added in each of the other three DSM-based plans. This is due to the lower MW reduction (664 MW) associated with this plan compared to the other three DSM-based plans.

These results for projected system SO_2 and NO_x emissions demonstrate two things. First, they show that in regard to these system emissions for FPL's system, the answer as to which of the five resource plans is the best in emission reduction may vary greatly from one year to the next. Second, it points out that both MW and GWh reduction values due to DSM play a

significant role in determining the answer to the question of "which resource plan results in lowering these system emissions the most on FPL's system?" Furthermore, the roles that DSMs MW and GWh reduction play are contradictory. The GWh reductions reduce these system emissions while the MW reductions will increase these system emissions by avoiding a highly efficient new generating unit with low emission rates that would have operated at high capacity factors.

Q. Are the results for projected system CO_2 emissions similar?

A. No. In regard to projected CO_2 emissions, the four DSM-based resource plans will result in lower system emissions than the Supply Only plan for all years addressed in the exhibit. The E-TRC-based plans result in lower projected system emissions than the E-RIM-based plans.

Q. What were the results of the Non-Economic Analysis from the second perspective, a comparison of projected FPL system usage of oil and natural gas for the resource plans?

A. Exhibit SRS-12 presents the results of this comparison in terms of projected annual system use of oil and natural gas for each of the five resource plans in terms of millions of mmBTU of oil and natural gas.

In regard to projected annual oil usage, the results are similar to the results for system SO_2 and NO_x emissions. The oil usage results can be summarized as follows:

- For the years 2010 through 2018, all of the DSM-based plans are projected to have lower system oil usage than the Supply Only plan. The E-TRC-based plans, due to their greater energy reduction, result in lower projected system oil usage than the E-RIM-based plans.
- However, in 2019, the introduction of the 2019 CC unit in the Supply Only plan flips these results as this new CC unit enables the Supply Only plan to have the lowest projected system oil usage of any plan. The reason for this is that the highly efficient CC unit, operating at a high capacity factor, lowers oil usage more than the combined effect of ten years of incremental DSM that "operates" on FPL's system for many fewer hours per year than does the CC unit. The relative positions of the four DSM-based plans remain unchanged.
- Then, in 2021, the results flip again as the E-RIM 664 MW plan emerges as the lowest of the four DSM-based plans. The reason for this is that in 2021, two 2x1 CC filler units are added in the E-RIM 664 MW plan while only one 2x1 CC filler unit is added in each of the other three DSM-based plans. This is due to the lower MW reduction (664 MW) associated with this plan compared to the other three DSM-based plans.

These results demonstrate two things. First, they show that in regard to system oil usage on FPL's system, the answer as to which of the five resource plans is the best in reducing oil usage may vary greatly from one year to the next. Second, it points out that both MW and GWh reduction values due to DSM play a role in determining the answer to the question of "which resource plan results in lower system oil usage on FPL's system?" Furthermore, the roles that DSM's MW and GWh reduction play are contradictory. The GWh reductions reduce system oil usage while the MW reductions will increase system oil usage once a highly efficient non-oil burning new unit is avoided.

Q. Are the results for system natural gas usage similar?

A. No. The natural gas results are different primarily because the 2019 CC unit added in the Supply Only plan, and the 2x1 CC units being added in all five plans, are gas-burning units. In regard to projected natural gas usage, the four DSM-based resource plans will result in lower system gas usage than the Supply Only plan for all years addressed in the exhibit. The E-TRC-based plans result in lower projected natural gas usage than the E-RIM-based plans. (However, even after accounting for this fact in the economic analyses, the E-TRC-based plans are projected to result in the highest levelized system average rates.)

Q. How would you summarize the results of the non-economic analyses?

A. I'd summarize these results in two points. First, the results are truly a mixed bag. The E-TRC plans are projected to result in lower natural gas usage and CO_2 emissions for FPL's system. However, at least four of the plans – E-RIM

664 MW, Supply Only, E-TRC 1,153 MW, and E-TRC 664/1,093 MW – are projected to result in the lowest system oil usage, SO_2, and NO_x emissions for at least one year. In my opinion, no one plan emerges as the clear winner in the non-economic analyses.

Second, and perhaps most important, the economic impacts of the projected fuel usage and emissions for each of the five resource plans have already been accounted for in the economic analyses discussed previously. FPL has long accounted for system fuel usage costs in its DSM analyses. With FPL's enhancement of the previous RIM and TRC tests to now account for the environmental compliance costs for system emissions with the E-RIM and E-TRC tests, the economic impacts of environmental compliance are accounted for in the same way as they are when Supply options are evaluated.

Therefore, the fact that the results of the non-economic analyses are inconclusive is of little consequence, because the economic impacts of system fuel usage and emissions have been fully accounted for in the economic analysis.

X. SUMMARY OF ANALYSIS RESULTS AND CONCLUSIONS

Q. Would you please summarize the results of the economic and non-economic analyses?

A. Yes. In regard to the economic analyses, the E-RIM 664 MW plan emerged as the clear winner. It yielded the lowest levelized system average electric rates, and it best avoided or minimized cross-subsidization of one group of customers by another. Regarding the non-economic analyses, although no one plan emerged as the clear winner, all of the economic impacts of system fuel usage and emission have been fully accounted for in the economic analyses that identified the E-RIM 664 plan as the clear economic winner.

Q. Based on these results, which DSM portfolio should be the basis for FPL's DSM Goals?

A. For the reasons discussed above, FPL believes that the E-RIM 664 MW portfolio should be the basis for FPL's DSM Goals for the 2010 – 2019 time period. This DSM portfolio fully meets FPL's projected resource needs through 2019, results in the lowest average electric rates over the term of the analyses for all five plans, results in the lowest average rates and bills among the four DSM-based resource plans for the 2010 – 2019 time period, best avoids or minimizes cross-subsidization of one customer group by another, results in lower SO_2 and NO_x system emissions and system oil usage than the Supply Only plan for most years, and results in the lowest system SO_2 and NO_x emissions and system oil usage of any plan for at least one year.

Q. Returning to a topic previously discussed, when one combines FPL's proposed DSM Goals amount with the 895 MW of energy efficiency projected to result from the updated federal appliance efficiency and lighting standards, what total amount of energy efficiency/DSM are FPL's customers projected to receive in the 2010 – 2019 time frame?

A. The resulting total demand and energy reduction from these federal standards and FPL's proposed DSM Goals is projected to be 1,559 MW at the generator (= 895 MW + 664 MW) over the next 10 years.

When you consider that the 895 MW projected to be delivered from the updated federal standards is in addition to the amount of demand reduction from federal standards that was captured in previous FPL load forecasts, it is evident that FPL's customers are projected to receive significantly more energy efficiency/DSM in the next ten years than they were projected to receive through FPL's current DSM Goals. That comparison would be the projected 1,559 MW at the generator for the next ten years versus FPL's current DSM Goals of 880 MW at the generator.

Q. Do you consider 664 MW to be an appropriate amount of DSM for FPL to propose as its DSM Goals for the next 10 years?

A. Yes, for several reasons. First, the impacts of any updates in federal standards for appliance efficiency and lighting are two-fold. These federal standards will both lower the potential contribution from utility DSM programs and lower FPL's projected resource needs for any new resource including DSM.

When one considers that the projected impact of the updated federal standards - 895 MW over the ten year period - is virtually identical to FPL's current DSM Goals amount of 880 MW, it is clear how large an impact the federal standards will have on FPL's resource needs and the potential for utility DSM efforts. Truly significant reductions in FPL projected resource needs and in the potential contribution from utility programs occur from these updated federal standards.

Second, conditions and circumstances have changed regarding the outlook for future growth on FPL's system compared to conditions that existed when FPL's previous goals were set five years ago. In addition to the significant impact of the updated federal standards, the Florida economy is in a "down" period and the rate of customer growth on FPL's system has reduced considerably. These factors also serve to lower FPL's projected load growth and its need for additional resources, whether DSM or Supply. When setting new goals for DSM in such a time as this, one would logically expect lower goals to be set compared to goals that would have been set in times of much more robust load growth.

Finally, FPL has long considered the fact that DSM programs can be ramped up or ramped down fairly quickly to be one of DSM strongest attributes. In fact, FPL has utilized this DSM attribute very recently. In the late Summer of 2005, FPL experienced an unexpected peak load that resulted in FPL seeking

new resources that could be deployed quickly. FPL significantly ramped up a number of its existing DSM programs and successfully petitioned the Commission for approval to implement new programs. As a result, FPL was able to increase its DSM capability significantly as early as 2007.

What FPL is facing now in regard to its projected lower load growth could be considered to be the "flip side" of what it experienced in the Summer of 2005. And, just as FPL ramped up its DSM efforts to meet a higher-than-projected resource need, it now proposes to ramp down its DSM efforts to a modest degree in response to a lower-than-previously-projected resource need. This adjustment to changing conditions is not only logical, but also an economical move for FPL's customers. And, as it did in response to changed conditions in 2005, FPL is both willing and able to ramp its DSM efforts up to meet increased resource needs in the future if this ramping up of DSM proves to be the most economical option for FPL's customers.

Therefore, a total of 664 MW of incremental DSM, as presented in the E-RIM 664 MW portfolio, is an appropriate amount of DSM for FPL to propose as its DSM Goals for 2010 through 2019. This amount of DSM is based on FPL's resource planning work and it is cost-effective for FPL's customers. For these reasons, FPL requests FPSC approval for the E-RIM 664 MW portfolio as its DSM Goals.

Q. Does this conclude your testimony?

A. Yes.

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Commission review of numeric conservation goals (Florida Power & Light Company).	DOCKET NO. 080407-EG
In re: Commission review of numeric conservation goals (Progress Energy Florida, Inc.).	DOCKET NO.080408-EG
In re: Commission review of numeric conservation goals (Tampa Electric Company).	DOCKET NO.080409-EG
In re: Commission review of numeric conservation goals (Gulf Power Company).	DOCKET NO.080410-EG
In re: Commission review of numeric conservation goals (Florida Public Utilities Company).	DOCKET NO.080411-EG
In re: Commission review of numeric conservation goals (Orlando Utilities Commission).	DOCKET NO.080412-EG
In re: Commission review of numeric conservation goals (JEA).	DOCKET NO. 080413-EG Filed: August 10, 2009

ERRATA SHEET

DIRECT TESTIMONY OF STEVEN R. SIM

PAGE #	LINE #	CORRECTION
34	19	Change "s" to "is"
42	7	Change "four" to "five"
49	6	Change "305" to "309"
49	11	Change "928" to "941"
67	3	Delete the word "will"
75	13	Change "2021" to "2020"
78	3	Change "DSMs" to "DSM's"

EXHIBIT #	LINE #	CORRECTION
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

PAGE #	LINE #	CORRECTION
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.

Charles A. Guyton
Squire, Sanders & Dempsey, LLP
215 South Monroe Street, Suite 601
Tallahassee, FL 32301
(850) 222-2300

Jessica A. Cano, Attorney
Florida Power & Light Company
700 Universe Boulevard
Juno Beach, FL 33408
(561) 304-5226

By: Jessica Cano
Jessica A. Cano
Fla. Bar No. 0037372

BY MS. CANO:

Q. Dr. Sim, have you prepared a summary of your prefiled direct testimony?

A. Yes.

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

A. I will.

Good morning, Chairman Carter and Commissioners. FPL's proposed DSM goals are based upon FPL's resource planning process as required by your DSM goals rule.

A projection of FPL's resource needs is the first step of the planning process, and FPL's projected resource needs for the years 2010 through 2019 will be fully met by 607 megawatts at the meter or 664 megawatts at the generator of incremental DSM. This projection of resource needs is in addition to 895 megawatts of incremental energy efficiency that FPL's customers are projected to receive through 2019 from updated federal appliance efficiency and lighting standards. These 895 megawatts of energy efficiency have already been accounted for in FPL's load forecast.

The planning process had to address House Bill 7135. House Bill 7135 lists four items for the Commission to consider regarding DSM cost-effectiveness

analysis. The most meaningful of these is a consideration of the cost of state and federal regulation of greenhouse gas emissions. Consequently, in this docket FPL did not use the original RIM and TRC Tests that had been used in prior DSM goals dockets. Instead, FPL used enhanced versions of these original tests to now account for system environmental compliance costs for SO2, NOx, and CO2. The enhanced tests are referred to as the E-RIM and E-TRC Tests.

The addition of environmental compliance costs generally results in higher projected DSM benefits, and therefore more DSM measures are now cost-effective than with the original RIM and TRC Tests.

A review of these enhanced tests and of the full language of House Bill 7135 shows that a combination of the E-RIM and Participant Tests incorporate all DSM-related costs and benefits that will be incurred by or received by all of FPL's customers. Therefore, the combination of the E-RIM and Participant Tests fully meet the language of House Bill 7135.

However, the E-TRC Test omits two significant DSM-related costs that will be borne by all of FPL's customers. One of those are incentive payments made to DSM participants, and the second is unrecovered revenue requirements. For these reasons, a combination of the

E-TRC and Participant Test does not comply with House Bill 7135. However, the E-TRC Test was used in FPL's analysis at the request of Commission staff.

FPL's resource planning process for this docket involved multiple steps, including the following: Preliminary cost-effectiveness screening of over 2,300 DSM measures, using the E-RIM, E-TRC, and Participant Tests, plus two-year payback criteria to address free riders was conducted.

These screening results then fed into the Collaborative's achievable potential work. The achievable potential results were then used to create four DSM portfolios: Two based on the E-RIM Test, two based on the E-TRC. These four DSM portfolios were then used to create four DSM-based resource plans, and a fifth plan, a supply-only resource plan with no incremental DSM after 2009, was also created for comparison purposes.

Economic and noneconomic analyses of the five resource plans were conducted, and in addition a number of sensitivity cases involving preliminary screening steps were conducted at the request of staff to gain insight into how different assumptions impact DSM cost-effectiveness.

The results of the analysis, in regard to the

economic analysis, the E-RIM 664-megawatt plan is the clear winner for FPL's customers. It results in the lowest levelized system average electric rates and best minimizes cross-subsidization of customer groups.

Regarding the noneconomic analyses, no one plan emerged as the clear winner in all years; however, all of the economic impacts of system fuel usage and system emissions are fully accounted for in the economic analysis.

In conclusion, Commissioners, the E-RIM 664-megawatt plan emerged from FPL's resource planning process as clearly the best plan for three reasons. Number one, it completely satisfies all of FPL's remaining resource needs through 2019. Number two, it results in the lowest electric rates for all of FPL's customers. And number three, it best minimizes cross-subsidization of customer groups.

For these reasons, FPL's proposed DSM goals for 2010 through 2019, which are based on the E-RIM 664-megawatt plan, should be adopted. Thank you.

CHAIRMAN CARTER: Thank you, Dr. Sim.

MS. CANO: Thank you. FPL now tenders the witness for cross-examination.

CHAIRMAN CARTER: Okay. Let's see. Hang on a second.

Ms. Kaufman, I'm trying to go in order here. I'm trying to go in order here. I'm starting from my left to, my left to my right, so I think I'll start with Ms. Kaufman.

MS. KAUFMAN: Thank you, Mr. Chairman.

CROSS EXAMINATION

BY MS. KAUFMAN:

Q. Good morning, Mr. Sim. You're lucky to be the first witness up.

A. Thank you.

Q. He doesn't think he's that lucky.

Mr. Sim, I want to talk to you for a minute about the E-RIM Test, which I understand is what Florida Power & Light has proposed as the appropriate cost-effectiveness test; is that right?

A. It is one of the cost-effectiveness tests upon which our proposed goals are based, along with the Participant Test and the two-year payback criterion.

Q. Right. Just so I understand, the E-RIM Test, that is what we think of as the RIM Test with the addition of the carbon costs; is that correct?

A. Not quite. It incorporates the environmental compliance cost for a variety of emissions, including in this docket SO2, NOx, and CO2. It's a significant enhancement to the original RIM Test.

Q. Okay. So in addition to carbon, it's SOx and NOx as well?

A. That's correct.

Q. Okay. When you calculated, or when FPL calculated the E-RIM Test, did it utilize the formula in the Commission's cost-effectiveness manual with the addition of the environmental costs you discussed?

A. Which formula are you referring to, please?

Q. The one, I believe it's on Page 12, that tells us how to calculate the RIM Test. I have some copies.

Are you familiar with the Commission's cost-effectiveness manual?

A. Yes. There have been several versions of them.

MS. KAUFMAN: Okay. Well, I will distribute an exhibit, if that would be all right.

CHAIRMAN CARTER: You may proceed. Do you need a hand, Ms. Kaufman?

MS. KAUFMAN: Excuse me?

CHAIRMAN CARTER: Staff?

Thank you, Ms. Brownless.

MS. BROWNLESS: Sure.

MS. KAUFMAN: And, Mr. Chairman, I guess we will need a number for this.

CHAIRMAN CARTER: Okay. That will be 136,

Commissioners, for your records.

Please leave one for Commissioner Argenziano and Commissioner Skop, please.

Commissioners, for your record, that will be Exhibit Number 136.

And while they're being distributed, Ms. Kaufman, a title, please.

MS. KAUFMAN: Excerpt from Cost-Effectiveness Manual.

(Exhibit 136 marked for identification.)

CHAIRMAN CARTER: Okay. Great. Does everyone have a copy?

BY MS. KAUFMAN:

Q. Mr. Sim, what I've handed you is not the entire manual, which is quite long, but the excerpt for the RIM Test. Are you familiar with this?

A. I have seen it before.

Q. All right. And when FPL calculated its RIM values with the addition of the environmental costs, did you follow the test as set out in this excerpt from the cost-effectiveness manual?

A. I would say yes. My recollection of the cost-effectiveness or the Commission's approved cost-effectiveness methodology, if this is indeed from the 1991 document, essentially prescribed columns of

benefits and costs which the utilities were then more or less free to figure out how these costs and benefits should be calculated. And with that freedom, the -- FPL has sat down over the years and discussed with staff on a number of occasions calculations that we were making or proposed changes that we had in mind to gain concurrence that what we were doing was compatible with the, with the Commission's regulations.

Q. Let me see if I understand what you just said. I think you've agreed that this is the RIM cost-effectiveness test that is part of the Commission's 1991 cost-effectiveness manual, and over the years you have discussed and modified how the test has worked and what your inputs have been?

A. Yes.

Q. Okay.

A. And we have sat down with staff on one occasion and spent a number of hours showing them how our calculations actually worked.

Q. Do you recall that FIPUG asked you in an interrogatory in this case regarding your use of the RIM Test, and I think that's already been entered into the record as part of Exhibit Number 2. Do you recall that?

A. Can you be more specific as to which interrogatory, please?

Q. Well, hard as it might be to believe, FIPUG only sent one interrogatory in this case, so it's interrogatory number -- and I have a copy for you, if you need to refresh your recollection.

But, Chairman, this is already in the record.

CHAIRMAN CARTER: Okay. Let's give one to the witness so he can know what he's responding to.

BY MS. KAUFMAN:

Q. Does that look familiar to you, Mr. Sim?

A. Yes, it does.

Q. Okay. And is that answer true and correct as you sit here today?

A. I believe so.

Q. Okay. Now that interrogatory asked you to list the calculation -- what you included in your calculation of costs. And the very first sentence of your answer, you said, "The list of DSM-related cost categories that are typically included." Do you see that?

A. Yes, I do.

Q. So I guess, would I be correct based on your prior answer that there are instances in which the cost categories vary or are different from what you typically include?

A. The sentence reads, "The list of DSM-related

cost categories that are typically included in the RIM Test and which FPL concluded in its E-RIM Test cost-effectiveness screening are indicated in a particular column of one of my exhibits." So we did include all of those general cost categories.

Q. So the word "typically" should be disregarded? I just took that to mean that that's usually what you do but sometimes you may do something else.

A. I think a more correct reading would be this is what FPL does. I'm not aware of what other states might include in the RIM Test, but typically my understanding is these cost categories are included.

Q. We also asked you specifically about lost revenues; correct?

A. Yes.

Q. And lost revenues are an input to the RIM Test; right?

A. Actually more correctly stated they would be an output of the test. But they are included in the calculations. That's correct.

Q. That's a better way to say it. Lost revenues are included in the calculation of the RIM Test.

A. That's correct.

Q. Okay. Now I've given you an excerpt of the cost-effectiveness manual. Would you agree with me that

that manual doesn't define or describe what should be included in the lost revenue component of the test?

A. Let me refresh my memory as to what this page says, please.

Q. Sure. Absolutely.

A. I think under general description of costs, the applicable sentence is, "The costs also include any decrease in revenues caused by the program."

Q. I agree with you. It doesn't define it any further than that, does it?

A. I don't believe so.

Q. A couple of questions ago I think you said that you weren't aware of how other -- I thought you said states performed the RIM Test. Have you reviewed how the other FEECA utilities have performed the RIM Test in this case?

A. No, I have not.

Q. So you don't know if they're performing it in the same way that FPL is, do you?

A. I do know how we're doing -- we are doing exactly as FPL does.

Q. No. My question was since you haven't reviewed the calculations of the other utilities, you do not know if they are doing it in the same way that FPL is.

A. That's correct.

Q. Mr. Sim, have you reviewed Mr. Pollock's testimony?

A. I read it when it first came out, which was some time ago.

Q. I know. There's been a lot of paper in this case.

Do you recall his description of a program that he called multiple load management?

A. I remember the term but not the specifics of that program.

Q. Well, would you accept my summary, subject to check, that it would allow a single company that has facilities in more than one location to centrally manage its power needs?

A. Again, I would have to go back and refresh my memory as to what the specifics were in his testimony.

Q. Well, I can provide you with a copy of his testimony, if the Commission would like. I would represent to you that it is how I have described it.

A. All right. If you would repeat, please.

Q. Generally it is a program that will allow a single company that has multiple sites who cogenerates to use its power in more than one location so that it could centrally manage its energy needs.

A. Subject to check, I'll accept that definition.

Q. Okay. Well, you can go back and read his testimony maybe during the break.

Do you think that a program like that would allow a customer to be more efficient in their power consumption?

MS. CANO: Chairman Carter?

CHAIRMAN CARTER: Yes, ma'am.

MS. CANO: I'm going to need to interject with an objection here. Dr. Sim's thoughts on Mr. Pollock's testimony are outside the scope of his direct.

CHAIRMAN CARTER: Ms. Kaufman, let's move on.

MS. KAUFMAN: Thank you, Mr. Chairman.

BY MS. KAUFMAN:

Q. Mr. Sim, have -- was cogeneration one of the programs that was considered in your DSM analysis?

A. I don't know. I --

Q. Would that be better for Mr. Haney?

CHAIRMAN CARTER: Wait, wait, wait. Let him finish his answer.

MS. KAUFMAN: Oh, I'm sorry.

CHAIRMAN CARTER: Hold it. Let's -- just because we've got the lights doesn't mean that we're not going to respect our manners.

Okay. Dr. Sim, you may respond.

THE WITNESS: Yes. I believe I said I don't know. We were handed a list of measures that were by code numbers, and I did not have a Rosetta stone to move from the code number to whether this was a load control program or an HVAC program, et cetera. So Mr. Haney would probably be the more appropriate person to ask that question of.

BY MS. KAUFMAN:

Q. Okay. Then I will do that.

Mr. Sim, have you -- I assume that you have looked at the goals proposed by GDS. Is that a correct assumption?

A. Yes. I have reviewed their testimony.

Q. Okay. Do you know on what magnitude of order they are greater than FPL's goals?

A. By FPL's goals, are you referring to our proposed goals in this docket?

Q. Yes, sir.

A. Yes. They are approximately seven times higher on a summer megawatt basis.

Q. Okay. And if the Commission were to implement those goals, in your view would that have a significant impact on the ECCR clause?

A. It would have a significant impact on a number of items. ECCR costs would obviously rise tremendously.

Our reserve margin would be approximately -- in 2019, instead of 20 percent it would be approximately 44 percent. We would see an incredible increase in what we would view as increased rates. It was hard to get a, an extremely precise look at what those rates would be, but I've attempted to make an estimate. And over and above what our proposed goals would be, GDS's proposal would result in approximately an $11.50 per month for each of our customers' increase. So there are significant and almost overwhelmingly negative impacts from the proposed goals of GDS.

MS. KAUFMAN: Thank you, Mr. Sim.

CHAIRMAN CARTER: That would be Dr. Sim.

MS. KAUFMAN: Excuse me. Thank you, Dr. Sim.

CHAIRMAN CARTER: Okay.

THE WITNESS: Thank you.

CHAIRMAN CARTER: And for the record, please identify yourself and the party you're with.

MR. LONGSTRETH: Benjamin Longstreth with the Natural Resources Defense Council and Southern Alliance for Clean Energy.

CHAIRMAN CARTER: You may proceed.

MR. LONGSTRETH: Thank you.

CHAIRMAN CARTER: Welcome.

CROSS EXAMINATION

BY MR. LONGSTRETH:

Q. Good morning, Dr. Sim. I want to address several questions to the, to the amended statute. Are you familiar with the amendments that are made, that were made in 2008 to Section 366.82 of the FEECA statute?

A. Are you referring to House Bill 7135?

Q. Correct.

A. Yes. In general I'm aware of the four items that the Commission was instructed to take into consideration in setting DSM goals.

Q. And I just will read you Section (3)(a), which indicates that the Commission should take into consideration the costs and benefits to customers participating in the measure.

Dr. Sim, it's correct, is it not, that this refers to the Participant Test?

A. I would disagree because the House Bill 7135 did not specify that for any of the four parts of the -- or four items that the Commission was instructed to consider that there was one specific test that applied to Section (a) or a second specific test that applied to Subsection (b). However, the costs and benefits to customers participating in the measure is generally covered by the, what we call the Participant Test.

Q. Thank you. I will now read Section (3)(b), which states, "The costs and benefits to the general body of ratepayers as a whole, including utility incentives and participant contributions."

Dr. Sim, is it correct that you believe the only way to satisfy the terms of Section (3)(b) is by applying both the E-RIM Test or the RIM Test and the Participant Test?

A. Yes. The application of the combination of E-RIM and Participant Tests fully covers Section (b), because those are the only tests that cover the most important part of Subsection (b), the costs and benefits to the general body of ratepayers as a whole.

The E-TRC Test, as indicated in the summary, does not specifically include utility incentives and definitely does not include in any shape or form the unrecovered revenue requirements that will impact customers putting upward pressure on rates.

The E-RIM Test does address both of those, and therefore the combination of the E-RIM and Participant Tests fully covers Sections (a) and (b).

Q. And just to summarize, this means it's also correct that the E-RIM Test alone cannot satisfy (3)(b) without combination with another test; is that correct?

A. That's correct, but only because of the

inclusion of the language "participant contributions." But, again, my reading, and I think any fair reading of House Bill 7135, you will find no specific instruction saying that Test X has to be applied to Subsection (a) and Test Y has to be applied to Subsection (b). There are four items to consider. We have a variety of tests that can be used to address this, and the combination of E-RIM and Participant Test fully covers Subsections (a) and (b).

Q. Dr. Sim, is it also correct that the E-RIM Test does not consider participant benefits, meaning savings to customers who participate in a measure?

A. I would agree in part and disagree in part. The Participant Test is designed exclusively to look at the participants and see whether it makes sense for a potential participant to partake of a DSM program. However, the E-RIM Test does address the rate impacts for all customers, whether they be participants or nonparticipants. And, therefore, that aspect of participants' economic impact is fully addressed by the E-RIM Test.

Q. Dr. Sim, my question was whether the E-RIM Test considers as a benefit the benefits to participants, meaning the savings to the customers who have participated in a measure. Does E-RIM consider

that as a benefit?

A. I would say a test that addresses -- my answer is yes in the sense that the E-RIM Test looks at the impact on electric rates, and customers will be better off, all else equal, with a lower electric rate than with a higher electric rate.

Q. Dr. Sim, the only changes that FPL made to its prior practices concerning cost-effectiveness tests employed to set its goals is the addition of projected greenhouse gas costs and the additional SOx and NOx you discussed earlier; is that correct?

A. I'm sorry. Could you repeat the question, please?

Q. Certainly. The only changes that FPL made to its prior practices regarding the cost-effectiveness tests employed to set its goals is the addition of projected greenhouse gas costs and the SOx and NOx that were added into the E-RIM; is that correct?

A. I would say no. In regard to the one particular cost-effectiveness test, or more broadly the original RIM and the original TRC Tests, which we are not using, we did make the change to include the projected environmental compliance costs for SOx, NOx and CO2. But there were a number of other changes in other steps of the analyses that FPL made along the way

in this docket, enhancements to various analytical steps, for example, that were taken. So it wasn't just simply let's take the RIM and TRC Tests and make one change to it and that's it.

Q. So, Dr. Sim, could you explain exactly what other changes were made?

A. Certainly. We did take a look at our -- probably the best way to set this up is to take you through a, about midway through the entire process. Once we had the achievable potential numbers back from Itron and achievable potential set of numbers from, that -- for measures that had passed the E-RIM pathway, meaning E-RIM, Participant Test and the two-year payback criteria, and a second set of achievable potential that had passed the E-TRC, Participant Test and two-year payback, the question at that point is do we use all of these measures or do we use some of these measures? And if we use some of these measures, how do we choose -- which subset of that total do we use?

Well, as it turned out, we had for the first time in a DSM goals docket an achievable potential number that was larger than our projected resource needs. We had about 949 megawatts of achievable potential under E-RIM, we had about 1,153, I believe, megawatts under E-TRC, and our projected resource needs

were 664.

So we proceeded to do something we have not done before, and that is we were creating resource portfolios that attempted on the one hand to meet our resource, our projected resource needs of 664 megawatts, and we had other portfolios where we said let's use it all, let's see what the impact of that is. That's one enhancement or different step than what we had taken before.

The second thing is how did we create the smaller subset of DSM measures to address the resource need of 664 megawatts?

In essence, Commissioners, what we did is we had DSM measures compete against themselves. We do that through a linear programming model, and in doing so we changed the linear programming model approach so it would also address the environmental compliance costs for SOx, NOx, and CO2.

In doing so, we came up with four portfolios, which was a portfolio of E-RIM-based measures for 664 megawatts. We came up with a second portfolio of E-TRC that was designed to get at least 664 megawatts. But because of the net cost, our linear programming model shot past that and said from a TRC perspective, looking at only those costs and not the ones that are

covered under the E-RIM, you could further drive down that perspective of cost by going past 664 megawatts and signing up, I think it was 1,093 megawatts.

Then we had the remaining two portfolios, which was the full suite of achievable potential measures under E-RIM, 949 megawatts, and the full suite under E-TRC, which was 1,153.

So those were additional analytic steps that we had not done before.

Q. And, Dr. Sim, did these additional analytic steps, did you feel that they were required by the amendments that were made to FEECA?

A. Yes, I did. Subsection (d) of House Bill 7135 states that one of the items that the Commission is asked to consider is, and I quote, the costs imposed by state and federal regulations on the emission of greenhouse gases. Therefore, we decided that to simply include those in an initial step of screening measures would not suffice; that we had to carry the inclusion of greenhouse gas projected costs all the way through our analysis, into creating DSM portfolios, into creating resource plans, and then analyzing the resource plans.

Q. And with respect to Sections (3)(a) and (3)(b), did those changes reflect the direction provided by the Legislature in (3)(a) and (3)(b)?

A. I'm sorry. Which changes are you referring to?

Q. The additional analytical changes you just have been describing regarding the -- including greenhouse gasses in all elements of the analysis. Do those reflect Section (3)(a) and (3)(b), the amended statute?

A. No. (A) and (b) refer to the screening steps of DSM measures. So the Participant Test and the E-RIM Test in the one path we took of E-RIM, Participant and two-year payback, and the E-TRC, Participant cost and -- or Participant Test and two-year payback criteria, those steps were in the economic screening of DSM analyses. And once we had moved past that, there was no more need to go back. We were now looking at a more meaningful resource plan analysis. And as I mentioned before, as we went through the setting up of those portfolios, we did include the cost of, projected cost of CO2 compliance.

Q. Dr. Sim, isn't it correct that an energy efficiency measure could fail the RIM Test simply because it saved too much electricity?

A. That's true. It could.

Q. Dr. Sim, I have a few questions for you on avoided cost.

In the 2005 FEECA proceeding, FPL did not include any new nuclear plants in calculating the avoided cost; correct?

A. Which docket, please?

Q. The 2005 goal setting proceeding. Excuse me.

A. That is correct.

Q. And, Dr. Sim, is it correct that in 2007 FPL proposed two new nuclear plants?

A. I believe that's a correct date. Yes.

Q. And, Dr. Sim, is it correct that FPL has not yet received all the required authorizations that it would permit it to commence construction of those plants?

A. That is correct.

Q. Dr. Sim, do you know how much the two new nuclear plants will cost?

A. No. There is no precise determination yet of what those units will cost.

Q. And in this 2009 goal setting proceeding, is it correct that FPL did not include the two proposed nuclear plants as potentially avoided units?

A. That is correct. We viewed those units, Commissioners, as certified or approved units and looked to see what was the projected next need for the utility, assuming that those units would be built.

And if I may add, Commissioners, if we had assumed that the new nuclear units were avoidable and had run DSM against it, it's my view that in all likelihood we would have come up with less DSM that was cost-effective than what we found running DSM against a 2019 combined cycle.

My reasoning behind that is as follows. The 2019 combined cycle is the same combined cycle technology that we have been analyzing nuclear against in 2007, in the cost recovery docket in 2008 and which we are currently running in the 2009 docket.

The nuclear unit consistently is being found to be more economic than the same combined cycle technology that we ran DSM at. Therefore, if I have a certain amount of DSM that is being screened to be cost-effective against this combined cycle technology and I now substitute a more economical unit, which would be the nuclear unit, I would expect fewer DSM measures to pass.

Therefore, I think that if FPL can be faulted at all, we were slightly biased towards more DSM in this by using a 2019 combined cycle, which I view as the appropriate unit to view or to analyze DSM against. And I'll end there.

Q. Dr. Sim, is it correct that FPL believes that

DSM can avoid the combined cycle unit?

A. The 2019 combined cycle unit?

Q. Correct.

A. Yes. We believe DSM can cost-effectively avoid the need for the 2019 combined cycle, thereby meeting all of FPL's projected resource needs through at least the year 2019. And as a matter of fact, it's actually through 2020 with the 664 megawatts of our proposed goals.

Q. And, Dr. Sim, have you analyzed whether, if that were a proposed nuclear unit, DSM would be able to, to meet that need and defer that unit as well?

A. Have we performed a DSM analysis against nuclear? No, we have not, for the reasons just stated.

If the nuclear unit were, would have been the avoided unit, we would have had a different projected need. It would have moved up a year from 2019 to 2018 and it would have been a larger projected need.

Q. Dr. Sim, FPL earns a rate of return on capital equipment and load control equipment; correct?

A. That's correct.

Q. And, Dr. Sim, FPL does not earn a rate of return on nonload DSM programs; is that correct?

A. Nonload management DSM?

Q. Correct.

A. Yes, that's correct. We recover money essentially dollar for dollar.

MR. LONGSTRETH: Okay. No further questions at this point.

CHAIRMAN CARTER: Thank you.

Ms. Brownless.

MS. BROWNLESS: May I have a five-minute break, please?

CHAIRMAN CARTER: Ms. Brownless, for you the sky is the limit.

MS. BROWNLESS: Thank you, sir.

CHAIRMAN CARTER: Commissioners, let's do this. Let's take a five-minute break, and we'll come back on the half hour.

(Recess taken.)

We are back on the record. And when we last left, we had completed the last strands of the human genome project and I think we've unraveled -- oh, that was the wrong case, wasn't it?

(Laughter.)

Ms. Brownless, you're recognized.

MS. BROWNLESS: Thank you. And, Your Honor, I have passed out what we will be discussing by way of exhibits. I ran out of copies for the parties. I promise that for those who did not get copies, at the

end of the table I will make them available.

CHAIRMAN CARTER: Is most of what you're using for cross-examination in the record already?

MS. BROWNLESS: No, sir.

CHAIRMAN CARTER: If not, when you get there, just make that announcement and then we can give the parties an opportunity.

And also to the parties, just note this, is that before we do the exhibits, we'll do all of the testimony, direct, redirect examination from the staff and Commissioners, if any, and we'll deal with it that way. And that way that will give the parties an opportunity to look at that information. Okay?

MS. BROWNLESS: Thank you.

CHAIRMAN CARTER: All right, Ms. Brownless, you may proceed.

CROSS EXAMINATION

BY MS. BROWNLESS:

Q. Good morning, Dr. Sim.

A. Good morning.

Q. Lovely to see you again.

A. Yes.

Q. I have handed out Florida Solar Coalition's second set of interrogatories Numbers 8 to 15 and second request for production of documents Number 4. Do you

have that before you?

A. Yes, I do.

Q. Can you look that over and verify that it's a true and correct copy of the answers that you provided in response to our interrogatories Numbers 8 through 15?

A. Subject to check, yes, it looks correct.

Q. Thank you. And would your answers be today the same as those given when you completed these interrogatories?

A. Yes, they would.

Q. Okay. Thank you.

MS. BROWNLESS: We'd like this marked, I believe, as Exhibit Number 137, sir.

CHAIRMAN CARTER: Okay. Let's go. Commissioners, that would be Exhibit Number 137. A short title, Ms. Brownless.

MS. BROWNLESS: These are Florida Solar Coalition's Interrogatories Numbers 8 through 15 and Second Request for Production of Documents.

CHAIRMAN CARTER: You know, you had done so well on that first one. You really had done a -- you said "Excerpt from Cost-Effectiveness Manual." And I said, "Yeah, go on." And now this one you're taking me with the *Encyclopedia Britannica*. Come on. I know you can do it.

MS. BROWNLESS: Okay. Well, how about we just call it Florida Solar Coalition Second Set of Interrogatories Numbers 8 through 15.

CHAIRMAN CARTER: Okay. Let me help you. Why don't we call it the FSC Second Set of Interrogatories. Does that work for you?

MS. BROWNLESS: Lovely.

CHAIRMAN CARTER: Okay. Good. You may proceed.

(Exhibit 137 marked for identification.)

MS. BROWNLESS: Thank you. At this time we'd like to move this in the record, if anybody has any objections.

CHAIRMAN CARTER: Let's go, let's finish it first before we deal with that. Let's just hold that off until the end. And when we come back with this witness in terms of any exhibits that we will be entering, we'll deal with it at that point in time. Okay?

MS. BROWNLESS: Thank you.

BY MS. BROWNLESS:

Q. Looking at your testimony on Pages 36 through 37, I just want to make sure I understand the basic process that was engaged in here, Dr. Sim.

The first step would have been the technical

potential study, which was conducted by Itron with input from the Collaborative; is that correct?

A. That's correct.

Q. Okay. Then the second step would have been the economic potential study, and that was done separately by each investor-owned utility. And you were responsible for that part on behalf of FP&L; correct?

A. I would agree. But I would expand it to be -- to name it something other than the economic potential test. What I refer to as the economic potential screening is only the first step of, in FPL's case, five steps of screening. So the second step was the full initial cost-effectiveness screening of the measures.

Q. Okay. And then step three would be the achievable potential study where you said you sent your screened measures to Itron and they placed it in the DSM ASSYST model.

A. That actually was our, according to my testimony, would have been called step four. There was a, there was a step three where we determined for all measures what the maximum incentive levels were for those that had passed the full DSM screening. But, yes.

Q. And I guess what I've done basically in my economic potential study is combined your two steps there, and then you get a series of measures which you

send to Itron.

A. Okay.

Q. And they place in their DSM ASSYST model.

A. Okay.

Q. Okay? And then you get measures back from the DSM ASSYST model; correct?

A. Yes. We essentially got a list of measures, a list of projected megawatts for the ten-year period, and a projection of associated gigawatt hours for those, for each measure back from Itron.

Q. Okay. And the results that you got back from the DSM ASSYST model, what did you do with those?

A. We then created four DSM-based portfolios.

Q. Okay. And that's what you discussed with Mr. Longstreth.

A. That's correct.

Q. Okay. In the simplest terms, because frankly that's how my mind works, the RIM Test, the TRC Test, and the Participant Test are all ratios of benefits to costs; is that correct?

A. That's generally how they're referred to, yes, the results.

Q. Okay. And they're -- you put the benefits in the numerator and you put the costs in the denominator; is that right?

A. Yes. Benefits divided by cost.

Q. Okay. And a measure passes in each instance if it scores one or more on the test; is that right?

A. Generally breakeven would be a benefit to cost ratio of 1.00. Something -- anything higher than that you would say it would have passed that particular test.

Q. Okay. And your Exhibit 2 describes the benefits and costs as used by FP&L; is that right?

A. Actually my Exhibit SRS-2 and SRS-3. SRS-3 would probably give a complete listing of the categories of benefits and costs.

Q. Okay. Two is a subset of three, is that right, just the benefits part?

A. Just the benefits side. That's correct.

Q. And I've handed out a little schematic. And do you recognize this as the Figure 1 from the Public Service Commission's cost-effectiveness manual for demand-side management programs and self-service wheeling programs?

A. I know I have seen this before. It is familiar, and I'll, subject to check, accept that it comes from that document.

Q. Thank you. And does the chart that's in the PSC manual match the chart that is in your Exhibit 3?

A. It doesn't precisely match. I think the SRS,

Exhibit SRS-3 in my direct testimony provides a little bit more detail, but it generally covers the same ground.

Q. Okay. For the large categories in the Figure 1, do they match the more detailed explanations in your chart?

A. I think those that apply to energy efficiency and load management programs, yes, they do.

Q. Okay. And when I look at your chart on Page 3, there's generation capital O&M, transmission capital O&M, distribution capital O&M, net system fuel impacts. Those would all be associated with your avoided unit; is that correct?

A. It would be the avoided unit, yes, as well as transmission and distribution benefits, as well as system fuel impacts.

Q. Okay. So that would be the fuel impact of the avoided unit as well as fuel impacts on the system as a whole?

A. Yes. There are -- for a DSM program there are three separate types of fuel impacts, and I've combined those into the net system fuel impacts row on SRS-3.

Q. And can you tell me what those three fuel impacts are?

A. Yes. Two of them are driven by the kW aspect

of a DSM program and one is driven by the kWh aspect of a DSM program or measure. The first one would be when you avoid the unit, the unit obviously does not burn fuel, so that works as a benefit to DSM programs, the fuel that is not burned in the avoided unit.

The second impact is a negative benefit or a cost of DSM programs, so to speak, because when you don't build the avoided unit, particularly the highly fuel-efficient baseload units that FPL assumed in this case, a very large combined cycle unit with a very low heat rate, the rest of the units on the FPL system now have to make up the energy that would have been produced by that highly efficient unit. And I term that generally the replacement fuel cost. And it is a higher number than the first item, the avoided units fuel. The third -- and both of those two are driven solely by the kW. impact of the DSM program.

The third impact is driven solely by the kWh impact of the DSM program, and it is a reduction in the amount of kilowatt hours that need to be served, and therefore a savings of fuel on the system at various hours. So the net of those three work out to be what I've listed on my fourth row as net system fuel impacts.

Q. Okay. And on the little chart that we have, Figure 1, that would kind of fall in the rubric of

avoided supply costs?

A. Yes. Everything on the benefits side on SRS-3 would fall into the avoided supply cost box in your Figure 1.

Q. Okay. Thank you. On my Figure 1 there's an avoided appliance cost. First of all, what is that?

A. I'd have to refresh my memory. I don't recall what that was applied to.

Q. Okay. And so therefore you wouldn't know how it was taken into account on your Chart 3?

A. No. I'm looking at your rate impact column on Figure 1, revenue gain. That was for potential actions by the utility to increase sales, which clearly we're not aiming at any of our DSM programs, and therefore it's not applicable. The same may be true for the avoided appliance costs under the total resource test column. I'd have to go back and read the rest of the cost-effectiveness manual to refresh my memory as to what that was.

Q. Thank you. Did each investor-owned utility and muni participating in the Collaborative agree with the definition and benefits of costs as you've outlined in your Exhibit 3?

A. I can't say. I don't believe the utilities ever got together and said, let's make sure that we are

all calculating the exact same cost categories. However, it's my impression from a number of conversations we had along the way that generally the cost categories that each utility has presented to the Commission for individual DSM programs were, were used in the cost-effectiveness work for this docket, with the inclusion of the environmental compliance costs for SO2, NOx and CO2.

Q. With regard to the inclusion of greenhouse gas considerations, did everybody include SO2 and NO2?

A. I don't know. I know -- I distinctly recall discussing CO2. I don't recall whether SOx and NOx were also included.

Q. Okay. With regard to CO2, is your testimony that you believe everybody accounted for that in some way?

A. At least among the four IOUs. I know at one point the four utilities, four IOUs exchanged projections of CO2 costs just so we could kind of check to see how close all of the projections were. So my understanding from that is, yes, they all included CO2 compliance costs.

Q. Okay. Are there different ways in which one could account for CO2 costs and, for example, one might account for those by adding dollars associated with

burning certain types of fuels into the projections, that would be one way to do it?

A. I'm sure there are a number of ways to do it. The approach FPL took was to essentially mirror the way that we worked through the three fuel impacts. We did a very similar calculation for the emission impact for each of those three items. The unit not being built would not run and therefore would not produce emissions. The fact that the unit wasn't built and the existing units on the system would have to increase their output to make up for the energy not served by the avoided unit would increase emissions from all of the existing units. And finally the kilowatt hour savings of the DSM measure would reduce overall kilowatt hours served by the utility and therefore would reduce emissions again from the kWh aspect of the DSM program. So that's the approach FPL took.

Q. Okay. So you just figured out what the kWhs were associated with each of that, netted them out, and then multiplied it times what you believe the cost of the CO2 emissions would be? I mean, that's how you factored the --

A. Essentially, yes.

Q. I mean, in the most simplistic terms.

A. Yes. In simplistic terms, that would be

correct.

Q. Which as I said, Dr. Sim, is where my mind operates.

Are you aware of how the other investor-owned utilities took account of the CO2, whether they used a similar method?

A. No. The only discussions I had with them regarding CO2 was in regard to the dollars per ton assumptions that we were, we were all using. But how they applied them, I'm not aware.

Q. Okay. The basic formulas set out in your Exhibit 3 and in the DSM manual's Figure 1 would have been applied by everybody. In other words, everybody would have put avoided costs in the numerator, everybody would have put incentives in the denominator for the RIM Test, for example?

A. Again, I can't speak for the other utilities. They would probably have done so, but, again, I can't speak for the other utilities.

Q. Okay. So that's not something that the Collaborative sat down and worked out, we're all going to do it this way?

A. If they did, I was not in on that discussion.

Q. For each investor-owned utility all the avoided unit data would be different, correct, because

everybody has a different avoided unit?

A. Yes, and appropriately so. Different timing of units, different types of units, et cetera.

Q. Sure. And the utility equipment and administrative costs that are identified on your chart, would those be different for each utility?

A. I would expect they would be.

Q. Okay. In terms of administrative costs as well as actual equipment used?

A. Yes. And appropriately so, because they're different companies and they have different administrative costs. That's what I would expect.

Q. Okay. And the calculation of revenues, revenue losses would also be unique to each IOU?

A. Again, I don't know the analytical approach that the other IOUs took. I know that -- or I would certainly expect that we each started with a different projection of energy and demand charges that was appropriate for each company and used those different inputs.

Q. Okay. When you were calculating revenue losses, how did you go about that calculation?

A. It would -- let's take for simplicity's sake a residential program where you don't have any demand charges.

Q. Sure.

A. It would have essentially been the number of kilowatt hours that were reduced in total on the system times a projection for that year of the residential energy charge rate.

Q. And the number of hours that were saved for each measure, where did you get that number from?

A. The number of kilowatt hour savings?

Q. Yes.

A. I believe that was an output from the technical potential work that the Collaborative did.

Q. Okay. So you would assume that everyone, you started out with that same basic savings?

A. I'm not so sure that's correct. There may have been regional or geographic differences for a particular measure that might have differed, say, for Gulf than for Florida Power & Light. I was not involved in the Collaborative at that point, so I don't know if there were differences in fact or not. But I certainly could conceive that there might have been.

Q. Okay. And would those have been reflected, the megawatt savings associated with each measure have been reflected in each IOU's technical potential study?

A. I believe you're referring to kilowatt hour savings? I would expect so, but I think we're running

pretty far afield of what my involvement was in the Collaborative at the technical potential stage. I believe Mr. Rufo or each of the witnesses from the other IOUs and Mr. Haney from FPL might be a better witness to answer that question.

Q. And I assume the incentive levels were -- would be different for each investor-owned utility.

A. I would expect so, and appropriately so.

Q. And just so I have the record clear for this, you've told us what CO2 costs you've used in your testimony. And each individual IOU used a different CO2 cost; is that correct?

A. Yes. My recollection, at least at that point in the collaborative process where we exchanged our projections, was that at least three of the four were reasonably close to each other.

Q. Okay. Who was the outlier?

A. I can't recall. I just recall remembering that the utilities were generally pretty much in agreement, and then over the course of the study or the course of the years that one of the utilities differed somewhat.

Q. Thank you.

A. And let me just add to that question. I think each utility was using a different source for CO2

emission costs. Since there is no legislation that has passed, there is no one readily identifiable source for projections of CO2 costs. They vary all over the place and have for a number of years. Therefore, it's not surprising to me that each utility would have taken a look at projected CO2 costs, taken their view as to which one they thought was most likely or most reasonable and used that.

Q. Thank you. Can you turn to my interrogatories, please?

A. Yes. All right. I have those.

Q. Thank you. And looking at interrogatories 8 through 12, I asked you a series of interrogatories about measures that were identified in the Itron technical potential study. Do you see those?

A. Yes, I do.

Q. Okay. And those would be residential solar water heating, residential PV, photovoltaic powered pool pumps, residential rooftop PV, and commercial solar water heaters, and commercial rooftop PV, commercial parking lot PV; is that correct?

A. That's correct.

Q. Okay. And all of these measures that you analyzed were less than 10kW; is that correct?

A. Subject to check, yes.

Q. Okay. And I'm deriving that from Interrogatory Number 14, sir. Is that --

A. Yes. I believe this interrogatory was referring to erroneously my testimony when it should have been referring to Mr. Haney's testimony, as indicated in the answer. But I'll accept their less than 10kW for the, for the PV.

Q. Thank you. Now if I go back to the interrogatories and I look at the results, every screening shows the Participant Test is at one; is that correct?

A. That's correct. When we applied the Participant Test, we were applying it to try to determine if an incentive which would cause the Participant Test to be 1.00 would cause, for example, the E-RIM Test to then fail when we rolled that same level of incentive payment into the E-RIM Test.

Q. Okay. And so does -- then you took the incentive level that you developed in the Participant Test and used it in the E-RIM Test; is that right?

A. At that step of the economic screening, that's correct.

Q. Okay. When you were calculating the, for the Participant Test the equipment costs and O&M costs, did you include the figures developed by Itron for each

measure?

A. Yes.

Q. Okay. So the numbers used were not numbers specific to Florida Power & Light's service territory, were they?

A. That is correct. We used numbers developed through the Collaborative from Itron.

Q. Okay. And the O&M costs were also developed by Itron for the equipment?

A. This one I'm not as sure of. I believe the answer is yes, but I believe -- or I would suggest that Mr. Haney or Mr. Rufo would be the one to double-check that with, please.

Q. Thank you. Were the bill savings that would be in the numerator of the Participant Test calculated over the same time period as the life of the DSM measure evaluated?

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

Q. Yeah. Were the bill savings, which would be in the numerator, right, used in the Participant Test calculated over the same time period as the life of the DSM measure being evaluated?

A. Essentially, yes. By that what I mean is if we had -- our analyses ran from 2010 through 2043, I

believe was the analysis period. If we had a measure that lasted 20 years, we assumed at the end of the 20th year another participant would be signed up, and therefore the bill savings would continue. But there would be some -- essentially the same costs would be incurred in the 21st year as were incurred in the first year for the sign-up.

Q. Okay. Is the thought process here that a customer would have to break even to install a DSM measure?

A. From the participant's point of view, the thinking is they would at least have to break even, or the Participant Test be a ratio of 1.00 or higher.

Q. Okay. And so the, in the most simplistic terms, the participant, if you counted his out-of-pocket costs and subtracted his savings in his bill and subtracted what, whatever incentives were given by the utility, it would be zero or greater?

A. The net cost to the participant would need to be zero or greater for it to pass the Participant Test or for it to make economic sense for a customer to potentially participate in that measure. Yes.

Q. When you were calculating the cost to the customer, did you take into account the investment tax credits?

A. We took into account the federal and state tax credits. That I recall. And I believe the investment tax credit, say, for photovoltaic was one of those.

Q. Okay. You say a state tax credit. Is there a state tax credit?

A. I believe there is for solar water heaters, or at least an incentive. Let me put it that way. Incentive and/or tax credit. I believe that was addressed in one of the other interrogatories, which number does not come to mind.

Q. Thank you. And you took the -- so you assumed that the, whatever the existing state incentives are would continue to exist at the same level throughout the entire study period?

A. I believe that's correct. Yes.

Q. Okay. Has Florida Power & Light done any studies to verify that customers were not, will not install either solar water heaters or PV systems unless they recover the full cost of the measure over the measure's lifetime?

A. No. I don't believe FPL has done a study for any DSM measure that tried to indicate whether a particular customer would partake in a measure if it were less than a breakeven proposition under the Participant Cost test. It's certainly possible, and, in

fact, I would expect certain customers to do so for reasons other than economics.

Q. Okay. So are you aware of any studies that indicate that customers will install solar technologies if some incentive is given less than allowing full recovery of the measure?

A. I'm not aware of any specific studies, no.

Q. But you believe that's possible?

A. I believe just about anything is possible, yes.

Q. Based on the failure of the measures that we discussed in the interrogatories to pass the E-RIM Test, given the incentive level developed in the Participant Test, all solar measures were excluded from your portfolio; is that correct?

A. No, that's not correct. We had the solar technologies, subject to check, failing before we got to the third step -- excuse me, the -- yes, the third step in our economic screening. In other words, the solar measures that I can recall were failing at the very first step where we were including for the E-TRC path just the participant costs and under E-RIM the unrecovered revenue requirements. And they failed even further when the administrative costs were rolled into the second step under both the E-TRC path and E-RIM.

Q. Well, assuming -- they didn't get any further than your economic analysis; is that correct?

A. I'm sorry. Can you rephrase the question, please?

Q. They did not get any further than your economic analysis. They were not included in any measures that were sent to Itron for the DSM modeling.

A. That's correct. No measures, whether they were solar or nonrenewables, made it to achievable potential if they did not pass the economic screening steps.

Q. At this time does FP&L intend to include any solar measures in its DSM program portfolio to meet its DSM goals?

A. If I understand the question, after the goals are set and we go to the next docket where we submit a DSM plan, does FPL intend to submit solar measures?

Q. Uh-huh.

A. I would say we would certainly consider them. We have not ruled anything in, we have not ruled anything out. We will be reevaluating all of the measures and -- in order to develop programs. We are certainly aware that there's a high interest in renewable technologies. And if we can find a way to cost-effectively address those, we would certainly

consider it.

Q. As I know you're aware, Progress Energy combines water heating with direct load control in a residential program. Is that something that Florida Power & Light would consider doing?

A. Commissioners, I would say we would consider it. Up to this point we have taken the path that each measure needs to stand or fall on its own. However, we are aware of what Progress has done, and when we get to that phase, after this docket is completed, we know what our goals are, of preparing for the next docket, the DSM plan, we would certainly look at their approach and see if it had merit.

Q. JEA has taken a broader approach to the application of the RIM Test and applied it to its entire portfolio instead of individual measures. Is that something that Florida Power & Light would consider doing?

A. I would say that would be less likely. Because what we are doing is each measure that we would put into our portfolio that would fail the E-RIM Test on its own is a measure that will put upward pressure on rates, and we would be very reluctant to do that.

Q. Do you agree that if the entire portfolio is -- has a RIM value of 1.01 or greater, that the

entire portfolio would not put upward pressure on rates?

A. I think it depends -- I would say no. I think it depends on what you compare it to. If you were to combine -- if you were to compare it to a portfolio that did not have any measures in that had individually failed the E-RIM Test, you might have an E-RIM benefit-to-cost ratio, instead of 1.01, you might have it at 1.10 or 1.20.

Therefore, compared to the second portfolio, the one in which you are not carrying along measures that have failed the E-RIM Test, you are putting upward pressure on rates. You would only not be putting upward pressure on rates if you were to compare it to a supply-only plan. Therefore, 1.01 would lower rates below what a supply-only resource plan would give you. But it would be increasing rates over what you would do if you were comparing it to my second portfolio, which had a combined 1.20 E-RIM ratio.

Q. But it would be true it would have less rate impact than if the entire portfolio did not pass the E-RIM Test.

A. Compared to a supply-only plan, that would be true. But, again, that would not be your, your logical competitor at that point. You start with what is in the best interest of all customers: How can you achieve

your resource needs by going through your planning process and coming out with the lowest rates for all of your customers?

Q. Mr. Spellman has recommended that FP&L spend approximately $15.5 million per year on solar measures; is that correct?

A. That's correct.

Q. Okay. And I want to make sure that I understand what you're telling us today. My impression was that FP&L would not be including any of these measures absent the Commission adopting Mr. Spellman's recommendation. Is that incorrect?

A. I think that's an incorrect characterization.

What we are trying to do in this docket is simply set goals. I believe what you're referring to is the next step, which is the DSM plan docket. And you asked earlier can we say that we would be including renewable measures, such as some of the solar water heater or photovoltaic measures. And I would say we don't know yet. Once we know what our goals are, we will go back and we will reevaluate all of the measures in order to determine which ones are potentially cost-effective as programs. So it may be that we would include some of these renewable measures, and it may also be that we do not.

Q. Okay. Do you have any solar or PV measures being offered by Florida Power & Light at this time?

A. There are none that I'm aware of being offered through the DSM programs. As you're aware of, we've made considerable steps forward in large scale photovoltaic and solar thermal in the DeSoto and Brevard plants and in our Martin County solar thermal facility.

Q. Okay. But those are facilities that are owned and operated by Florida Power & Light; correct?

A. That's correct.

Q. Would you agree that the cost of solar water heating and PV systems less than 2 kilowatts has decreased over the last five years?

A. No, I would not. I can't speak for photovoltaics because I've had no direct experience with that, other than to say that I have heard that by the large scale bulk purchases of photovoltaics that FPL was able to make for its facilities, it was able to drive the price down from what they would have been otherwise.

But my experience through this docket with solar water heaters tends to make me think that, if anything, we are seeing increased costs being projected for solar water heaters. Because when we started this process, we took a look at solar water heater projected costs back in December or January and were getting one

cost number. And as we approached the end of this docket, we checked again and we saw significantly higher cost numbers, as the push by federal government, the push for goals tended to make the market increase prices. Mr. Haney would perhaps have more direct information regarding that. But that is not my experience through this docket.

Q. As prices go up, would you expect more competitors to enter the solar water heating market?

A. I don't know. If it became more cost-effective for those vendors, that would tend to, excuse me, increase the number of vendors one would, one would be expected to see in the marketplace. But I'm not sure the premise of that is, is accurate at this point.

Q. If the number of vendors went up, would the installed price go down?

A. Not necessarily. Back in the 1980s, Commissioners, Florida Power & Light had a conservation water heater program. One of the technologies that we were sponsoring was solar water heaters. Over the course of several years we, we paid incentives to roughly 50,000 solar water heaters.

Again, this was back early to mid 1980s. At that time there was a federal tax credit, I believe, of

30 percent on solar water heaters. At the beginning of our program we were seeing average cost for solar water heaters roughly $2,000 for a family of four. By the time the federal tax credits went away and the program or an interest in solar by customers ground to a halt, we were seeing many more vendors had gotten in, but the average price of a solar water heater had been driven up to about $3,000 for the same size system.

So just the fact that more vendors came in by itself is not an indicator that one would expect to see the price of solar water heaters drive downward. In fact, the only experience that we've had in the state that I'm aware of has been showing exactly the opposite.

Q. If the production cost of the equipment went down, is it your testimony that that also would not necessarily decrease the price of the equipment?

A. For solar water heaters?

Q. Yes, sir.

A. I don't think I can accept your premise that the --

Q. Well, assume that it is true.

A. I'm sorry. I can't. Because the cost for solar water heaters -- there's nothing exotic about them. We're talking glass, copper, water heater tanks, et cetera. These materials have been around for,

seemingly forever. Solar water heaters have been installed in the state for almost a century. I see labor prices going up, I see prices of materials going up. This isn't a technology where I would expect to see anytime soon any technological breakthrough that would drive those costs down.

Q. Thank you. Based upon your last statement, I assume that you do not believe the cost of solar water heating will decrease over the next five years; is that correct?

A. I think the cost of the equipment itself I do not see dropping significantly, absent something completely unexpected.

Q. Okay. Do you have an opinion as to whether the installed cost, what the customer actually pays to get the equipment installed, will decrease over the next five years?

A. That could decrease with, say, federal, increased federal incentives, stimulus money, that type. The installed cost might drop, but the cost of the equipment itself I don't see dropping. In fact, going back to what happened in the 1980s, I think the introduction of government incentives or rebates tends to do the opposite. I think it tends to drive the purchase cost of the equipment up.

Q. Okay. Subject to check, does FP&L's FERC Form 1 for the fourth quarter of 2008 reflect on line 10, which is the total resale line, revenues of $11.295 billion? And that's subject to check, sir.

A. I don't have a clue.

Q. The figure is on Line 10.

A. Line 10?

Q. Yes, sir.

A. Yes. 11.3 billion.

Q. Thank you. And, Dr. Sim, you've testified, both in your prefiled testimony and in your summary, about the impacts of Section 366.82 and the revisions contained in House Bill 7135; is that correct?

A. To House Bill 7135, yes.

Q. Thank you. And you're not an attorney, are you, sir?

A. No, I'm not.

Q. And happy not to be JD impaired; is that correct, sir?

A. I plead the Fifth.

Q. Any opinions that are stated in your testimony and were given today about the interpretation of House Bill 7135 or Section 366.82 or Commission rules would be based on your expertise as a person who has worked on the technical end in the utility business for as long as

I've been at the Commission, for more than 20 years; is that right?

A. I would say -- and for the most part, yes. Experience in performing the calculations, experience or a number of years in being before the Commission in both supply option, need determination hearings and cost recovery hearings as well as a number of DSM-related dockets, of seeing how the Commission has approached things in regard to wanting to see a full accounting of all of the costs and benefits that are attributable to any one particular resource option, I think that's what they expect and I think that's what they should expect. That's the way we perform our analyses and that's the way the Commission has traditionally tried to view resource options that we have brought before them, and I would not expect that to continue -- or, excuse me, not to change.

Q. To change.

A. To change.

Q. But they are not legal opinions in any way; is that right?

A. They are not legal opinions.

MS. BROWNLESS: If you'll give me a minute, I think we're done.

(Pause.)

That's all we have, sir. Thank you so much.

THE WITNESS: Thank you.

CHAIRMAN CARTER: Thank you, Ms. Brownless.

Commissioners, I'm going to go to staff --

MS. BROWNLESS: Oh, I need to move my exhibits, sir. I'm sorry.

CHAIRMAN CARTER: No, no, no, no, no. We're going to do that at the end. I'm with you. We've got that Jedi Knight thing going on, okay? We got you.

Commissioners, I'm going to go to staff first *before coming* to the bench. Let me just make sure that we got -- all of the parties did their cross-examination. I know that the -- okay. For Mr. Jacobs that would be NRDC. Okay. Good deal.

Staff, you're recognized.

MS. FLEMING: Thank you.

CROSS EXAMINATION

BY MS. FLEMING:

Q. Good afternoon, Dr. Sim.

A. Good afternoon.

Q. During the break earlier today staff handed out a green handout and it was placed to your left side. Yes. Thank you.

A. Yes.

Q. Are you familiar with the items contained in

this exhibit?

A. Yes, I am. They are, they appear to be three schedules from our current Ten-Year Site Plan.

Q. And those schedules would be 3.1, 3.2 and 3.3; is that correct?

A. Yes.

MS. FLEMING: Chairman, I would note that this is already contained in part of staff's stipulated Exhibit 2. This is just for ease of reference.

CHAIRMAN CARTER: Thank you. Duly noted.

BY MS. FLEMING:

Q. Let me have you turn to Schedule 3.1, please. Is it correct that the data contained in Columns 6 through 10 is data concerning the DSM?

A. That's correct. These reflect projections that we had as of year-end 2008 and perhaps the early days of 2009 as to, as to assumptions we were making in our resource planning process then.

Q. And your response would be the same for Schedule 3.2; is that correct?

A. Yes. Winter peak data circa the same vintage.

Q. With respect to Schedule 3.3, the DSM data is contained in Columns 3 and 4; is that correct?

A. That's correct.

Q. And all the values listed in these schedules

are for conservation based on existing programs; is that correct?

A. I would disagree slightly with this explanation. As we look forward in projecting out, taking Schedule 3.1 for example, it extends through the, through the year 2018. Currently we have DSM goals in place for, through the year 2014. What we did is we extrapolated the implementation rate of DSM through 2014 out the remaining four years.

So we didn't have specific DSM programs in mind. It's essentially just a, as I said, an extrapolation of the megawatts and gigawatt hours out through time to cover the reporting period.

Q. Thank you for that clarification.

Dr. Sim, let me have you turn to your Exhibit SRS-4 in your prefiled testimony, please.

A. Okay. I have it.

Q. And I'm looking specifically at step one. The total number of DSM measures at the starting point that FPL evaluated at the technical potential stage was 844; is that correct?

A. That was the total number of DSM measures that we refer to as the collapsed measures. At the -- a little bit higher on the page you'll see the first line, total number of DSM measures identified in technical

potential was 2,321. And then the next line shows the number of collapsed measures at 844, where we essentially took, Commissioners, the commercial industrial measures, and where it was the same measure for multiple building types, we collapsed them down to one measure to make it a little bit easier to go through the initial screening of DSM measures. So the 844 does represent the starting point of collapsed measures for the analysis.

Q. And under Step 4 FPL identified 197 measures that had a payback period of two years or less without incentive payments; is that correct?

A. That's correct under the E-RIM path.

Q. And just strictly speaking under the E-RIM path, those 197 measures were removed from further consideration in an effort to address free ridership; is that correct?

A. Yes. The Commission's DSM goals rule requires us to address or minimize free riders. The Collaborative discussed this and came to the conclusion that the two-year payback was an appropriate way to address free riders, and those measures were removed because they would have resulted in a payback time for the participant of being less than two years.

Q. Now at the technical potential level, what

amount of savings are associated with these measures? For example, the summer, winter, and annual energy savings.

A. If memory serves me correctly, there was an interrogatory along that same line. If you can point me to that number, I can try to get you that answer.

Q. Let me just have you turn to -- do you have the late-filed deposition Exhibit Number 2?

A. Not in front of me. No.

Q. Okay.

CHAIRMAN CARTER: Just take a minute.

MS. FLEMING: We'll take a minute.

CHAIRMAN CARTER: And get it to him.

BY MS. FLEMING:

Q. Dr. Sim, do you have the late-filed deposition Exhibit Number 2 in front of you?

A. Yes, I do now. Thank you.

Q. During the deposition you were asked and Witness Haney was asked as well to provide the top ten measures separated by summer, winter and annual energy. Do you recall that information?

A. Yes, I do.

Q. Could you just briefly describe the information that's compiled on your late-filed deposition Exhibit 2, please?

A. We provided three categories of what is referred to here as the top ten measures, one by summer demand, one by winter demand and one by gigawatt hours, of those measures that had been removed due to the two-year payback criteria. The only reference for megawatt and gigawatt hours that we could apply this to are the technical potential savings, which are kind of a theoretical construct and therefore do not match up in any way, shape or form with the achievable potential numbers that were developed later by the Collaborative through Itron.

MS. FLEMING: And, Commissioners, I would note that this is already contained in staff's stipulated exhibit. This was just for purposes of questioning.

BY MS. FLEMING:

Q. Thank you, Dr. Sim.

What is FPL doing to educate its customers about DSM measures with a payback period of less than two years?

A. I think that question is certainly more appropriate for Mr. Haney.

Q. I'll ask him.

In your testimony you address the issue of carbon costs, is that correct, or CO2 costs?

A. That's correct.

Q. And you stated in your testimony that in order to maintain a level playing field for all resource options, FPL enhances DSM analysis to include environmental compliance costs; is that correct?

A. Yes. And to comply with House Bill 7135.

Q. Does the amended FEECA statute define the term "greenhouse gases"?

A. I don't recall whether it does or not. The Collaborative to my knowledge interpreted that as primarily CO2 costs.

Q. How does FPL define greenhouse gases?

A. I don't -- I do not know if we have a definitive definition. In all of the analyses that FPL has done through the resource planning group, we have including projected costs for CO2 as the proxy, so to speak, for all of the costs of greenhouse gas compliance.

Q. Dr. Sim, could I have you turn to your Exhibit SRS-7, please?

A. Yes.

Q. In this exhibit the CO2 costs that FPL included in the proposed goals are contained in this exhibit; is that correct?

A. Yes. CO2, NOx and SO2.

MS. FLEMING: Okay. And at this time staff is

handing out an exhibit, Chairman, that we would like to have marked as Exhibit 138, please.

CHAIRMAN CARTER: Okay. Commissioners, for your records this will be Exhibit Number 138.

Title, Ms. Fleming?

MS. FLEMING: Comparison of Carbon Costs.

(Exhibit 138 marked for identification.)

CHAIRMAN CARTER: Great. You may proceed.

BY MS. FLEMING:

Q. Dr. Sim, have you had a chance to review this document?

A. The one just handed me?

Q. We just handed it to you.

A. I've skimmed it, yes.

Q. Okay. Just looking specifically in the column titled Florida Power & Light Company, do the costs, carbon costs represented on this chart accurately represent the costs that FPL assumed in this proceeding?

A. Yes.

MS. FLEMING: Okay. Thank you.

We have no further questions, Commissioners.

CHAIRMAN CARTER: Thank you.

Commissioners, anything from the bench?

Commissioner McMurrian, you're recognized.

COMMISSIONER McMURRIAN: Thank you.

Dr. Sim, I have a couple of I think very simple questions. I think my mind works like Ms. Brownless's, as she said earlier.

When she handed out the Figure 1, do you still have that handy?

THE WITNESS: Yes, I do.

COMMISSIONER McMURRIAN: And I think she said this is from that cost-effectiveness manual of the staff's.

With respect to -- under the total resource column there's a box under the cost labeled participant cost, and then there's also a box under the Participant Test that's labeled equipment costs and O&M costs. Are those two boxes, at least with respect to FPL's analysis, would those be the same number?

THE WITNESS: Yes. Generally those would be the same number.

COMMISSIONER McMURRIAN: Okay. And one other. On your Exhibit SRS Number 3 or SRS-3, on those two final columns there with respect to the benefits that you've listed, and you show that there are four yeses with respect to the RIM Test as well as the TRC Test. So does that mean that with respect to FPL's analysis of the TRC and the RIM Test you would have the same numerator?

THE WITNESS: Yes. You would, you would calculate for both of those tests an identical number for the benefits.

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

CHAIRMAN CARTER: Thank you, Commissioner McMurrian.

Commissioners, anything further?

Redirect?

MS. CANO: No redirect. And when the time is appropriate --

CHAIRMAN CARTER: Okay. Let's take a minute -- exhibits. Exhibits 5 through I think it's 14; is that right?

MS. CANO: FPL would like to move Exhibits 5 through 16.

CHAIRMAN CARTER: Five through 16.

MS. CANO: And 135.

CHAIRMAN CARTER: Hang on. Hang on. Hold the phone. Five through 16. Are there any objections? Without objection, show it done.

(Exhibits 5 through 16 admitted into the record.)

Okay. Now hang on. Hang on one second before you go. Just hold, hold your horses there. Let me do

this first.

Before we go to -- staff, we did this 134, we marked that. Do we need to enter that in? That was the Gulf Power Company info.

MS. FLEMING: I believe it was moved in, but we may want to just in case.

CHAIRMAN CARTER: Are there any objections to 134? Without objection, show it done.

(Exhibit 134 previously admitted into the record.)

You're recognized for 135.

MS. CANO: Yes. FPL would like to move Exhibit 135 into the record.

CHAIRMAN CARTER: 135, the errata sheet. Are there any objections? Without objection, show it done.

(Exhibit 135 admitted into the record.)

136, the excerpt from the cost-effectiveness manual.

MS. KAUFMAN: Chairman Carter, FIPUG would move 136.

CHAIRMAN CARTER: Are there any objections? Without objection, show it done.

(Exhibit 136 admitted into the record.)

Exhibit 137, FSC Second Set of Interrogatories. Without objection, show it done.

(Exhibit 137 admitted into the record.)

138, Staff Comparison of Carbon Costs.

MS. FLEMING: Chairman, if I may, with respect to 138, we would like to hold off on moving in this exhibit. We would like the different utilities to identify these costs, and then at the time, at the appropriate time, which I believe will be Gulf Witness Floyd, we will then move that exhibit into the record.

CHAIRMAN CARTER: Okay. Let's do this then, boys and girls. Let's just kind of hold where we are. Let me see.

Commissioners, we probably need to give staff and the parties an opportunity for some refreshments as well as an opportunity to look over some of the documents that they have here. I'm thinking -- let me look at this one. I'm looking at -- I try to do round numbers. We'll go -- if we did -- okay. We want to give everybody an opportunity to eat as well as give the parties an opportunity to discuss. We'll come back at 1:50.

We're on recess.

(Recess taken.)

STATE OF FLORIDA)
: CERTIFICATE OF REPORTER
COUNTY OF LEON)

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

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

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

DATED THIS 13th day of August, 2009.

Linda Boles

LINDA BOLES, RPR, CRR
FPSC Official Commission Reporter
(850) 413-6734