BEFORE THE
FLORIDA PUBLIC SERVICE COMMISSION

In the Matter of	:	**DOCKET NO. 971004-EG**
Adoption of numeric conservation goals by Florida Power & Light Company	:	
Adoption of numeric conservation goals by Florida Power Corporation.	:	**DOCKET NO. 971005-EG**
Adoption of numeric conservation goals by Gulf Power Company.	:	**DOCKET NO. 971006-EG**
Adoption of numeric conservation goals by Tampa Electric Company.	:	**DOCKET NO. 971007-EG**

PROCEEDINGS: **HEARING**

BEFORE: CHAIRMAN JOE GARCIA
COMMISSIONER J. TERRY DEASON
COMMISSIONER SUSAN F. CLARK
COMMISSIONER JULIA L. JOHNSON
(teleconferencing)
COMMISSIONER E. LEON JACOBS, JR.

DATE: **Tuesday, August 17, 1999**

TIME: Commenced at 9:30 a.m.
Concluded at 9:45 a.m.

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

REPORTED BY: H. RUTHE POTAMI, CSR, RPR
Official Commission Reporter

APPEARANCES:

CHARLES A. GUYTON, Steel, Hector & Davis, 215 South Monroe Street, Suite 601, Tallahassee, Florida 32301, appearing on behalf of **Florida Power & Light Company**.

VICKI GORDON KAUFMAN, McWhirter, Reeves, McGlothlin, Davidson, Decker, Kaufman, Arnold & Steen, 117 South Gadsden Street, Tallahassee, Florida 32301, appearing on behalf of **Florida Industrial Power Users Group (FIPUG).**

RUSSELL BADDERS, Beggs & Lane, 700 Blount Building, 3 West Garden Street, Post Office Box 12950, Pensacola, Florida 32576-2950, appearing on behalf of **Gulf Power Company.**

JAMES McGEE, Florida Power Corporation, Post Office Box 14042, 3201 34th Street South, St. Petersburg, Florida 33733, appearing on behalf of **Florida Power Corporation**.

JAMES D. BEASLEY, Ausley & McMullen, Post Office Box 391, Tallahassee, Florida 32302, appearing on behalf of **Tampa Electric Company.**

APPEARANCES CONTINUED:

DEBRA SWIM, 1115 North Gadsden Street, Tallahassee, Florida 32301, appearing on behalf of **Legal Environmental Assistance Foundation (LEAF).**

ROBERT ELIAS and **LESLIE PAUGH**, Florida Public Service Commission, Division of Legal Services, 2540 Shumard Oak Boulevard, Tallahassee, Florida 32399-0870, appearing on behalf of the **Commission Staff.**

I N D E X

WITNESSES

EXHIBITS

P R O C E E D I N G S

(Hearing convened at 9:30 a.m.)

CHAIRMAN GARCIA: Good morning. We have a preliminary matter, which is the conservation goals docket, and we are going to vote that out right before we commence Agenda; so if you'll bear with us a moment. Counsel?

MR. ELIAS: Notice issued by the clerk of the Florida Public Service Commission on July 22nd, 1999 advises that a hearing will be held in Docket Nos. 971004, 1005, 1006 and 1007-EG. Those are the adoption of the numeric conservation goals for Florida Power & Light Company, Florida Power Corporation, Gulf Power Company and Tampa Electric Company, respectively, at this time and place.

CHAIRMAN GARCIA: For the record, because her absence is clearly is felt, she is with us on the conference call; Commissioner Johnson is also going to be here for Agenda as well as this issue.

Bob, what else do we need to do?

MR. ELIAS: It would be appropriate to take appearances.

CHAIRMAN GARCIA: Okay. We'll take appearances.

MR. BADDERS: Russell Badders, law firm of

Beggs & Lane, 3 West Garden Street, Pensacola, Florida 32501. I'm here on behalf of Gulf Power Company.

MR. GUYTON: Charles A. Guyton with the law firm of Steel Hector & Davis, Suite 601, 215 South Monroe Street, Tallahassee Florida 32301, appearing on behalf of Florida Power & Light Company.

MR. McGEE: James McGee, Post Office Box 14042, St. Petersburg 33733, on behalf of Florida Power Corporation.

MR. BEASLEY: James D. Beasley with the law firm of Ausley & McMullen, P.O. Box 391, Tallahassee, Florida 32302. I'm appearing on behalf of Tampa Electric Company.

MS. KAUFMAN: Vicki Gordon Kaufman of the McWhirter Reeves Law Firm, 117 South Gadsden. I'm appearing on behalf of the Florida Industrial Power Users Group.

MS. SWIM: Deb Swim for LEAF. And we filed a notice of withdrawal from the Tampa Electric case today and have previously withdrawn from the other cases.

And I just wanted to draw the Commission's attention to this wonderful article in the St. Pete Times that addresses this very docket. (indicating)

CHAIRMAN GARCIA: Great.

MS. SWIM: Thank you.

CHAIRMAN GARCIA: Can we have a copy of that? Great. Thank you.

MR. ELIAS: And I'm Bob Elias on behalf of the Commission Staff, and with me is Leslie Paugh.

And, Mr. Chairman, if I can digress for a moment. As you know, Leslie Paugh is leaving the Commission after two and a half years of terrific work here. And, lest there be any confusion on the subject, she's leaving to take a position that's a terrific opportunity in the private sector, and she's going to be sorely missed.

I wanted to take this opportunity to express my profound appreciation for the good work that she's done over the last two and a half years, and no one is going to miss her more than I will.

CHAIRMAN GARCIA: Well, I think we're all going to miss you, Leslie, and we're privileged by the fact you let us into the valley. And you're leaving us there, but -- (laughter) -- hopefully, I'm sure that with Mr. Elias' leadership, we are going to find, somehow, some way to find someone from legal to help us through all the problems you may have gotten us into, so -- (laughter) -- but I want to thank you.

Your legal work on the issues, particularly in the last few months, I have particularly enjoyed, and this Commission and the State of Florida has benefited greatly from that.

MS. PAUGH: Thank you.

COMMISSIONER CLARK: I wish you well, too, and I'm sure we're going to do fine without you, but we will miss you. And I appreciated all your work, and I thought your letter of resignation was one of the nicest I've seen in a while, and it was complimentary of the Staff and working with the Staff, and it was -- it was nice.

COMMISSIONER JACOBS: I'd like to add my thanks as well. As a rookie, it's been particularly intimidating to walk into these dockets with all this voluminous information, and I think you made it very manageable to deal with that. And I wish you well.

MS. PAUGH: Thank you.

COMMISSIONER DEASON: Well, let me echo the same sentiments. I don't want to be the only one not to say anything. I think that you have done an outstanding job here at the Commission, dealt with some very tough issues; and I appreciate all your efforts.

COMMISSIONER JOHNSON: Leslie, this is Julia. Of course I've enjoyed working with you over the last several years. You were very helpful the entire time you've been representing the Commission, particularly for me when I served as Chair, as well as dealing with the difficult issues that we've dealt with. I want to compliment you on your professionalism and your intellect and to tell you that you will be missed.

MS. PAUGH: Thank you all so much. This has been a fabulous place to work. It just doesn't get any better than this, and it has been truly my pleasure. Thank you.

CHAIRMAN GARCIA: All right. That's the last thing. All we need to do now is take a vote.

MR. ELIAS: Yes. The Issues 1 through 8 in the prehearing order, the parties that are taking positions on those issues, there is no disagreement. So, accordingly, the case will be presented to the Commission as a stipulation.

CHAIRMAN GARCIA: Thank you.

COMMISSIONER DEASON: Mr. Chairman, before we take the vote -- I don't want to be premature in this, but I think it needs to be said that the parties should be complimented for their efforts in this docket, all of the parties, to be able to bring a resolution to this.

Having participated in the previous goal setting docket, those marathon hearings were certainly educational, but I believe I had enough education then, and I don't need another session refresher course now.

But having said that in jest, I think that really the resolution of this docket, I think, speaks well of the parties' intent to try to address resolution which accomplishes benefits for the customers; and I think this is what this is doing, is accomplishing benefits for the customers of this state.

And having said that, if there are no -- I don't want to preclude questions, but if there are no questions, I'm prepared to make a motion.

CHAIRMAN GARCIA: All right. We have a motion. Is there a second?

COMMISISONER JOHNSON: Second.

CHAIRMAN GARCIA: Okay. Any other discussion? If there's no discussion, there being no objection, show it approved 5-0.

I want to echo Commissioner Deason's words. I appreciate you all working together. This is important for the State of Florida, and that persons with such different interests can come to resolution on this speaks highly of our process.

Thank you.

MR. ELIAS: Mr. Chairman, just a couple of procedural issues.

CHAIRMAN GARCIA: Sure.

MR. ELIAS: And that would be to move the prefiled direct testimony of the witnesses listed on Page 7 of the prehearing order and the exhibits listed on Pages 22 through 24 of the prehearing order -- and there are eight of them -- into the record as though read.

BEFORE THE PUBLIC SERVICE COMMISSION

FLORIDA POWER & LIGHT COMPANY

TESTIMONY OF C. DENNIS BRANDT

DOCKET NO. 971004-EG

FEBRUARY 1, 1999

Q. Please state your name and business address.

A. My name is C. Dennis Brandt and my business address is: 9250 West Flagler Street, Miami, Florida 33174.

Q. Who is your employer and what position do you hold?

A. I am employed by Florida Power & Light Company (FPL) as Manager of Sales & Marketing Product Support.

Q. What are your responsibilities and duties as Manager of Sales & Marketing Product Support related to the development of FPL's Demand Side Management (DSM) goals and the corresponding programs to support them?

A. I am responsible for managing and supporting products and services for FPL's residential and business customers. This includes overseeing the implementation, development of systems, training, and tracking of the various Demand Side Management (DSM) programs offered to residential and business customers. I am also the Sales & Marketing business unit liaison for regulatory issues.

Q. Please describe your education and professional experience.

A. I received a Bachelor of Science Degree in Industrial Engineering from the University of Miami in 1978. I also received my Masters Degree in Industrial Engineering from the University of Miami in 1984. I am a certified Professional Engineer in the State of Florida. I was hired by FPL in 1979 in the Materials Management department and have worked in positions of increasing responsibility in the areas of Load Management, Commercial and Industrial Marketing, Residential and General Business Marketing, and Sales & Marketing Product Support.

In 1991, I was promoted to the position of Manager of Residential and General Business Marketing Support. I held this position until 1993, when I became the Manager of Commercial/Industrial Marketing Support. In late 1996, I became the Manager of Sales & Marketing Product Support.

Q. What is the purpose of your direct testimony?

A. The purpose of my testimony is to present FPL's proposed numerical demand side management (DSM) goals for the period 2000-2009. FPL's goals proposal is based upon the requirements of Rule F.A.C. 25-17.0021 and the analytical work performed by FPL pursuant to the procedural order in this case, so my testimony will discuss the methodology used to arrive at goals that are reasonably achievable for the time period required. In my discussion, I will summarize the methodologies and data used in developing our proposed DSM goals.

Q. Please describe how your direct testimony is organized.

A. I have organized my testimony into seven (7) sections.

Section I of my testimony presents FPL's proposed numerical DSM goals for the period 2000-2009 as well as FPL's underlying projections of DSM potential from its effort.

Section II discusses the methodology used by FPL in developing the measures that were selected for evaluation.

Section III discusses the methodology used by FPL in developing its achievable potential projections of DSM based on the cost-effective measures selected and evaluated.

Section IV examines FPL's analyses of the Code/Utility (CUE) measures.

Section V discusses why the natural gas measures were categorized as Research & Development. It also explains the current status of FPL's natural gas measures R&D efforts and why FPL proposes that no natural gas potential be used to establish overall goals.

Section VI discusses renewable measures and high thermal efficiency self-service cogeneration, and why FPL proposes no renewable potential or high thermal efficiency self-service cogeneration be used to establish overall goals.

Section VII presents my conclusions based on the results of this goal setting process.

Q. Are you sponsoring an exhibit in this case?

A. Yes, it consists of the following documents:

- Document No. 1 presents the overall kW and kWh DSM goals for both the Residential and the Commercial/Industrial market segments proposed by FPL for the period 2000-2009.

- Document No. 2 shows FPL's DSM goals for the years 1994 through 2003 and FPL's actual DSM implementation results as of 1998.
- Document No. 3 presents FPL's 2000-2009 projections of achievable potential within major end-uses for the Residential and Commercial/Industrial markets. These projections are separated into the new construction and retrofit market segments.
- Document No. 4 is a measure-by-measure breakdown into both the new construction and the retrofit markets of the achievable potential results developed in FPL's Integrated Resource Plan.
- Document No. 5 is an overview of the four-step measure selection process used to determine which measures were evaluated.
- Document No. 6 is a summary of the first step of the measure selection process and the resulting measures.
- Document No. 7 is a summary of the second step of the measure selection process and the resulting measures.
- Document No. 8 is a summary of the measures combined, including the rationale for each grouping.
- Document No. 9 is a summary of the third step of the

measure selection process and the resulting measures.

- Document No. 10 is a summary of the fourth step of the measure selection process and the resulting measures.
- Document No. 11 is a summary of the administrative and participant costs associated with each measure, their associated demand and energy savings, and the source of the information.
- Document No. 12 shows the results of the cost-effectiveness analysis for each measure.
- Document No. 13 shows the pre-screening for the CUE measures.
- Document No. 14 shows the CUE measures that were screened for cost-effectiveness and the results of the cost-effectiveness analysis.
- Document No. 15 is a summary of the administrative and participant costs associated with each CUE measure, their associated demand and energy savings, and the source of the information.

SECTION I: FPL'S PROPOSED NUMERICAL DSM GOALS

Q. What overall kW and kWh DSM goals are being proposed by FPL in this proceeding?

A. The DSM goals proposed by FPL for the period 2000-2009 are shown on my Document No.1. These goals are based upon the achievable potential of DSM measures analyzed by FPL as being cost-effective under the RIM and Participant tests.

Q. What are the cumulative demand and energy goals FPL proposes through 2009?

A. FPL proposes a cumulative total summer demand reduction goal from DSM of 765 MW's for the period 2000 through 2009 and a cumulative reduction of GWH over the same period of 1,287 GWH. This represents the achievable potential for cost-effective DSM under the RIM and Participant tests over this ten-year period as determined in FPL's planning process. Broken down by Residential and Commercial/Industrial classes, this represents summer demand and energy reductions of 486 MW's and 943 GWH for the Residential market segment and 279 MW's and 343 GWH for the Commercial/Industrial market segment.

Q. How has FPL's performed relative to the goals set as part of the last goals docket for the 1994 through 2003 time period?

A. As originally stated by FPL in the last goals setting process and as is evident from Document No. 2, the goals set for the time period 1994 through 2000 were reasonably achievable.

However, the FPSC increased FPL's goals for the years 2001 through 2003 by 256 MW's above the achievable potential identified by FPL. As of 1998, FPL has met the summer MW, winter MW and annual energy goals for both the Residential and Commercial/Industrial market segments. It is important to point out that it has been increasingly difficult to meet the annual goals in the last several years due to the program revisions required in order to continue to offer cost-effective programs.

Q. How effective has FPL been in implementing cost-effective DSM?

A. FPL has a long and successful history of offering DSM programs that are cost-effective and meet the energy-conservation related needs of our customers. FPL began its DSM efforts in the late 1970's with programs such as the "Watt-Wise Living" and commercial audit programs. In the 1980's, FPL intensified its efforts by implementing a broad portfolio of DSM programs. From 1981 to 1989 FPL implemented 833 MW's of DSM. During the 1990's, this success has continued. For the time period 1990 to 1998, an additional 1,830 MW's of DSM has been implemented. In summary, FPL has successfully implemented over 2,663 MW's of DSM since 1981. This 2,663 MW's, which has resulted in the avoidance of more than six 400 MW power plants, consists of 1,516 MW's of conservation and 1,147 MW's of load management.

Another important indication of the success of DSM in Florida and FPL's service territory was the results of a benchmarking study conducted by the State of Florida Energy Office in 1992. The "Electricity Conservation and Energy Efficiency in Florida" study found that since the early 1980's, FPL had been actively involved in DSM programs and had been an industry leader in DSM application. It further found that: "The Florida utilities have been extremely successful in reducing peak capacity requirements. The Florida utility peak capacity savings are generally higher than those obtained by other utilities. While the Florida utilities have been focusing their efforts on load management, they have been among the leaders in achieving energy savings".

Q. How were FPL's proposed new DSM goals developed?

A. FPL's proposed goals are based on DSM projections developed in FPL's most recent planning process of the total cost-effective demand and annual energy savings reasonably achievable in both the Residential and Commercial/Industrial classes. These achievable savings are cost-effective under the RIM and

Participants test.

In developing these projections, FPL used a multi-step process. The first step was to determine which measures should be evaluated for cost-effectiveness. The process used to select measures is described in detail in Section II. All selected measures were then screened for cost-effectiveness with an assumption of no incentives, and those having both RIM and Participant Test cost-effectiveness ratios greater than 1.0 were used to develop the 2000 through 2009 achievable potential. This process is described in Section III. FPL's achievable potential results are an integral part of FPL's Integrated Resource Planning (IRP) process. The results obtained in this phase of the process were further analyzed to identify the most cost-effective DSM portfolio for FPL's customers. The results of this comparison are further discussed in Dr. Sim's testimony.

The goals FPL has proposed reflect the cost-effective achievable potential projected by FPL for utility program measures analyzed under the RIM and Participant tests as well as the proper consideration of high thermal efficiency self-service cogeneration, renewable resources, CUE measures, and the gas measures.

Q. Should goals be established in this docket for any specific end-uses?

A. No. The establishment of end-use goals versus overall goals was a topic of spirited debate in the last Goals Proceeding. After months of argument, the Commission followed their rule that calls for the establishment of overall goals for two market segments: Residential and Commercial/Industrial. The Commission had previously declined to adopt a rule with more specific goals. This was re-confirmed in Procedural Order PSC-98-0384-PCO-EG, entered on March 10, 1998, in this docket. It is my understanding that the purpose of this case is to implement the rule adopted and not revisit whether something other than overall goals are appropriate.

It has not yet been determined how the goals adopted will be employed. Given that uncertainty, the flexibility a utility has under overall goals to achieve the goals is highly desirable. A shortfall in one end-use can be compensated for with more than anticipated success in another without consequence under overall goals.

While FPL strongly opposes any attempt to establish goals in this proceeding other than the overall kW and kWh goals called for by Rule 25-17.0021, F.A.C., I have prepared Document No. 3 that provides FPL's projections of reasonably achievable, cost-effective DSM for: the Residential New Construction major end-uses, the Residential Existing Construction major end-uses, the Commercial/Industrial New Construction major end uses, and the Commercial/Industrial Existing Construction major end-uses. As with FPL's proposed goals, these projections are premised upon cost-effective DSM under the RIM and Participant tests.

To further document the specific measures that comprise each of the end-use values in Document No. 3, I have prepared Document No. 4, which provides by measure for the years 2000 through 2009, the cost-effective, achievable potential summer and winter demand savings, and energy savings.

Q. How would you characterize FPL's proposed DSM goals?

A. FPL's proposed goals are reasonably achievable and based on FPL's IRP process. FPL has proposed as its goals a 765 MW DSM portfolio that is cost-effective under the RIM and Participant tests.

Q. Is the process you have outlined appropriate for developing DSM projections and establishing DSM goals for FPL?

A. Yes. The process, as I have outlined it and as is more fully explained in the remainder of my testimony and Dr. Sim's testimony, is a sound analytical process. That process has been properly employed by FPL, and it has employed the best data available to FPL. Thus, FPL's proposed DSM goals are the fruits of a reasonable process and analysis.

Q. Has FPL addressed the energy conservation needs of lower income customers as part of the goal setting process?

A. Yes. While the process used to establish the reasonably achievable cost effective DSM goals does not specifically address lower income customers, these customer segments benefit in several ways as a result of this process.

First, by basing goals on only RIM passing measures, all customers receive the benefit of minimizing the rate impact of continuing to meet the growing demand for electricity of our customers in the most cost-effective manner. Even if a customer chooses not to participate in any of FPL's DSM programs, use of the RIM test ensures that nonparticipants still receive direct benefits through reduced rates.

Second, the measures used to develop our proposed goals all pass the Participant test. This test ensures that each measure makes economic sense for customers who elect to participate in an FPL DSM program which include these measures.

Third, while FPL has not yet developed its DSM plan and the corresponding programs based on these measures to meet our proposed goals, our past experience show that lower income customers do, in fact, participate in significant numbers in our programs. Lower income (less than $25,000 of annual family income) segments comprises about 14% of FPL's residential customer base, but these customers comprise 25% of the participants in FPL's residential DSM programs. This data is taken from a 1998 Participant/Nonparticipant Survey conducted for FPL by an independent contractor. The breakdown of program participation by income category for each of FPL's residential programs is as follows:

Program Participation by Income Category

	HVAC	Duct Repair	Ceiling Insulation	On Call
$0 - $10,000	5%	4%	3%	3%
$10,000 - $25,000	20%	14%	14%	34%
$25,001 - $50,000	37%	32%	43%	32%
$50,001 - $75,000	19%	23%	26%	18%
$75,001 - $100,000	11%	15%	8%	8%
$100,001 +	8%	12%	6%	5%

Applying the percentages from this sample data to 1997 participants for each of FPL's programs shows that, overall, 24% of participants in these programs are lower income customers.

1997 Participants by Program

	Participants	% Lower Income	# Lower Income
HVAC	81,701	25%	19,751
Duct	57,103	18%	10,278
Ceiling Insulation	45,862	17%	7,796
On-Call	49,874	37%	18,453
Total	234,540	24%	56,278

This data shows that FPL's efforts to promote DSM among its lower income customers have been effective.

Fourth, FPL also works with housing authorities and social service agencies to facilitate the accessibility of DSM to lower income customers. The following are a few examples of activities that have occurred over the past 24 months.

Energy conservation seminars and workshops for families qualifying for Habitat for Humanity Homes were conducted in the Sarasota area. The classes were held at area community centers and fill the requirement that consumers are required to take in order to qualify for low interest loans.

FPL energy auditors conducted energy evaluations of 400 apartment homes for the Sarasota Housing Authority, which fulfilled their requirement by law to have energy evaluations every five years. Many of these dwellings do not have central air-conditioning, and installing insulation is not possible due to the flat roof construction. Our representatives provided low- or no-cost DSM practices.

Representatives in Bradenton worked with the Manatee Bankers Association and are providing three hour energy conservation workshops each month for lower income and first-time buyers.

FPL participated with the Consumer Credit Counseling Services of the Florida Gold Coast, Inc. This group provides assistance for first time home buyers. FPL conducted energy conservation workshops.

West Palm Beach FPL employees are working with Gold Coast Builder's Association to help establish a remodeler's council to help lower income customers make needed repairs/renovations to their homes. The FPL seminar consists of a 14 hour class for contractors from an eight county area. Topics covered include an overview of FPL DSM programs and duct repair techniques.

Energy surveys and duct tests were conducted for lower income customers in the following areas of Ft. Myers:

- Michigan Links - Ft. Myers Housing Authority - Ceiling insulation installed in 338 units,
- Royal Manor Apartment Complex - Ceiling insulation and duct repair in 72 units,
- Michigan Links Elderly Section - Ft Myers Housing Authority - Ceiling insulation and high efficiency air conditioners in 120 units.

For the past two years, FPL representatives in Dade County have participated in "Christmas in April". This project identifies homes in lower income neighborhoods for energy conservation surveys and general "fix-up" needs. FPL representatives plant trees and install various energy DSM measures. This year 30 homes were selected in the West Little River area for this effort.

In summary, even if lower income customers do not participate in any of FPL's DSM programs, those customers will receive direct benefits through minimizing rate impacts of meeting the growing electricity needs of all of FPL's customers. However, as FPL's program survey data shows, lower income customers not only receive the benefits associated with being a nonparticipant, but also a significant number receive the benefits associated with being DSM program participants.

SECTION II: IDENTIFICATION OF MEASURES FOR EVALUATION

Q. What was the process used to determine which measures should be included for evaluation in determining reasonably achievable DSM goals for 2000 - 2009?

A. FPL used a four (4) step process to develop the list of DSM measures to be analyzed in this proceeding. This process, which is attached as Document No. 5, builds upon the analyses performed in the last DSM Goals proceeding and the determinations made by the Prehearing Officer in this proceeding.

Step One. The first step of FPL's process is the development of a list of measures which the Commission found in the last DSM Goals proceeding to be an appropriate list of measures properly characterized as "Utility Program" or "UP" measures. This list consists of 162 measures and was circulated by the Commission Staff as part of the materials provided at the workshops for this proceeding. This list of measures is included as Document No. 6. It is taken from the Commission's Fourth Order On Procedure in the last DSM Goals Proceeding. It is helpful to review the process of how these UP measures were identified in the last goals proceeding. In its Order Establishing Procedure in the last Goals docket, Order No. PSC-93-0953-PCO-EG, the Commission required the utilities to evaluate the DSM measures analyzed in a statewide study performed for the Department of Community Affairs by the consulting firm Synergic Resources Corporation (SRC). One of the requirements of the Commission was for each utility to characterize each of the measures in one of five categories: (1) better implemented by building codes (Code), (2) better left to self-adoption due to lifestyle (Behavioral), (3) better implemented in a different service territory (Climate or Demographic), (4) requires research (R&D), or (5) measures for utility implementation (UP).

The utilities performed that analysis, and there was considerable disagreement among the parties as to the proper characterization of measures. In addition, the Legal Environmental Assistance Foundation (LEAF) asked the Commission to add another approximately 70 measures to the utilities' lists for analysis. This controversy underwent several permutations with several different lists of measures evolving.

The major change in the lists was a refinement by the Commission Staff of Code measures into one of five categories: C1 - currently in the prescriptive code; C2 - should be added to prescriptive code; C3 - currently an option in Code; C4 - should be an option in Code; and C5 - currently an option in Code but should be prescriptive.

Ultimately, Commissioner Deason, in the Fourth Order On Procedure, PSC-93-1679-PCO-EG, resolved the issue of which measures would be analyzed by publishing a list of measures with various labels. He found that the measures listed as UP should be analyzed by utilities and included in their assessment of achievable potential. He found that measures listed as R&D should not be analyzed as part of the utility's achievable potential. He found that measures listed as Behavioral should not be listed as part of the utilities assessment of achievable potential. He found that as to Code measures, measures currently in the Code, whether prescriptive (C1) or optional (C3), should not be analyzed as part of the utilities achievable potential, but that measures which were not currently in either the prescriptive or option parts of the Code, measures categorized as C2, C4 or C5, should be evaluated by the utilities for their cost-effectiveness.

It is the list of measures designated by Commissioner Deason as UP measures in the Fourth Order on Procedure which Staff circulated during the workshops and which FPL believes is the appropriate starting point for analysis in this proceeding. Beginning with this list builds upon the considerable analysis performed in the last proceeding as well as the Commission's resolution of the dispute about the proper categorization of measures in the last proceeding.

Step Two. The second step in FPL's process calls for restating the list of UP measures for three reasons. (A) The list was expanded to accommodate FPL's analytical practices. For instance, FPL analyzes Commercial/Industrial DSM measures by rate class. So FPL expanded the number of analyses to be performed to accommodate the analysis of the C/I measures by rate class. **(B) The list was expanded to reflect the measures which FPL analyzed in the last case on its own initiative.** In the last case each utility added some measures to be analyzed. FPL added to the list of measures to be analyzed the same additional measures that it (not other utilities) added last time. **(C) The list was consolidated to reflect measures that are properly combined given FPL's program experience.** FPL has two examples of this. FPL's experience with our C/I Lighting Program and our Residential Load Control Program provided the experience required to validate the consolidation of measures. Document No. 7 is a summary of all combined measures. Document No. 8 provides the basis for combining measures. Thus, the net effect of Step 2 was to expand the list of measures from 162 measures to 230 measures.

Step Three. The third step was a screening step designed to screen away measures which have no realistic opportunity of passing a cost-effectiveness test. In the last Goals proceeding, and in subsequent analyses performed by FPL, there were a number of UP measures analyzed which were not cost-effective. Since the last Goals proceeding, the cost of new generating units, a major source of benefits of DSM in either the RIM or TRC tests, has declined significantly. FPL's avoided cost has declined approximately 35% as discussed in Dr. Sim's testimony. All other things being equal, measure costs would have to decline more than 35% for a measure that was not cost-effective in the last analysis to become cost-effective under current conditions (or savings from the DSM measure would have to increase more than 35% for the measure to become cost-effective; this is addressed in the next step of the process).

FPL knows from its most recent round of program modifications approved in November 1997 that a 35% decrease in costs is not possible, particularly when the cost-effectiveness in the last case was performed with zero incentives. If it did not pass last time, it will not pass this time.

Even though FPL felt confident that measures which failed last time would fail under current assumptions, FPL took the more conservative approach and analyzed all measures which had a RIM cost-effectiveness ratio of .9 or greater. **So, step three was a screen to drop from the UP list developed in steps one and two all measures which were not cost-effective under the Participants test and had a RIM ratio less than .9 in their most recent analysis.** This step reduced the total measures from 230 measures to 126 measures. Document No. 9 is a summary of this step in the process.

Step Four. The fourth step in FPL's process is to add back measures to the list which were screened in step three. The measures added are measures for which FPL has updated monitoring data showing a change in the measure's savings. Since an increase in savings could potentially offset the decline in avoided costs, this step of adding back measures is appropriate. **In this step FPL also added other measures for analysis which it deemed appropriate.** These additional measures could come from several sources: the utility's research and development programs, measures which appear to have worked for other Florida utilities, or suggestions from third parties.

At the workshop each of the utilities expressed a willingness to consider suggestions by third parties, and this is the logical step for that in FPL's process. In order for FPL to add a measure suggested by an outside party, the following information was required:

1. A clear definition of the measure was needed.
2. The baseline must be defined.
3. The measure must have Florida specific verifiable demand and energy savings, including load shapes, for winter and summer peak days as well as for winter, summer, spring, and fall typical days.
4. The measure must be market ready, with identifiable costs in 1998 dollars and operating characteristics.

Without this information, FPL could not perform the required cost-effectiveness and achievable potential analyses.

Q. How many new measures were added back as a result of this step?

A. FPL added back 43 measures to the final list of measures in this step. All of the measures except one (Blower Door Infiltration Reduction) were based on FPL's ongoing R&D efforts. Numerous other measures where suggested for evaluation but either: 1) FPL already was evaluating the measure or 2) the data required to perform a complete analysis was not available. In fact, the Blower Door Infiltration Reduction measure data was not provided by the party that recommended we evaluate it. It was based on using prior FPL end-use evaluation data.

Q. How many DSM measures were ultimately analyzed for cost-effectiveness as a result of the four-step process?

A. One hundred and sixty nine measures were analyzed. Document No. 10 is a final listing of the resulting measures from this four-step process.

Q. What sources did you use for your data?

A. Data sources used for each measure varied by sector and end-use, but for the most part, it was consistent for the measures within an end-use. For the most part FPL, utilized the data and assumptions based on its actual experience for measures that are part of FPL's existing programs. This included the latest findings from FPL's ongoing end-use evaluation efforts and actual measure administration costs. For measures which FPL did not have sufficient data, outside sources such as the Florida Solar Energy Center (FSEC) and the SRC Study were used.

Q. Does the implementation of multiple DSM measures affect the savings potential assumed for each measure if implemented individually?

A. Yes, it can. Measures can be classified as either competing or complementary. In determining the net impact of each measure on demand and energy usage, these effects must be considered. For example, the savings provided by adding ceiling insulation will be less when calculated with a high-efficiency air conditioning system than with a standard efficiency system. Ceiling insulation is an example of a complementary measure. Complementary measures are options that can be installed alone or jointly regardless of what other options are installed. Competing measures, such as two different types of high-efficiency central air conditioners, on the other hand, force the customer to choose only one of the measures to install. As a part of FPL's extensive end-use evaluation efforts, these effects are part of the evaluation process, and the resulting demand and energy impacts account for these interactive effects as they occur in the FPL customer population.

Q. **In developing the demand and energy impacts of each measure, did FPL consider overlapping measures?**

A. Yes, the statistical and engineering analyses conducted to estimate FPL measure impacts are based upon primary end-use metered (EUM), billing, and customer survey data that reflect the energy usage characteristics of FPL's entire customer population. As such, EUM and billing data are analyzed for a representative sample of the population, including participants who participate in more than one program. The resulting impacts, therefore, include the effects of overlapping measures on program impacts.

Q. **In developing the demand and energy impacts of each measure, did FPL address rebound effects?**

A. Yes, as part of the end-use evaluation efforts, a statistical analysis is performed which explicitly accounts for rebound. This analysis, which considers both pre- and post-participation electricity usage, captures changes in behavior (for example, lowering the thermostat setpoint as a result of the purchase of a new air conditioner). Rebound, if present, would result in a higher than expected (from an engineering model perspective) post-participation level of energy usage, and, therefore, lower than expected actual impacts.

Q. In developing the demand and energy impacts of each measure, did FPL consider free ridership?

A. Yes, measure net benefits—which encompass both free ridership (free riders are program participants who would have installed the identical efficiency measure at the same time even if the utility program did not exist) and free drivership (free drivers are nonparticipating customers who install the identical efficiency measure which program participants installed because the utility program increased the prevalence and awareness of the efficiency measure in the marketplace) -- are analyzed in comprehensive assessments of the effects of FPL's measures on the targeted energy-efficient technologies by both participants and nonparticipants. A key feature of these assessments is substantial annual nonparticipant and baseline surveys which form the basis for addressing these effects.

Q. In developing measure impacts, how were the interactions with building codes and appliance standards addressed?

A. Current and expected building codes and appliance efficiency standards are a key input to the baseline efficiency levels established for each of FPL's measures. In addition, the effects of these codes and standards on nonparticipant and baseline energy efficiency actions are captured in the large nonparticipant and baseline surveys mentioned above.

Q. How were the administrative and participant costs developed?

A. These costs were based on either FPL's experience with the same or similar measures that are part of existing DSM programs or estimates developed by other parties such as FSEC or updated values from the SRC study. See Document No. 11 for a measure-by-measure detailed summary of the costs used and the source of the information.

Q. Is it appropriate to include administrative costs in the economic screening?

A. Yes. This is consistent with cost-effectiveness methodology prescribed by the Commission. For the RIM test, the methodology properly requires all measure related costs such as lost revenues, measure incentives and administrative costs to be compared to the total benefits associated with the measure. Excluding a cost component would not result in a correct evaluation.

Q Please describe the preliminary screening used?

A. The preliminary cost-effectiveness tests were performed to determine incentive amounts FPL could cost-effectively pay participants under the RIM and Participant tests.

Document No. 12 shows the results of the preliminary screening. The maximum incentive dollars under this scenario were determined by calculating the measure cost which would result in a cost-effectiveness (benefit/cost) ratio close to 1.01-to-1 for the 2005 avoided unit and which continued to allow the measure to be cost-effective when compared to all other subsequent avoided units. The benefit amount or the avoided cost was assumed to be equal to an equivalent sized part of a single avoided unit (adjusted for reserve margins and line losses), system fuel impacts, plus transmission and distribution facilities. The costs consisted of the administrative costs, revenue losses and incentives. Since utility program costs (administrative costs) were identified prior to the screening, and revenue losses could be determined from the measure's kW and kWh impacts, the maximum incentive level could be determined by subtracting the utility program cost from the maximum available program dollars which already included revenue losses.

Simple participant payback **without** incentive was calculated, and if it was determined to be less than 2 years, the measure was also dropped from further analysis.

Simple payback with maximum incentive was determined. If it was greater than two (2) years, the maximum incentive was used. If the payback with maximum incentive was less than two (2) years, the incentive was adjusted downward to ensure a payback period of no less than 2 years.

Q. Why did you use the two (2) year payback criteria?

A. Incentives were calculated based on providing a two year payback to encourage the customer to implement the DSM measure. If a customer investment in a DSM measure will naturally pay for itself in less than two years, that was thought to be sufficient motivation and no additional cash incentive is offered. Without such a program design, free ridership, the phenomenon of paying incentives to participants who would participate anyway, would be higher. Simply stated, it is thought that FPL's DSM programs should not pay people to do what they would do anyway.

This two year payback methodology is the same methodology that was successfully used by FPL in the last goals proceeding to minimize free ridership.

Q. **Which measures did you screen out of your portfolio that required no utility incentive to achieve less than a two year payback?**

A. As shown in Document No. 12, the following measures passed the RIM and Participants tests but were screened out of the portfolio based on having less than a two year payback with $0 incentive:

- SC-D-6 GSLD Heat Pipe DX New and Existing Construction
- SC-D-26A GSD & GSLD Light Colored Roof Chiller Air Cooled - New Construction
- SC-D-26W GSD & GSLD Light Colored Roof Chiller Water Cooled - New Construction
- SC-D-27 GS, GSD & GSLD Light Colored Roof DX - New Construction
- INC8LP GSD & GSLD Incandescent 8 Hour Low Permanence Existing Construction
- W-D-16 GSLD Low Flow / Variable Flow Shower Head

Q. How was the expected life of the DSM measure used in screening?

A. If after applying the maximum available incentive for a measure its payback period exceeded the life of the measure, then the measure was deemed not cost-effective for customers and was dropped from further analysis.

Q. How do you treat DSM measures which have a life expectancy shorter than the planning horizon?

A. Measures whose life are shorter than the planning period have to be replaced in order to continue to contribute to the energy and demand reductions. A residential high-efficiency air conditioner, for example, has a life expectancy of fifteen years. At that time, the DSM program must count the cost of resigning the same participant or signing a new one to the program. This approach is most appropriate in determining achievable potential for goal setting. By designing "programs" around individual measures, FPL can comply with the Commission directive to evaluate measures individually while maintaining a realistic expectation that long-term savings will result. These recurring costs are included in the cost-effectiveness calculations and are part of the screening analysis performed. The recurring costs include administrative and incentive costs.

Q. In Step 3 of the process, FPL included measures with a latest RIM ratio between .9 and 1.0. Based on the analysis done for this proceeding, do any of these measures now have a RIM ratio greater than 1.0?

A. No. The following are the measures that were not cost-effective last time, but still had a RIM ratio between .9 and 1.0. The current RIM ratio is provided. None of these measures had a RIM ratio greater than 1.0.

- FR-1 Best Freezer FF - 0.95
- RSC-16A Window Film & Reflective Glass – 0.99
- RSC-22A 2 Speed Central AC – 0.99
- PP-1 High Efficiency Pool Pump – 0.81
- V-D-9 GSLD High Efficiency Motors DX – 0.73
- V-D-10 GSLD Separate Makeup Air / Exhaust Hoods Chiller – 0.57
- V-D-11 GSD Separate Makeup Air / Exhaust Hoods DX – 0.62
- V-D-11 GSLD Separate Makeup Air / Exhaust Hoods DX – 1.00
- R-D-4 GSD Multiplex: Air Cooled Ambient & Mechanical Subcooling – 0.82
- R-D-6 GSD Open Drive Refrigeration System – 0.81
- W-D-13 GSD HRU – 0.87

- W-D-13 GSLD HRU – 0.92
- W-D-15 GSD DWH Heat Trap – 0.74
- W-D-15 GSLD DWH Heat Trap – 0.79
- W-D-17 DWH Recirculation Pump – Payback less than two years
- FPLM-1 GSD Motors – 0.66
- FPLM-1 GSLD Motors – 0.68

All of these measure's RIM ratios were calculated with $0 incentives. The RIM ratio will decline further if a non-zero incentive is assumed.

SECTION III: DETERMINATION OF THE 2000-2009 ACHIEVABLE POTENTIAL

Q. How was the achievable market potential estimate determined?

A. Depending on the time period and the measure, several different methods were used. From FPL's IRP process, avoided units to screen measure were identified in 2005 and 2008.

Q. How was the achievable market potential for the year 2000 determined?

A. In determining the reasonably achievable potential for the year

2000, the timing of this proceeding is critical. FPL will file its proposed goals on February 1, 1999. The hearing for this proceeding is scheduled for May 10, 1999 through May 14, 1999 with the final order becoming effective September 8, 1999. (Although, at the time this testimony is being prepared, LEAF has proposed at least a four month delay in this proceeding and the schedule set forth above). After the final order in this case, FPL will have 90 days "or such longer period as approved by the Commission" to submit for Commission approval a demand side management plan designed to meet the utility's approved goals. This would result in FPL submitting its DSM Plan in December 1999 at the earliest. Assuming a reasonable schedule and review process, FPL's new DSM plan would not be approved until June or July 2000. Allowing time for program implementation, the new DSM programs that support the 2000 - 2009 goals will not be completely implemented until the Fall of 2000. For this reason, FPL's achievable potential for 2000 is based entirely on FPL's currently offered DSM programs.

Q. **How was the achievable market potential estimate for the years 2001 through 2009 determined?**

A. Achievable potential estimates were calculated in a two-part, iterative process. First, base-year (1999) eligible market estimates were made using data from FPL's Customer Information System (CIS), Marketing Information System (MIS), Home Energy Survey (HES), C/I Sector Survey (CISS) and Nonparticipant Canvass Survey data. Customer decisions regarding measure purchase and measure participation were then modeled by analyzing either stated preference or revealed preference data on customer response to program and measure features, as well as program awareness estimates obtained from Nonparticipant Canvass Surveys. The resulting estimates of the percentage of the eligible market installing a measure in a given year were then multiplied by the number of customers in the eligible market to obtain estimates of measure participation in a given year. Participation estimates were calibrated to actual participant and nonparticipant purchase data for 1997, to provide the best possible estimates of base year (1999) participation levels. 1999 participation and nonparticipant purchase estimates, as well as estimates of the growth and demolition of residences and facilities in FPL's service territory, were then combined with the 1999 eligible market data to estimate the eligible market in the next year (2000). Updated measure feature (primarily incentive level), technology cost and savings, and awareness data were entered into the stated and/or revealed preference-based choice algorithms, and measure participation for the year

2000 was estimated. This procedure was repeated to estimate measure levels for each year in the planning period. The estimates of the number of measure participants was combined with end-use evaluation based demand and energy impacts to develop the achievable potential estimates.

For the peak load shaving or load management measures, a different methodology is more appropriate. For these types of measures, it is critical to determine how much load management is actually "usable" for an individual utility. Consideration must be given to the system load shapes and characteristics of load management measures including control strategies (cycling loads vs continuous interruptions), length of the control periods and the payback effects once load control is released. FPL has developed a technique, which is described in Dr. Sim's testimony, that outlines this process in detail. Performing this analysis for the various years in the goal setting time frame provides the upper annual limit of the amount of incremental load management FPL can use. The achievable potential for the load management measures were set using this technique.

Lastly, the achievable potential for the thermal energy storage and off-peak battery charging measures was determined based upon historical program participation. These measures have cost-effective incentive levels similar to our existing programs. This allows us to confidently forecast future acceptance of these rather uncommon measures by customers.

Q. **Can you provide an example of the process used to calculate achievable potential?**

A. Yes. Details of each step for the residential central air conditioner and heat pump measures are provided below.

The four components for the residential HVAC model (and of all the models used to estimate achievable potential) are estimating the: eligible market, likelihood of purchases, product choice, and annual purchases.

The model begins with an estimation of the eligible market. Eligibility is determined by applying measure eligibility requirements to information contained in FPL's Customer Information System (CIS) and FPL's Home Energy Survey (HES). FPL's residential Marketing Information System (MIS) is used to identify customers who have installed the measure via FPL's program in the past, and therefore may be ineligible for the program in future years. The eligible market is defined for 25 segments - 3 house types, 5 geographic regions, and 3 usage segments.

Extensive research into the factors affecting the likelihood of HVAC purchase revealed that the vintage of existing HVAC equipment is the key factor affecting HVAC purchases. That is, the FPL rebate, while possibly accelerating the HVAC purchase decision slightly, primarily affects the efficiency of system chosen, rather than the time of purchase. As a consequence, the HVAC likelihood of purchase function in the HVAC model represents HVAC purchase as a function of existing equipment vintage, with different replacement rates for the different vintage equipment. Total replacements increase over time, as the existing stock of HVAC equipment ages.

The product choice module predicts the probability of a customer installing the measure through an FPL DSM program, as well as the efficiency (i.e., SEER) level chosen, for all HVAC purchasers (both participants and nonparticipants) in FPL's service territory in a given year. Stated preference data from over 2,000 customers is used in estimating these probabilities. The stated preference exercise determines the probabilities of purchasing different efficiency HVAC units, both within and outside an FPL

DSM program based on actual rebate level, HVAC system cost, SEER rating, electricity savings and electricity price estimates.

Estimates of program awareness (obtained primarily from Nonparticipant Canvas Survey responses) are then combined with the estimates of eligible market, likelihood of purchase and product choice to estimate the number of purchases within and outside the program at different SEER levels (for example, 10, 11, 12, 13, 14-plus SEER) in a given year. The model is calibrated to actual purchase and participation data. Nonparticipant purchases and SEER levels are estimated using Nonparticipant Canvass Survey data.

In subsequent years, the eligible market and equipment vintages are adjusted to reflect the previous year's purchase activity, new construction and housing demolitions. Electricity prices and capital costs are changed to reflect FPL price forecasts and estimated changes in capital costs. Program awareness levels are adjusted to reflect likely changes in awareness. Purchase and participation is estimated by entering these new data into the Residential HVAC model. This procedure is repeated for each year of the desired forecast period.

Q. What is FPL's achievable market potential estimate?

A. FPL's estimated achievable market potential estimate for the years 2000 through 2009 is 765 MW's of summer demand reduction.

Q. What is the impact of FPL's achievable potential?

A. FPL's achievable potential results are an integral part of FPL's Integrated Resource Planning process. The results obtained in this phase of the process are subsequently used to determine how large a role DSM should play in FPL's resource plan.

SECTION IV: CODE/UTILITY EVALUATION (CUE) MEASURES

Q. What type of analysis was done to determine the achievable potential for the CUE measures?

A. Although not required by the Procedural Order for this proceeding, FPL has analyzed the cost-effectiveness of twenty-eight (28) measures labeled as CUE. FPL used the same four-step process as was used for the UP measures to determine which measures should be screened for cost-effectiveness. Consistent with this methodology, FPL did not re-evaluate those CUE measures which had a RIM ratio of less than .9. Document No. 13 shows the pre-screening for the CUE measures;

Document No. 14 shows the CUE measures that were screened for cost-effectiveness with the results of the cost-effectiveness analysis; and Document No. 15 is a summary of the administrative and participant costs associated with each CUE measure and the source of the information.

Q. What was the result of the CUE measure cost effectiveness screening?

A. Only one measure SC-D-23 Window Film DX AC (for all three Commercial/Industrial rate classes), passed both the RIM and Participant tests.

Q. What should the Commission do with the CUE measures that passed the RIM and Participant tests?

A. CUE measures that passed the cost-effectiveness tests are candidates for inclusion in the Energy Efficiency Code. The Commission should work with the utilities it regulates to encourage DCA to include these measures in the Energy Efficiency Code. Code implementation, particularly inclusion in the mandatory portion of the code, should achieve far higher market penetrations than utility programs. FPL volunteers to work with the DCA to incorporate these measures into the code.

Q. Should the savings associated with these measures be considered in the goals process?

A. No. The Energy Efficiency Code is the more efficient means to implement efficiency measures. Mandatory code measures should be extremely effective in achieving market penetration in relation to a utility program. The Energy Efficiency Code is reviewed and updated on a periodic basis; thus, it does not seem reasonable to incur implementation costs in measures that have the potential to become part of the code in the near future.

SECTION V: NATURAL GAS

Q. How did FPL evaluate natural gas measures?

A. As part of the last goal setting process, FPL classified the natural gas measures as R&D. Pursuant to Florida Public Service Commission Order Number PSC-94-1313-FOF-EG, FPL submitted a Natural Gas Demand-Side Management Research & Development Plan to the Commission for approval. The Commission's order approving that plan requires FPL to conduct research and development projects in the functional areas of heating, cooling, dehumidification and water heating and to develop Florida-specific information on performance and cost-effectiveness of those technologies. An expressed Commission concern in Order No. PSC-94-1313-FOF-EG was the absence of Florida-specific data for the noted technologies.

A primary focus of FPL's natural gas research and development effort has been to determine the appropriate inputs to the cost-effectiveness tests. The development of both lab and actual field data specific to FPL's service territory will allow FPL to more accurately determine the cost-effectiveness of each natural gas end-use technology under the Commissions' approved cost-effectiveness tests. FPL's proposed research efforts and their scheduled completion dates for the final reports are: 1) Residential Gas Heat Pump – June 1999, 2) Residential Gas Water Heating – June 1999, 3) C/I Gas Engine Chiller – June 1999, 4) C/I Gas Desiccant Cooling – December 1998, and 5) C/I Gas DX Air Conditioning – June 1999.

In February 1997, FPL filed, and the Commission approved, a petition to terminate the C/I Gas DX Air Conditioning research project based on the joint findings of Peoples Gas and FPL. Peoples' representatives raised concerns as to why FPL was researching this technology because they did not believe it to be applicable in Florida except with customers with very unique circumstances. The only use of the technology in Peoples' service territory of which Peoples was aware was a site in St. Petersburg where there was not electrical service available. Based upon Peoples' reservations about whether the technology was feasible for Florida, FPL and Peoples performed a joint study of the feasibility of the technology using manufacturers' performance data. The conclusion reached in the joint feasibility study regarding the use of gas engine-driven DX air conditioning solely for cooling was unless a customer has a specific interest in gas DX, or unusual circumstances that greatly offset the higher installation costs for the gas equipment, a customer will typically not choose gas DX for straight cooling applications. The feasibility study also examined the use on the gas engine-driven DX air conditioning in conjunction with a heat recovery application. The conclusion reached in the feasibility study regarding the use of this technology with heat recovery was both the operational scenario and the amount of recovered heat utilized are critical to the economics of the gas DX technology. That is why, for heat recovery, a customer-specific analysis is always necessary. Based on these findings there is no identifiable achievable potential for this technology.

The results of the C/I Gas Desiccant Cooling research project were filed with the Commission in December 1998.

Q. What are your conclusions in the area of natural gas substitution?

A. Based on the research findings to-date, FPL sees no cost-effective potential for the natural gas end-uses examined at this time. FPL does not recommend the inclusion of natural gas measures as part of the goal's process.

SECTION VI: RENEWABLE AND HIGH THERMAL EFFICIENCY COGENERATION

Renewables

Q. Which renewable measures did FPL evaluate?

A. From FPL's perspective, renewable measures include the following energy options: geothermal, wind, hydro, bio-mass, and solar.

Geothermal energy options do not exist in the State of Florida.

Wind options are available in other parts of the country; however, in Florida there are simply not enough sustainable winds to make wind power a viable alternative. FPL tested windmills during the 1980's and confirmed they were not cost-effective because of the lack of sustainable winds.

Hydro power options are not available within FPL's service territory because of our flat terrain.

Bio-mass options are one of the few renewable options available to Florida, although in a limited fashion. Already, there are several municipal solid waste facilities in our service territory where FPL has agreements to purchase the power output on a consistent basis, but even these applications are limited.

Therefore, FPL concludes that in our service territory the only renewable option that is feasible for development as a DSM option is solar.

Q. Did FPL's effort analyze solar measures?

A. Yes, solar measures were analyzed like other potential utility program measures. However, since none of the solar energy measures passed both the RIM and Participant tests, they were rejected for further evaluation.

Q. What is FPL's conclusion regarding renewable resources?

A. As discussed earlier, FPL has found the only technically viable resource was solar. But, based on the failure of solar measures to pass the required cost-effectiveness tests, FPL does not recommend the inclusion of solar measures in the goals process.

Q. Has FPL performed any other activities to promote renewable/solar energy?

A. Yes, FPL has been the leading Florida utility in regard to examining ways to utilize renewable energy technologies to meet its customers' current and future needs. FPL has been involved since 1976 in renewable energy research and development and in facilitating the implementation of various renewable technologies.

In terms of renewable technology research and development, FPL assisted the Florida Solar Energy Center (FSEC) in the late 1970's in demonstrating the first residential solar photovoltaic (PV) system east of the Mississippi. This PV installation at FSEC's Brevard County location was in operation for over 15 years and provided valuable information about PV performance capabilities on both a daily and annual basis in Florida. FPL later installed a second PV system at the FPL Flagami substation in Miami. This 10 kilowatt (kW) system was placed into operation in 1984. The testing of this PV installation was completed and the system was removed in 1990 to make room for substation expansion.

FPL's PV R&D project is a thin-film PV test facility located at the

FPL Martin Plant site. The FPL PV test facility is used to test new thin-film PV technologies (and others as they become available for demonstration) and identifies design, equipment, or procedure changes necessary to accommodate direct current PV facilities into the FPL system. The site has a potential generating capacity of up to 100 kW.

In terms of utilizing renewable energy sources to meet its customers' needs, FPL initiated the first utility-sponsored conservation program in Florida designed to facilitate the implementation of solar technologies by its customers. FPL's Conservation Water Heating Program, first implemented in 1982, offered incentive payments to customers choosing solar water heaters. Before the program was recently ended (due to the fact that it was not cost-effective), FPL paid incentives to approximately 48,000 customers who installed solar water heaters.

In the mid-1980's, FPL introduced another renewable energy program. FPL's Passive Home Program was created in order to broadly disseminate information about passive solar building design techniques which are most applicable in Florida's climate. Complete designs and construction blueprints for 6 passive homes were created by 3 Florida architectural firms with the assistance of the FSEC and FPL. These designs and blueprints were available to customers at a low cost. During its existence, this program was popular and received a U.S. Department of Energy award for innovation. The program was eventually phased out due to a revision of the Florida Model Energy Building Code. This revision was brought about in part by FPL's Passive Home Program and the revision incorporated into the Code one of the most significant passive design techniques highlighted in the program: radiant barrier insulation.

In early 1991, FPL received approval from the Florida Public Service Commission to conduct a research project to evaluate the feasibility of using small PV systems to directly power residential swimming pool pumps. This research project was completed with mixed results. Some of the performance problems identified in the test may be solvable, particularly when new pools are constructed. However, the high cost of PV, the significant percentage of sites with unacceptable shading, as well as customer satisfaction issues remain as significant barriers to wide acceptance and use of this particular solar application.

Q. Is FPL currently performing any other activities to promote renewable/solar energy?

A. Yes, FPL is currently conducting a Green Pricing R&D project which is one of the R&D efforts submitted as part of FPL's 1995 DSM Program filing. This project is being done to test the willingness of FPL's customers to support the installation of photovoltaic panels in a grid connected facility at FPL's Martin power plant. The program concept allows customers to voluntarily contribute towards the purchase of renewable resources by FPL that would otherwise not be cost-effective for FPL to acquire. FPL planned to build at least a 10 kW facility. The revenues collected from these customers is put into a separate account (the Green Fund) and are being used to purchase photovoltaic modules. This project was approved by the FPSC in June of 1997 and is scheduled to be completed (including construction) by June 1999. The project is split into a phase for marketing and solicitation of contributions, and a construction phase of the photovoltaic facility.

Q. What is the current status of the Green Pricing R&D project?

A. The marketing phase of this project was completed in the third quarter of 1998. Solicitations for the project were sent to both Residential and Commercial/Industrial customers. The total solicitations received were in excess of $89,000, which was above our goal of $70,000. This level of contribution will allow FPL to construct an 11 kW facility.

FPL is currently performing follow-up research with project participants to gain an understanding of the reasons for participation and ways to improve the number of participants in green pricing initiatives. This research will also examine alternatives for green pricing product offerings which may be considered in the future.

The construction phase is well underway. The design bidding package has been developed and requests for proposals were to be submitted in January 1999 to construct the photovoltaic facility at FPL's Martin power plant and a photovoltaic display at FPL's Energy Encounter, which is located at the St. Lucie power plant site. The construction project will be awarded in February 1999, and project completion is scheduled for June 1999.

High Thermal Efficiency Self-Service Cogeneration

Q. How did FPL categorize the High Thermal Efficiency Self-Service Cogeneration option?

A. The goals rule requires an assessment of this option in the

Commercial/Industrial market sector, but the rule is not clear on the definition of this topic. Since FPL's experience shows that self-service cogeneration can only be meaningfully examined on a case-by-case basis, FPL has classified it as a research option.

Q. What are the key factors for screening cogeneration options?

A. Two primary screening factors that should be evaluated with self-service cogeneration are: 1) to be feasible, the cogeneration option must have a relatively low priced fuel available for the customer. For example, a paper and pulp company may have wood chips and "black liquor" available from their industrial processes to be used as fuel. The sugar industries may have bagasse (the waste products of their sugar cane production) available as low cost fuel source for cogeneration options. 2) The thermal loads of the host facility must be relatively large and constant in order to make the output of the cogeneration facility effective. With sizable thermal loads of long duration, the cogeneration facility can operate many more hours throughout the year and take advantage of overall fuel efficiencies. If the thermal load is small, the operational feasibility of the project diminishes considerably. In FPL's service territory, there are relatively few known applications where the most effective thermal loads, steam and hot water, are large enough and of long enough duration to make the high thermal efficient self-service cogeneration option viable.

Q. What are the results of your analysis?

A. There has been a limited amount of self-service cogeneration implemented within FPL's service territory. Seven customers have self-service cogeneration in our service territory, representing approximately 234 megawatts of load that traditionally has not been served by FPL. These facilities are sugar and paper and pulp locations, where inexpensive fuel sources exist; thus, it makes sense for those customers to utilize those fuel sources to supply the thermal loads required by their industrial operations.

In addition, there are seven customers with self-service cogeneration facilities on some basis to displace their load within our service territory. This load represents approximately 412 megawatts. Each project has been implemented on a case-by-case basis.

In the past, there have been some Commercial/Industrial customers who have considered cogeneration as an alternative and abandoned those options. FPL is aware of 31 situations of this nature representing a total of about 422 megawatts of load. These customers utilized FPL's assistance to evaluate the various cogeneration alternatives and found that it was not feasible and/or economical. Presently, ten customers are considering cogeneration as an energy alternative and are being assisted by FPL in the evaluation process to ensure that they get accurate results. It is uncertain how much activity will result from these specific evaluations, but these site specific, case-by-case evaluations do not lend themselves to the goals setting process.

Q. What is your conclusion regarding High Thermal Efficiency Self-Service Cogeneration?

A. High thermal efficiency self-service cogeneration was classified as research because case-by-case analysis is the appropriate manner to evaluate this option due to the unique nature of each building or facility. These are very site-specific, case-by-case determinations. Therefore, FPL reflects no value for this end-use in the development of its overall goals.

SECTION VII: CONCLUSIONS

Q. How much DSM have you concluded is reasonably achievable for FPL?

A. Based on the analysis performed for this goals proceeding, FPL can successfully implement 765 MW's of cost-effective DSM between 2000 and 2009. Document No. 1 is a summary of the 2000 through 2009 reasonably achievable goals.

FPL believes that DSM is a tool not only to increase energy efficiency, but also to lower electric rates and customer bills for all customers. FPL has ample incentive to promote DSM where appropriate. FPL is keenly aware from years of regulatory efforts to keep rates low and from the increasingly competitive market place that the rates of all customers should be minimized. FPL firmly believes that implementing the proposed goals and the resulting resource plan is the best choice for FPL customers.

Q. Has FPL used a reasonable and sound process to arrive at its goals?

A. Yes. The last goals proceeding required significant analysis that were not ultimately used in setting DSM goals. FPL has used its experience and analysis from the last proceeding to implement a goal setting methodology that allows it to focus its efforts on using the best available data to arrive at reasonably achievable goals which are both cost-effective and provide direct benefits to both DSM program participants and nonparticipants.

Q. Does the methodology used by FPL address the requirements of Rule 25-17.0021?

A. Yes. FPL's has properly evaluated the UP measures that was circulated by the Commission Staff as part of the materials provided at the workshops for this proceeding. FPL supplemented this list with additional measures that resulted in increasing the achievable potential. FPL also evaluated the feasibility of natural gas measures, CUE measures, renewable measures and high thermal efficiency cogeneration being included as part of its goals. In addition, FPL has developed goals using its most current assumptions applied to its IRP process to arrive at annual summer demand, winter demand and energy goals for both the Residential and Commercial/Industrial segments for the ten year horizon of 2000 through 2009.

Q. Are the proposed goals effective in avoiding or deferring the addition of new generation capacity?

A. Yes. FPL's proposed goals of 765 MW's for the period of 2000 through 2009 avoids the need for two 400 MW combined cycle units that would otherwise need to come in service during this time period.

Q. Does FPL proposed goals adequately address the needs of lower income customers?

A. Yes. The results of the process used by FPL to establish the reasonably achievable cost effective DSM goals ensures that these customers benefit by using a RIM screen which minimizes the rate impact of continuing to meet the growing demand for electricity of our all customers. The RIM test ensures that nonparticipants still receive direct benefits through reduced rates. Secondly, many lower income customer do participate in FPL's DSM programs. Data from 1997 shows that, overall, 24% of participants in FPL's DSM programs were lower income customers.

Q. Do the proposed goals provide a cost-effective plan for meeting the need for additional capacity through 2009?

A. Yes. As Dr. Sim discusses, FPL's Integrated Resource Plan considers the cost-effectiveness of the various resources available to meet future capacity needs. By basing the DSM component of this plan on only measures that pass the RIM test and are achievable, FPL is assured that its ratepayers are provided the most cost-effective portfolio of resources to meet future capacity needs.

Q. Should FPL's proposed goals of 765 MW's be approved for the time period 2000 through 2009?

A. Yes. FPL's proposed goals are based on a sound and prudent methodology that uses the best available data to arrive at goals that: 1) meet the requirements of Rule 25-17.0021, 2) address the needs of our customers, 3) provides 765 MW's of summer demand reduction, 4) minimizes the rate impact of meeting the future need for capacity, 5) are cost-effective to both participants and nonparticipants and 6) are reasonably achievable.

Q. Does this conclude your testimony?

A. Yes it does.

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

FLORIDA POWER & LIGHT COMPANY

TESTIMONY OF STEVEN R. SIM

DOCKET NO. 971004-EG

FEBRUARY 1, 1999

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 position do you hold?**

A. I am employed by Florida Power & Light Company (FPL) as a Supervisor in the Resource Assessment & Planning Department.

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

A. I supervise a group that is responsible for determining the magnitude and timing of FPL's future resource needs, analyzing supply and demand side management (DSM) options which could potentially meet these future needs, and developing FPL's integrated resource plan with which FPL intends to meet these needs.

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

A. I graduated from the University of Miami (Florida) with a Bachelors degree in Mathematics in 1973. I subsequently earned a Masters 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 at Cape Canaveral 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., which were applicable in the Southeastern United States.

In 1979 I joined FPL, and from then until 1985, I worked first in the Marketing Department and then in the Energy Management Research Department. My responsibilities during this time included the development and monitoring of numerous DSM programs. In 1985, I began working in FPL's Load Management Department as Supervisor of Planning. My responsibilities there involved design of FPL's load management programs, cost-effectiveness analyses and monitoring of these programs, and the integration of these programs with FPL's capacity resource plans.

In 1991 I assumed the position of Supervisor of Supply and Demand Analysis in the System Planning Department, where my responsibilities included the cost-effectiveness analyses of a variety of individual supply and DSM options. In 1993 I assumed my current responsibilities in the Resource Assessment & Planning Department (formerly the System Planning Department).

Q. What is the purpose of your testimony'?

A. The purpose of my testimony is to explain the integrated resource planning (IRP) work which FPL performed during 1998 which led to the determination of the level of cost-effective DSM which FPL is now proposing as its DSM goals. (FPL's 1998 IRP work actually concluded in January, 1999. In my testimony, all of this work will be referred to as the 1998 IRP work.)

Q. How is your testimony structured?

A. My testimony is presented in 4 parts. First, I briefly introduce FPL's IRP approach to evaluating resource options such as DSM and then discuss the key planning assumptions which were used in FPL's 1998 IRP work. Second, I discuss the first half of the analyses which were performed in determining the achievable potential level of cost-effective DSM. The cost-effectiveness screening of individual DSM options is addressed in this section. (Mr. Brandt's testimony addresses the second half of this work.) Third, the development and comparison of competing resource plans, with and without additional DSM, is addressed. Finally, I summarize these analyses, compare the resulting proposed levels of DSM with FPL's current DSM goals, and discuss why different levels of DSM are now being proposed.

Q. Are you sponsoring any exhibits?

A. Yes, the exhibits consist of the following 13 documents:

Document No. 1:	Overview of FPL's IRP Process
Document No. 2:	Peak Load & Net Energy for Load (NEL) Projection: 2001-2009
Document No. 3:	1998 Fuel Cost Forecast
Document No. 4:	Projected FPL Resource Needs (MW): 2001-2009
Document No. 5:	Hypothetical Utility Peak Day Load Shape
Document No. 6:	Representative Effect of Implementing 100 MW of Load Control on the Hypothetical Utility Peak Day Load Shape
Document No. 7:	Representataive Effect of Implementing 200 MW of Load Control on the Hypothetical Utility Peak Day Load Shape

Document No. 8:	Supply Only Resource Plan
Document No. 9:	Calculation of System Average Levelized Rate for the Supply Only Resource Plan
Document No. 10:	Competing Resource Plans
Document No. 11:	Comparison of Annual Reserve Margins and LOLP Values for the Supply Only and With DSM Resource Plans
Document No. 12:	Calculation of System Average Levelized Rate for the With DSM Resource Plan
Document No. 13:	Comparison of 1994 & 1998 Projections for a CC Unit: Selected Cost & Performance Values

I. FPL's Planning Approach and Key Planning Assumptions

Q. Please briefly describe FPL's approach to evaluating what role DSM should play in meeting future resource needs.

A. FPL utilized its basic IRP process to analyze what role DSM should play in its resource plan. This basic process has been well-documented in each of the last several Ten Year Power Plant Site Plans (Site Plan). A copy of the IRP process write-up which appeared in the 1998 Site Plan is presented in Document No. 1. FPL believes that an integrated resource planning approach is the best way to determine how much of any resource option, supply or DSM, should be included in FPL's resource plan because it allows options to compete on an equitable basis to earn a place in the resource plan.

Q. Did the 1998 IRP work differ from the IRP work which was carried out in the last few years?

A. Yes, but only in regard to certain starting assumptions. The same basic IRP process has been used by FPL since late 1993. At the start of each annual IRP effort, a number of assumptions and projections are updated. Document Nos. 2 and 3 present, respectively, two of the key projections which were used in the 1998 IRP work: the load/energy forecast and the fuel cost forecast.

During the last few years, FPL's IRP work assumed that the level of DSM through the year 2003 called for in FPL's current DSM goals was a "given" in the annual planning work. Thus, DSM did not have to compete for a place in the resource plan during those years since DSM's role in the resource plan had been established in the previous Goals docket. However, since the purpose of this docket is to reset DSM goals, it was not appropriate to continue to view predetermined DSM levels over a number of years as a "given".

Consequently, the 1998 IRP work assumed that only currently planned DSM additions for 1999 and 2000 were a given. From examining the schedule for this docket's completion, it was assumed that much of 1999 would pass before new DSM goals were set and that much, if not all, of the year 2000 would then be needed to gain approval of new/revised DSM programs and their implementation plans, train FPL's DSM staff in the new parameters of the programs, and allow participating contractors time to make necessary adjustments for new/revised DSM programs. Therefore, FPL's 1998 IRP work started with the assumption that the currently planned DSM for 1999 and 2000 would be viewed as a given. A corresponding assumption, that <u>no</u> additional DSM would be viewed as a given beyond the year 2000, was also made. Therefore, DSM would have to compete to earn a post-2000 role in FPL's resource plan.

Q. What were the other key planning assumptions utilized in the 1998 IRP work?

A. There were two other key assumptions which affected the analysis of DSM. The first of these involved commitments FPL made in 1998 to repower existing power plants at two of its existing power plant sites. FPL's <u>1998 Site Plan</u> introduced FPL's plans to repower both existing steam units at FPL's Ft. Myers plant site, and two of the three existing steam units at FPL's Sanford plant site. Subsequent to the release of the <u>1998 Site Plan</u>, FPL committed to both of these repowering projects which represent significant capacity additions (over 1,700 incremental MW in total) to the FPL system.

The repowered units are scheduled to come in-service in January, 2002, and January, 2003, respectively. In addition, the early installation (as part of the repowering work) of combustion turbines at both of these sites in the year preceding each project's in-service date will also add significant capacity to the system during these two preceding years (2001 and 2002) as well. This is due to the fact that the combustion turbines will be able to operate in a stand-alone, simple cycle mode prior to their connection to heat recovery steam generators to form the repowered combined cycle unit.

The second of these key assumptions involved the relative accuracy of load forecasts for different time periods. The general assumption was that the accuracy of most forecasts generally tends to diminish the further out in time the forecast attempts to predict. In its 1998 IRP work, FPL applied this general assumption to its forecast of peak loads and assumed, for example, that forecasts of peak loads 6 years out would be less accurate than forecasts of peak loads 3 years out.

The manner in which FPL incorporated this assumption was to first determine what FPL's resource needs were projected to be assuming that the accuracy of the load forecast was unchanged regardless of how far into the future the forecast reached (i.e., by first ignoring the assumption that load forecast accuracy diminishes over time). Then, for years which were more than 3 or 4 years out from 1998, identify the year(s) for which reserve margin declined so that it neared the 15% criterion level. For any year with these characteristics, an additional resource need for that year was assumed to exist. (For the 10-year time frame of 2000-2009 which this docket addresses, only one year, 2005, was projected to have these characteristics. FPL addressed this by assuming a 350 MW resource need for 2005 and inserting this additional need in its system reliability analysis.)

Q. What are the potential effects which these two assumptions might have on the role which DSM could have in FPL's resource plan?

A. The potential effects of these two assumptions are varied both in terms of the magnitude and timing of DSM's potential role in the resource plan. The commitment to repower the existing Ft. Myers and Sanford units adds enough capacity so that no additional resource option, DSM or supply, is needed in 2001 through 2004 to meet reliability needs for those years. Therefore, the effect of this assumption is to reduce DSM's potential role for those years.

However, the decision to address uncertainty concerning longer-term forecasted peak loads by inserting an additional resource need in 2005 both accelerates the timing of resource needs after 2004 and increases the magnitude of these needs. The potential role for DSM is, therefore, both accelerated and enlarged after 2004. In addition, if DSM is determined to be cost-effective in sufficient quantities to displace capacity additions by 2005 or 2006, it will be necessary to begin signing up DSM participants a number of years earlier than that due to the fact that hundreds of MW of DSM cannot be signed up and installed in a year or two. Thus, additional DSM could begin to appear in the resource plan prior to 2005 in order to achieve sufficient DSM by 2005 or 2006 to displace a new generating unit.

Q. Could DSM have displaced either of FPL's two repowering projects?

A. No. It is not possible for DSM to displace them. This is most easily seen by considering the amount of additional cost-effective DSM which would have been needed in a very short time to displace either of these near-term capacity additions. For example, as discussed in FPL's 1998 Site Plan, FPL faced both a system-wide and a region-specific resource need by 2002 which is going to be met by the Ft. Myers repowering project. In regard to the regional need only, approximately 400 MW of new generation capacity or equivalent DSM were needed by January, 2002, in a very specific region (the Lee and Collier counties area) in order to satisfy a transmission-driven Winter resource need and avoid the construction of a 500 KV line from Florida's east coast to this region. It would take many years for DSM to supply such a large amount of MW cost-effectively (or otherwise) in a two-county area. Thus, it was not possible to address this resource need with DSM.

Similarly, although the resource need which the Sanford project fills is solely a system-wide need, sufficient cost-effective DSM could not be implemented in time to address this need either. (The amount of cost-effective DSM which is potentially achievable each year for the 2001 through 2009 time period is discussed later in my testimony.)

Q. How would you summarize the effects of this initial assumption-setting stage of the 1998 IRP work as it relates to DSM goal setting?

A. In regard to the setting of DSM goals for the years 2000 through 2009, the effects of the assumptions which were set can be summarized as follows:

1) Currently planned DSM implementation levels for the years 1999 and 2000 were taken as a given due to the time necessary to complete this docket, approve new/revised DSM programs, and begin to implement those programs. Consequently, the currently planned DSM level for the year 2000 will become FPL's DSM goal for 2000. The 1998 IRP work then sought to set new DSM goals for the remaining nine-year period of 2001 through 2009.

2) FPL's commitment to repower existing power plants at two sites means that no additional resources, supply or DSM, are needed in the 2001 through 2004 time frame to meet reliability needs for those years. This limits the role which DSM could potentially play

during those years.

3) Conversely, FPL's decision to increase its projected resource needs for 2005 above what would otherwise be reflected in its 1998 planning work increases and accelerates the role which DSM could potentially play in addressing resource needs beyond 2004. Furthermore, since it takes a number of years to accumulate large amounts of DSM MW, this means that additional DSM might have to be signed up prior to 2005 in order to address 2005 – on needs.

II. Cost-Effectiveness Screening of DSM Options and the Determination of DSM's Achievable Potential

Q. What was the nature of the next DSM-specific work undertaken in the 1998 IRP work?

A. The next DSM-specific work involved the determination of how much DSM was potentially cost-effective and achievable in each year for the 2001 through 2009 time frame. Once this information is known, it is possible to begin to accurately determine what role DSM might play in the resource plan.

Q. How does FPL determine how much DSM is potentially cost-effective and achievable?

A. FPL makes this determination in 3 basic steps. In the first step, "stripped down" DSM options are analyzed versus the likely supply option they would have to displace to earn a role in the resource plan. The information supplied for these "stripped down" DSM options includes all of the normal information (i.e., kw reduction per participant, kwh reduction per participant, administrative costs per participant, etc.) except for an incentive cost per participant. The intent of this analysis is to determine whether a DSM option is cost-effective even without an incentive payment.

If a DSM option is not cost-effective even without any incentive payment, it is deemed not to have "survived" this cost-effectiveness screening and is dropped from further consideration in the IRP process. If a DSM option is cost-effective without an incentive payment, a determination is made as to how large an incentive payment can be made before the DSM option is no longer cost-effective. These analyses are carried out using the Commission's approved cost-effectiveness methodology and utilize the Rate Impact Measure (RIM) test.

The second step involves using the incentive level information determined in the first step to then develop projections of how many participants (or how many kw) the market potentially could provide each year for each surviving DSM option at a selected incentive level. (The selection of an incentive level for a DSM option involves the use of the Participant's cost-effectiveness test. Mr. Brandt's testimony addresses this second step which is carried out by FPL's Marketing Department.)

In the third and final step, the DSM options are also evaluated to see if there are any non-economic factors which could further impact the achievable potential of an option. (This step is carried out by the Resource Assessment & Planning Department and will be discussed later in my testimony.)

Q. In the first of these three steps, how did FPL determine what the "likely supply option" was which DSM might displace?

A. In order to perform the cost-effectiveness screening of the "stripped down" DSM options, it was necessary to project what type of new generating units would be added to FPL's system absent any DSM and when those units would likely be added. In regard to the "what type" question, early 1998 projections of supply option cost and performance indicated that natural gas-fired combined cycle (CC) units would almost certainly be FPL's supply option of choice for most of the next decade. Therefore, the assumption was made at this point in the 1998 IRP work that DSM would most likely compete with CC capacity. (This assumption was proven correct later in the 1998 IRP work when FPL constructed its

Supply Only resource plan which will be discussed later in my testimony.)

The next question to answer was "when" these new CC units might be added. In order to determine this, a system reliability analysis was performed using reliability criteria of 0.1 day per year loss-of-load-probability (LOLP), a minimum Summer reserve margin of 15%, and a minimum Winter reserve margin of 15%. The results of this system reliability analysis, which incorporated the previously discussed addition of a 350 MW need in 2005 due to load forecast uncertainty, are presented in Document No. 4.

The results shown in Document No. 4, plus the assumption that all of the new generating units that would be added during this time frame would be CC units, led to the conclusion that one new CC unit (of approximately 400 MW) would likely be added each year starting in 2005.

Since at this stage of the analysis FPL did not yet know exactly how much achievable potential DSM would be cost-effective each year, an estimate had to be made in order to determine what year of capacity need shown in Document No. 4 might be targeted by DSM. For this purpose, FPL assumed that as much as 100 MW of DSM might be cost-effective and achievable each year. This assumption was based on several considerations including: the annual levels of DSM currently being achieved, the projected cost of new generating options at the time the current goals were set versus the current (and lower) projected cost of new generating options, and DSM cost-effectiveness analyses which were conducted in 1997 when FPL last modified its DSM programs.

Assuming that a maximum of 100 MW of DSM might be signed up each year means that it would take 3-to-4 years to accumulate enough new DSM capability to displace a new 400 MW CC unit that would otherwise be needed. This meant that enough DSM, if started in 2001, <u>might</u> be signed up in time to compete with new CC units which would otherwise come in-service first in 2005 and then again in 2008. Therefore, FPL's cost-effectiveness screening of the "stripped down" DSM options was first carried out versus CC capacity projected to come in-service in 2005. FPL assumed that DSM signed up prior to 2005 competed with this CC capacity. Next, FPL did additional cost-effectiveness screening versus CC capacity projected to come in-service in 2008. FPL assumed that DSM signed up in 2005 through 2007, plus some DSM signed up in the 2001 – 2004 period which was in excess of the amount needed to potentially displace a 2005 unit, competed with this CC capacity.

Q. What was the result of this cost-effectiveness screening of DSM?

A. Of approximately 250 initial DSM options submitted for analysis, 47 DSM options, in their "stripped down" mode, were found to be cost-effective versus the CC capacity in the economic screening process described above. FPL's Marketing Department then reexamined these surviving 47 options in order to determine optimal incentive levels and what the achievable potential for each option was based on the selected incentive level. (As previously mentioned, Mr. Brandt's testimony addresses the work undertaken in this step of this analysis.)

Q. Earlier you referred to a third step in this analysis. Was such a step carried out in the 1998 IRP work, and, if so, what were the results?

A. FPL did carry out an analysis as part of the 1998 IRP work to see if there were any non-economic factors which could impact the achievable potential of DSM options. This analysis was directed at FPL's <u>load control</u> programs and was a continuation of similar analyses FPL has conducted in the past. The objective was to see if FPL was nearing what it terms a "physical limit" as to how much load control is "usable" on its system.

Q. Please explain this concept of a "physical limit" for load control on a utility system.

A. The concept is best understood by first visualizing the shape of a utility's peak day load and then visualizing how the implementation of load control affects this load shape. To simplify matters, assume that a utility's peak day load shape resembles a normal distribution curve as shown in Document No. 5 with the peak hour's load at the very top of the curve.

The objective of load control is to lower the peak load of the system when load control is implemented. When it is implemented, load control reduces the electrical load the utility's system sees from the participating customers' equipment. Then, when load control implementation ends (or load control is "released"), the utility system typically experiences some short-term "payback" as pent-up demand for electricity from this equipment (particularly if the equipment is controlled by a thermostat such as is the case with air conditioners and water heaters) is now served.

In order to lower the system's peak load, a utility typically initiates load control prior to what its peak load hour would have been, and continues it for a time past what the peak load hour would have been, in order to ensure that the "payback" effect does not create a new, higher peak load. A result of load control's implementation is a "flattening" of the load shape for a period of time. An example of the effect of this typical implementation practice is illustrated in Document No. 6.

In the Document No. 6 depiction, load control is implemented for approximately 3 hours to achieve a desired 100 MW load reduction. Note that it is necessary to implement load control for this long in order to ensure that the load does not rise above the "w/ load control" line during the 3 hours (i.e., to really achieve the 100 MW demand reduction). In other words, load control must be implemented for a time period stretching from the left-hand side of the load curve shape to the right-hand side (which is a time period of 3 hours in this example) to achieve the desired 100 MW demand reduction.

The key point is that in order to achieve a given load reduction (i.e., a given drop down from the original peak hour load), it is necessary to implement and sustain load control for a certain number of hours (determined by the width across from the left-hand side of the load curve to the right-hand side).

Now assume the same utility wishes to implement load control to achieve double the demand reduction (200 MW). This means that there is a greater drop down from the original peak hour load (from 100 MW to 200 MW), and a greater number of hours (i.e., the width across the load shape) for which the load control must be sustained (from 3 hours to 5 hours in this example). This is illustrated in Document No. 7.

This brings us to the concept of a "physical limit" to how much load control makes sense for a utility system. Since load control must be sustained for a longer time period as the desired demand reduction gets greater, it is possible for the distance across the load shape simply to become too great a time period for the load control to be sustained. This is particularly true considering the fact that most load control programs have tariff (or other) restrictions on the number of hours particular equipment can be controlled. FPL considers the "physical limit" to load control on a utility system to be the point at which a desired increase in load reduction cannot be achieved due to the length of time the control must be sustained.

Note that this "limit" can be increased by either increasing the tariff limits to control or by essentially operating load control in a "relay race" mode in which two participating customers now are required to sustain a duration of control longer than is possible with only one customer. (For example, if it is necessary to sustain load control for 7 hours in order to achieve a desired reduction and the tariff limit of control is only 6 hours, it would be possible to have one participating customer "carry" the demand reduction for up to 6 hours and then have a second participating customer "carry" the demand reduction the rest of the time period until 7 hours are reached.)

However, there are drawbacks to either of these "remedies". Participating customers will only remain on the program as long as control durations do not exceed a tolerance threshold. Thus, there are limitations to this "remedy" itself. Likewise, using two participants to achieve additional demand reduction when the previous level of reduction only required one participant means that the cost-effectiveness of this next reduction increment has been significantly reduced (i.e., approximately cut in half).

Q. Does the same physical limit to load control apply to every utility?

A. No. Although FPL believes there is a physical limit as to how much load control is usable on each utility system, this limit will vary from one utility system to another. It is highly dependent upon peak day load shape. For example, FPL's Summer peak day load shape typically shows many more hours of high load than does FPL's Winter peak day. The Summer peak day load shape is thus <u>broader across</u> than the Winter peak day load shape (which is characterized by a "spikey" appearance). All else equal, this means that FPL could utilize more load control on a Winter peak day than on a Summer peak day simply because the demand reduction would have to be carried for fewer hours in Winter. In other words, there is a higher physical limit to Winter load control than to Summer load control for FPL.

Therefore, the amount of usable load control can even vary seasonally for the same utility. This physical limit to load control also varies from one utility to another depending upon the utilities' respective peak day load shapes, tariff restrictions on control duration, and the importance of Winter versus Summer peak loads in regard to resource planning.

Q. How does FPL analyze the physical limit of load control on its system?

A. FPL utilizes linear programming techniques to perform this analysis. The basic steps for this analysis include the following:

1) Develop a 15-minute interval projection of a future peak day load shape. (For example, develop such a projection for the August, 2002, peak day.)

2) Input assumptions for demand reduction and payback on a per participant basis for all of the types of equipment controlled by the load control programs. (FPL included projections for its residential and Commercial/Industrial load control programs in the analysis.)

3) Input the current tariff restrictions and current level of load control participants for each of these load control programs.

4) Using linear programming techniques, seek to utilize as much of the load control as possible in order to minimize the future peak day's highest hourly load as much as possible.

5) If 100% of the available load control is utilized, and if the theoretically achievable peak load reduction is as projected (for example, if you utilize 100 load control participants who are each theoretically able to provide 1 kw of demand reduction, you would expect to get a 100 kw demand reduction), then add an additional

amount of load control (for example, 10 additional participants) and check the projected theorectical reduction versus the linear programming result. (In our example, did 100 + 10 = 110 participants x 1kw/participant yield 110 kw?)

Once the point has been reached at which additional increments of load control do <u>not</u> yield the projected theoretical results (for example, 110 participants yielded <u>less</u> than 110 kw of reduction), then the physical limit of load control has been crossed. The analysis then backtracks to find the last point at which one additional projected increment of load control still yields one additional increment in the linear programming analysis. This point represents the physical limit for load control for a given year on the utility system and that amount of load control is the maximum amount that is termed "usable" for the system.

Q. What were the results of your analysis of load control for FPL's system?

A. The basic result is that FPL now appears to be <u>nearing</u> the physical limit of usable load control given current projections of future load shapes, demand reductions, payback, and tariff restrictions. FPL's analysis showed that the physical limit in regard to Summer peak was more restrictive than in regard to Winter peak. Consequently, FPL's analysis concentrated on the usable amount of load control "versus" FPL's projected Summer peak loads.

The analysis looked at how much additional load control was usable in two-year increments (i.e., versus projected Summer peak day loads for 2002, 2004, 2006, 2008, and 2010). These analyses showed that the amounts of <u>additional</u> load control which were usable were declining over time. The analysis showed that FPL could add approximately 80 MW of additional load control by 2002, another 40 MW by 2004, another 35 MW by 2006, an additional 35 MW by 2008, and an increment of 20 more MW by 2010 and still have all of FPL's total load control be usable versus the projected Summer peak loads.

These incremental values of usable load control represent a <u>significant</u> decrease from the amount of load control FPL is currently signing up per year. The sum of these usable incremental amounts is 210 MW by 2010. This equates to approximately 20 MW/year of <u>total</u> incremental load control capacity. By comparison, FPL has signed up approximately 60 MW per year of residential load control alone over the last few years.

Q. What other insights into future load control at FPL were gained from the analyses?

A. In terms of increasing the amount of usable load control, adding incremental load control that either has relatively long control durations and/or has little or no payback (such as pool pump control or Commercial/Industrial load control) is most helpful.

Q. How did FPL then utilize the results of these analyses in its 1998 IRP work?

A. FPL used the above-mentioned increments of usable load control as its maximum achievable potential for all of the load control programs combined. This served to lower the amount of load control achievable potential (and, correspondingly, also lowered the achievable amount of total DSM) that otherwise would have been used in the 1998 IRP work.

Q. After all 3 steps of determining DSM's achievable potential were completed, how much potential cost-effective DSM by year was projected?

A. For the 9 years analyzed, 2001 through 2009, approximately 70 MW per year of DSM were projected to be the annual cost-effective potential amount. (Note that the 70 MW value is an "at the meter" value. The corresponding "at the generator" value after accounting for line losses is approximately 10% higher.)

Q. Please summarize the results of the work designed to determine the achievable potential for cost-effective DSM for the years 2001 through 2009.

A. The key results of this work can be summarized as follows:

1) FPL analyzed approximately 250 DSM options, assuming zero incentive payments for each, to determine which would be cost-effective versus combined cycle capacity in the period beyond 2004. The Commission's approved cost-effectiveness methodology was utilized to perform these evaluations which were based on the RIM test. Of these options, 47 survived this initial screening and were carried forward in the rest of the analysis.

2) For each of these options, FPL determined an optimum incentive level using the Participant's test. The achievable potential for each option was then developed based on the selected incentive level.

3) For the load control options, an additional analysis was performed to determine how much load control was usable on the FPL system. These values were lower than the achievable potential values that otherwise would have been developed and were thus used as the maximum achievable potential for these options.

4) These efforts combined to show a projected annual potential of approximately 70 MW of cost-effective DSM for the 9 years of 2001 through 2009.

III. Development and Comparison of Resource Plans w/ and w/o DSM

Q. How did FPL evaluate whether the approximately 70 MW of DSM per year were truly cost-effective?

A. In order to test whether all or part of this potentially achievable DSM was really cost-effective, it was necessary to analyze DSM within the context of a resource plan. This approach allows one to determine two things. First, what would the implementation of this DSM accomplish in terms of displacing new generating units that otherwise would be built? Second, would this displacement of new units by DSM be cost-effective when comparing resource plans both with and without DSM?

In order to address the first item, FPL constructed a Supply Only resource plan based on the system resource needs which were shown in Document No. 4. This resource plan included the DSM projected to be signed up through the end of the year 2000, but with no additional DSM after that year. In this plan, all of FPL's resource needs were met by adding new generating units. This Supply Only resource plan, which was developed using the EGEAS (Electric Generation Expansion Analysis System) computer model developed by Stone & Webster Management Consultants, Inc., is presented in Document No. 8.

In order to fairly compare the economics of the Supply Only resource plan and a second resource plan which utilizes DSM, it is necessary to examine the impacts on system rates of the two plans. FPL performs this comparison by calculating a system levelized average rate based on each plan. This calculation for the Supply Only resource plan is presented in Document No. 9.

As shown in Document No. 9, the system average levelized rate for the Supply Only resource plan is 8.30 cents/kwh. If a resource plan which includes all or part of the DSM achievable potential which was earlier identified can be constructed which results in a <u>lower</u> system average levelized rate, then the inclusion of the DSM is cost-effective.

Q. **How did FPL construct a resource plan with DSM?**

A. We began with the Supply Only resource plan shown in Document No. 8 and the achievable potential DSM levels for each year which had been identified. The objective was to construct a resource plan which included this DSM which had comparable reserve margins and LOLP values as that of the Supply Only resource plan.

In order to accomplish this, three things became apparent. First, FPL could construct such a resource plan if it utilized 100% of the DSM that had been identified as potentially cost-effective for the 2001 through 2008 time frame. (This meant that FPL's normal practice of utilizing linear programming techniques to select only the most cost-effective DSM options would not be needed for this case since all of the identified achievable potential DSM for each year would be used.)

The second item which became apparent was that the inclusion of all of the identified potentially achievable DSM from 2001 through 2008 was sufficient to displace new combined cycle units that otherwise would have come in-service in 2005 and 2009.

The third thing which became apparent was that the approximately 70 MW of DSM which was potentially achievable in the year 2009 was not really needed since it, on its own, was not of sufficient magnitude to displace a new generating unit.

Q. What did FPL decide to do about these 70 MW of DSM that could be signed up in 2009?

A. FPL believes that the technically correct action to take would be to leave out this DSM in 2009, since it alone isn't large enough to displace a unit. In other words, FPL would propose zero DSM MW as its goal for the last year in question (2009).

However, when FPL proposed a similar DSM goal (zero MW for the last 3 years) in its 1994 DSM Goals filing, it was rejected, and FPL's goals for those 3 years were set at the level of the last year immediately preceding those 3 years. Recognizing that a similar outcome is likely in this year's proposal, FPL chose to simply include the full 70 MW of achievable potential DSM for 2009 in its With DSM resource plan.

Q. How did this resource plan compare with the Supply Only resource plan?

A. This With DSM resource plan is presented on the right-hand side of Document No. 10 which also includes the Supply Only resouce plan information previously presented in Document No. 8.

It is evident from examining Document No. 10 that the two resource plans have Summer reserve margins which are approximately the same. A similar comparison of Winter reserve margins and annual LOLP values was also made, and the results are presented in Document No. 11. As shown in Document Nos. 10 and 11, the two plans are generally comparable in regard to system reliability with first one plan and then another alternately taking an edge in regard to a particular reliability criterion due to the timing and nature of the resource being added in that plan.

The system average levelized rate for the With DSM resource plan was calculated to be 8.29 cents/kwh. This calculation is presented in

Document No. 12.

Q. What do you conclude from a comparison of the two resource plans?

A. Since both of the two resource plans would provide both comparable and sufficient system reliability, the With DSM plan should be selected as FPL's integrated resource plan since it provides a lower system average levelized rate. FPL will present this resource plan, with its underlying DSM levels, as FPL's official resource plan in its 1999 Ten Year Power Plant Site Plan later this year. These underlying DSM levels are being proposed in this docket as the new DSM Goals for FPL for the 2000 through 2009 time frame.

IV. Summary of Analyses and a Discussion of FPL's Proposed DSM Goals

Q. How would you summarize the 1998 IRP analyses which were performed in order to develop the proposed DSM goals?

A. I would summarize the entire process and the results in general as follows:

1) FPL utilized its basic IRP process in order to determine how much DSM was cost-effective to add in the 2000 through 2009 time frame. This is the correct approach to take in order to make such a determination. Economic impacts were determined on a system

rate basis which is the correct and equitable way to compare supply and DSM options which have such different effects on a utility system.

2) FPL included the appropriate key assumptions in its analyses regarding both DSM implementation plans that have already been made and supply options (i.e., repowering projects) to which FPL has already committed.

3) The initial economic screening of DSM options was performed using an appropriate tool, the Commission's approved cost-effectiveness methodology, and versus appropriate types of supply options (i.e., new combined cycle capacity). Consequently, this screening allowed FPL to determine optimal incentive payments and potentially achievable market levels for each option. Additional analyses of load control options further refined (and lowered) the achievable market potential for these options.

4) Both the Supply Only and With DSM resource plans were designed to provide adequate system reliability, and the two plans are generally comparable in regard to system reliability criteria over the 10 year period in question.

5) Since the With DSM resource plan results in a lower system average levelized rate, it is a more cost-effective resource plan. Consequently, FPL should propose this amount of DSM as its new DSM goals for the 2000 through 2009 time frame.

Q. Would you say that the level of DSM included in FPL's new proposed DSM goals is appropriate, even if this level is less than what is called for in FPL's current DSM goals?

A. Yes. I believe that a knowledgeable, unbiased observer who was familiar with how FPL's current DSM goals were set in 1994, and who looked at the assumptions going into the 1998 IRP work, would have almost certainly concluded that FPL would propose <u>lower</u> DSM goals than those which currently exist. I believe such an observer would reach this conclusion for three primary reasons.

First, FPL's commitment to capacity additions through the repowering projects at its Ft. Myers and Sanford sites reduces the need for additional resource additions of any kind, DSM or other supply options, during the ten year period. This can be quantified by comparing the cumulative resource need shown in Document No. 4 (1,905 MW) to the corresponding "table" (actually, Figure 4) in FPL's Cost-Effectiveness Goals Results Report filed for the last DSM Goals docket in 1994. This showed that FPL's projected resource need then was 2,290 MW for the same corresponding period (i.e., the last 9 years of the 10-year goal-setting period). Thus, the total resource need for which DSM is now competing is smaller by almost 400 MW, or close to 20%, when compared to the resource need which existed when the current DSM goals were set.

Second, as previously discussed, FPL believes that it now needs to "put a cap" on how much incremental load control it adds during the next 10 years, since it is reaching the physical limit for how much of the current load control programs will be fully usable on its system. FPL's load control programs are significant contributors to FPL's current DSM plan, with about 30% of FPL's current 10-year goals (or about 500 MW of the 1,500 MW goals total) scheduled to be met by the load control programs. FPL can no longer count on load control to be such a large contributor to its resource plan. The total achievable potential for all of FPL's load control programs is now about 200 MW. This drop of 300 MW of load control potential further reduces the role which DSM can play in the resource plan.

Third, and most importantly, DSM's "opponent" in regard to earning a role in the resource plan has gotten significantly <u>stronger</u> (i.e., new generating units are now projected to be significantly less expensive to construct and operate) since the 1994 time frame when DSM's current goals were set. Document No. 13 presents a comparison of 1994 versus 1998 projections for certain cost and performance values for new combined cycle units. One area in which performance projections have significantly improved is unit efficiency or heat rate. As shown in Document No. 13, 1994 projections of new combined cycle heat rates were approximately 7,200 BTU/kwh. Current projections of heat rates for new combined cycle units are approximately 6,100 BTU/kwh. Partly as a result of these gains in efficiency, total annual costs for similar sized combined cycle units using 1998 assumptions are projected to be approximately 35% lower on average than total annual costs using 1994 assumptions. This lowering of projected supply option costs forces DSM incentives to be reduced from what they were in 1994 in order for DSM to remain cost-effective. The lower incentive payments then directly result in projections of lower achievable market potential for DSM and a reduced role in the resource plan.

These three factors, committed capacity additions which fill FPL's early resource needs, a reduced role for load control, and lower achievable DSM market potential for all DSM options due to more economical generation technology being available, lead to a logical conclusion that FPL's new proposed DSM goals <u>should be</u> lower than what was proposed in 1994.

Q. Does this conclude your testimony?

A. Yes.

FLORIDA POWER CORPORATION

DOCKET NO. 971005-EG

DIRECT TESTIMONY OF MICHAEL F. JACOB

Q. State your name and business address.

A. My name is Michael F. Jacob. My business address is Florida Power Corporation, 17757 U.S. Highway 19 North, Suite 660, Clearwater, Florida, 33764.

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

A. I am employed by Florida Power Corporation (FPC) as Manager of Regulatory Evaluation and Planning.

Q. Please describe your duties and responsibilities as the Manager of Regulatory Evaluation and Planning.

A. My responsibilities include evaluating the cost-effectiveness and impacts of FPC's demand-side management (DSM) programs, and projecting DSM program impacts into the future.

Q. Please summarize your educational background and professional experience.

A. I have a Bachelor of Science Degree in Business Administration with a major in Economics, and a Master of Arts Degree in Economics from the

University of Florida. Prior to joining Florida Power Corporation I worked in the area of public utility forecasting and economics at Georgia Power Company and the Public Utility Research Center at the University of Florida. I have been employed by Florida Power Corporation since 1981 in the areas of Load Forecasting and DSM Evaluation and Planning.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to propose and support new conservation goals for FPC. These proposed numeric goals are based upon FPC's most recent planning process of the total cost-effective kilowatt and kilowatt-hour conservation savings reasonably achievable in FPC's service area over the ten-year period from 2000 to 2009.

Q. Do you have any Exhibits to your testimony?

A. Yes, I am sponsoring the following exhibits:

- Exhibit No. ___ (MFJ-1), FPC's Proposed Numeric Conservation Goals.
- Exhibit No. ___ (MFJ-2), FPC's Ten Year Projections of DSM Savings.
- Exhibit No. ___ (MFJ-3), Details of Conservation Measures Selected.

Q. At what level should the Commission establish FPC's DSM goals?

A. My Exhibit No. ___ (MFJ-1) shows FPC's proposed goals by year, and for each market segment, on both an annual and cumulative basis. Below is a summary of FPC's proposed conservation goals over the ten-year planning period from 2000 to 2009:

Residential Market Segment

- 389 MW's of winter peak demand reduction,
- 125 MW's of summer peak demand reduction, and
- 185 GWh of energy reduction.

Commercial/Industrial Market Segment

- 37 MW's of winter peak demand reduction,
- 38 MW's of summer peak demand reduction, and
- 19 GWh of energy reduction.

Q. Would you briefly describe the process used to determine FPC's proposed DSM goals?

A. Yes. The development of FPC's proposed DSM Goals began by reviewing the same comprehensive list of conservation measures that was used during the last DSM Goals docket in 1993/94 (Docket No. 930549-EG). Measure definitions, savings estimates, and participation projections were updated as necessary to reflect current information. FPC's Resource Planning Department then developed a base supply-side plan that identified the supply-side-only resources required to meet customers' future load growth, assuming no new conservation, at the lowest cost.

Next, all applicable conservation measures were evaluated against the base supply-side plan to determine the cost-effectiveness of each measure. FPC performed the cost-effectiveness evaluated using each of the

Commission's three prescribed tests. The seasonal MW demand and annual GWH energy savings associated with all cost-effective conservation measures were then summed by market segment to determine FPC's proposed DSM goals.

Q. Did you produce ten-year projections of DSM savings as a result of this process?

A. Yes. Ten-year projections of the total amount of cost-effective savings reasonably achievable through DSM for the FPC system are shown in my Exhibit No. ___ (MFJ-2). These projections are identical to the sum of the residential and commercial/industrial (C/I) market segment DSM goals being proposed by FPC.

Q. What conservation measures were analyzed by FPC?

A. All of the measures classified as a "Potential Utility Program (UP)" or a "Code/Utility Evaluation (CUE)" in the Fourth Order Establishing Procedure (Order No. PSC-93-1679-PCO-EG) in the last DSM goals docket were included in FPC's analysis of market penetration and cost-effectiveness. In addition, several new lighting measures were identified by FPC and added to the list of measures to be evaluated. During the selection and analysis of the conservation measures, FPC gave consideration to the issues and end-use categories specified in Commission Rule 25-17.0021(3), F.A.C. The conservation measures were evaluated separately for each market segment (i.e., residential and commercial/industrial), and vintage (i.e., existing construction and new construction). The residential space conditioning measures were also evaluated for each of the two major baseline technologies (i.e., strip-heat and heat pumps).

Q. Would you please describe the market penetration analysis?

A. Yes. The market penetration analysis used to estimate the participation projections for each conservation measure involved a mix of approaches. Actual historical data and expert judgement from years of implementing successful DSM programs provided the basis for projecting participation in many of the conservation measures included in FPC's programs. For other measures where FPC has little or no actual experience, participation was projected using a market acceptance model that is based on the same Synergic Resources Corporation (SRC) methodology used in their foundational 1993 study "Electricity Conservation and Energy Efficiency in Florida." This methodology was also used by FPC in the last DSM goals docket.

The market acceptance model represents an economic payback acceptance approach to forecasting participation. Estimates of customer payback estimates (in years) were first developed for each measure, market segment and vintage. The payback estimates were then applied to a set of payback acceptance curves to estimate the long-run market share of each measure. The payback acceptance curves exhibit an inverse relationship between the length of the payback and long-run market share, such that those measures that provide customers with a relatively quick payback yield high long-run market shares while measures with long payback periods yield low long-run market shares. Measures with a long-run market share of zero were essentially screened out of the DSM goals process at this point.

For all remaining measures, long-run participation projections due solely to economics (i.e. payback periods) were developed by applying the long-run market share to a projection of the technical market potential (regardless of cost or timing) within the FPC service area. Diffusion curves were then applied to determine annual participation, and an "unwillingness percentage" was applied to account for the fact that some amount of customers are simply unwilling to participate regardless of the economics.

Q. Would you please describe the process used to evaluate the conservation measures for cost-effectiveness?

A. Yes. FPC used the DSView model, owned and licensed by New Energy Associates, to perform the conservation measure cost-effectiveness evaluations. Using DSView, each conservation measure was evaluated against a set of potentially avoidable supply-side capacity options.

The conservation measures were defined in the model in terms of their cost and energy and demand impacts. Thus, the primary data inputs for the conservation measures include the incremental equipment and installation cost of the measure, any incremental recurring O&M costs, kW and kWh savings, utility administration costs, utility incentives to customers, and the participation projections.

The supply-side resources are primarily defined by the cost, type, and timing of planned future supply-side resources in the absence of any new DSM. A base supply-side plan was developed by the Resource Planning Department using FPC's most recent demand and energy forecast without including the impacts of any incremental new DSM. The base supply-side plan represents the most cost-effective approach to meet future load growth with only supply-side resources, and properly defines the set of potentially avoidable supply-side resources that DSView evaluates the conservation measures against.

The primary outputs produced by the DSView model for each conservation measure are the benefit/cost results for the three Commission approved tests of DSM cost-effectiveness: the Participant test, Rate Impact Measure (RIM) test, and Total Resource Cost (TRC) test. My Exhibit No. ___ (MFJ-3) shows the results of these three tests for all measures with a benefit/cost ratio greater than 1.0 on each test, as well as the major input data associated with each conservation measure. The exhibit also contains two sheets of data supporting the savings included in FPC's proposed goals from its statutorily mandated residential audit program, the Home Energy Check Program.

Q. How does FPC define cost-effective conservation?

A. In developing its DSM goals, FPC adheres to past Commission precedent in considering a conservation measure to be cost-effective only if it satisfies the Commission's Participant and RIM cost-effectiveness tests. In other words, a measure that passes the Participant and TRC tests, but fails the RIM test, is not considered cost-effective for purposes of determining cost-effective DSM goals.

This standard is based on the Commission's finding in the last DSM goals docket after extensive consideration of the "RIM vs. TRC" issue.

Q. How do FPC's proposed residential DSM goals compare with the existing residential DSM goals currently in place?

A. The following table compares FPC's proposed residential ten-year cumulative DSM goals with FPC's currently existing residential ten-year DSM goals.

Residential Ten-year Cumulative DSM Savings Goals

	Peak MW Demand		
	Winter	**Summer**	**GWH Energy**
Proposed Goals	389	125	185
Existing Goals	483	209	184
Difference	-94	-84	1

As can be seen, FPC's proposed ten-year goal for residential GWH savings is virtually the same as the existing ten-year GWH goal. The proposed ten-year goals for winter and summer peak demand savings are both lower than the existing ten-year goals, by 94 MW and 84 MW, respectively.

Q. Why is there a reduction in the two peak MW demand goals but virtually no change in the GWH energy goal?

A. FPC's existing goals for seasonal peak MW demand reductions were largely driven by the inclusion of several direct load control (DLC) measures. For example, direct load control of heating, air conditioning, water heating and pool pumps accounted for 74% and 63% of the existing residential ten-year cumulative winter and summer peak demand goals, respectively. These DLC measures, however, made no significant contribution to the existing GWH energy goal.

FPC's recent analysis now shows that those same DLC measures are no longer cost-effective at current credit levels and, therefore, their savings are not included in FPC's proposed DSM goals for the 2000-2009 period. This change alone causes a reduction in the seasonal peak MW demand goals, while having no effect on the GWH energy goal.

Q. Are there any residential direct load control measures that were cost-effective?

A. Yes, FPC identified a combination of two DLC measures that was found to be cost-effective. This new bundled measure consists of heating and water heating DLC during the winter months only. It contributes about 132 MW to FPC's proposed winter peak MW demand goal over the ten-year period.

Q. What do these cost-effectiveness results for the direct load control measures mean to FPC's Residential Energy Management Program?

A. These results indicate that it may not be cost-effective to continue adding new participants to the current Residential Energy Management Program. If these results are accepted by the Commission at the conclusion of this DSM Goals proceeding, FPC will develop an action plan to address this concern in its subsequent DSM Program Plan filing. Such an action plan may include the possibility of closing the Residential Energy Management Program to new participants only. In the interim, FPC has discontinued active marketing of the program.

Q. How do FPC's proposed Commercial/Industrial DSM goals compare with the existing C/I DSM goals currently in place?

A. The proposed C/I goals are lower than FPC's existing goals in all three categories. The following table compares FPC's proposed ten-year cumulative C/I DSM goals with FPC's existing ten-year C/I DSM goals.

Commercial/Industrial Ten-year Cumulative DSM Savings Goals

	Peak MW Demand		
	Winter	**Summer**	**GWH Energy**
Proposed Goals	37	38	19
Existing Goals	64	84	336
Difference	-27	-46	-317

Q. Why are FPC's proposed C/I goals lower than the existing goals?

A. FPC's proposed C/I goals are lower primarily because there are substantially fewer conservation measures that are cost-effective. For example, in the last DSM goals docket FPC identified thirty-one cost-effective C/I conservation measures. However, only nine C/I measures were found to be cost-effective in FPC's current planning process.

Q. Is there a primary end-use measure driving these results?

A. Yes, nineteen C/I lighting measures accounted for 97% of the existing winter peak MW goal, 75% of the summer peak MW goal, and 80% of the GWH energy goal. No C/I lighting measures were found to be cost-effective in the current set of results.

Q. Are these cost-effectiveness results for C/I lighting consistent with FPC's experience with the C/I interior lighting component of the Better Business DSM Program?

A. Yes. In February of 1998 FPC filed a Petition with the Commission to modify the Better Business Program by discontinuing the C/I interior lighting component of the program. This request was the result of a comprehensive cost-effectiveness evaluation which showed that the lighting component was responsible for dragging the entire program below cost-effective levels. The modification was requested to maintain the cost-effectiveness of the Better Business Program and allow the program to continue to provide other conservation measures to C/I customers. The Commission agreed and approved the requested modification in Order No. PSC-98-0746-FOF-EG, issued May 28, 1998. For the same reason that C/I lighting measures had to be excluded from FPC's Better Business Program, they have been excluded from its cost-effective DSM goals proposal.

Q. Does this conclude your direct testimony?

A. Yes.

Gulf Power Company

Before the Florida Public Service Commission
Prepared Direct Testimony of
Margaret D. Neyman
Docket 971006-EG
February 1, 1999

Q. Will you please state your name, business address, employer and position?

A. My name is Margaret D. Neyman and my business address is One Energy Place, Pensacola, Florida, 32520. I am employed by Gulf Power Company as the Marketing Services Manager.

Q. Please summarize your educational background and professional experience.

A. I attended Auburn University and graduated with a Bachelor of Science degree in Industrial Engineering in 1980. I began my career in the electric utility industry at Gulf Power Company in 1981 and have held various positions within the company in Corporate Planning, Customer Service, Appliance Sales and Marketing. In my present position, I am responsible for Energy Conservation Cost Recovery (ECCR) filings, pricing, economic evaluations, market research, forecasting and marketing services activities.

Q. Have you previously testified before this Commission?
A. Yes, I have testified for Gulf Power Company in ECCR dockets.

Q. What is the purpose of your testimony?
A. The purpose of my testimony is to propose seasonal peak demand and annual energy conservation goals for Gulf Power for the period 2000 through 2009 and to discuss the Company's experience under the current conservation goals.

Q. Have you prepared an exhibit in support of your testimony?
A. Yes, I have.

Council: We ask that Ms. Neyman's exhibit consisting of 3 schedules be marked for identification as:

Exhibit No. __________ (MDN-1)

Q. What goal levels are appropriate and reasonably achievable for Gulf Power Company for seasonal peak demand and annual energy conservation for the 2000 - 2009 period?
A. The Company's proposed seasonal peak demand and annual energy conservation goals for Gulf Power for the

period 2000 through 2009 are contained in the spread sheets and graphs in Schedule 1 of my exhibit (MDN-1). These goals, based upon Gulf's most recent planning process, are the total cost-effective winter and summer peak kW demand reductions and the annual kWh savings which are reasonably achievable through implementation of demand side programs in Gulf Power's service area for the residential and commercial/industrial classes. The basis for the goals is the maximum KW and kWh associated with all measures that passed both the rate impact measure and participant's test.

Q. Please provide an overview of the process used to determine the proposed goal levels.

A. Our projections were based upon an assessment of the market segments and major end-use categories listed in Rule 25-17.0021. In addition, Gulf evaluated measures contained in the Company's approved ECCR programs and other measures where sufficient information was available. A complete description of the process employed by Gulf is contained in the testimony of Michael J. McCarthy filed in this docket.

Q. Have there been any of changes in Gulf's integrated planning processes since the last conservation goals setting process?

A. No. Gulf continues to conduct integrated resource planning that is in compliance with the National Energy Policy Act of 1992 (EP Act). The Company conducts a planning and selection process that evaluates the full range of alternatives, including energy conservation and efficiency, cogeneration, renewable energy resources, power purchases and new generating capacity, in order to provide adequate and reliable service to its electric customers at the lowest cost. Gulf's resource planning process was extensively discussed in the rebuttal testimonies of Charles D. Long and William F. Pope filed in Docket 930550-EG and is also documented in Gulf's annual Ten-Year Site Plan filings.

Q. Please discuss Gulf Power's pricing related measures that were evaluated as part of this goal setting process.

A. The proposed goals continue to reflect Gulf Power's emphasis on pricing as a means to achieve economic efficiency. Gulf has tested and is implementing flexible pricing arrangements and structures that better reflect the marginal costs associated with providing electric service. Flexible pricing based on marginal cost principles sends customers a more correct price signal. The customer is guided by this price signal in making purchase decisions, including demand side measures, that more appropriately reflect the scarcity of resources used in producing and supplying electric energy. Use of appropriate pricing allows the customer the opportunity to determine how to best respond. The Company's Real Time Pricing(RTP) program and its Residential Advanced Energy Management (AEM) program are two examples of flexible pricing initiatives that were evaluated as part of this goal setting process. Both programs encourage conservation and efficiency in the use of electricity and together represent the cornerstone of Gulf Power's proposed goals.

Q. Please discuss in detail Gulf Power's Real Time Pricing program and its specific contribution to achieving the conservation goals proposed.

A. Gulf Power's Real Time Pricing (RTP) pilot was approved by the Commission on February 7, 1995 and concluded on December 31, 1998. This pricing arrangement is characterized by hourly energy prices transmitted a day ahead of their applicability to participating customers in the commercial and industrial market segments. The RTP pilot program had five stated objectives: conservation, economic efficiency, gain information about customer response, value based pricing and customer satisfaction. Preliminary pilot results indicate that RTP has accomplished all of the pilot objectives. In fact, in the case of conservation, RTP exceeded our initial expectations for peak load reductions for the targeted customers. RTP has proven to produce significant cost-effective reductions in the growth of peak demand on the Company's system. Specifically, RTP contributes 20 of the 46 MW of the summer peak demand reduction goal shown on Schedule 1 of my exhibit. Once analysis is complete on the RTP pilot results, Gulf intends to petition the Commission for permanency of the RTP program.

Q. The Commission originally established numeric goals, pursuant to Rule 25-17.0021, by Order No. PSC-94-1313-FOF-EG issued October 25, 1994. How do the proposed goals for the period 2000-2009 compare with the current goals established by Order No. PSC-94-1313-FOF-EG?

A. Schedule 2 of my exhibit (MDN-1) contains a comparison of current goals versus the proposed goals for the years 2000 through 2004. On a cumulative basis the proposed goals are in total slightly higher than the goals established by Order No. PSC-94-1313-FOF-EG for the years 2000 through 2004. For example, for the year 2004 the current total summer peak demand goal is 154,000 KW, the current total winter peak demand goal is 152,000 KW and the current total annual energy reduction goal is 65,000 MWH. This compares with proposed goals of 158,830 KW summer peak demand reduction, 165,299 KW winter peak reduction and 78,904 MWH annual energy reduction.

Q. Would you describe the progress Gulf has made toward achieving the goals set by Order No. PSC-94-1313-FOF-EG for 1994 through 2003?

A. Schedule 3 of my Exhibit (MDN-1) provides a summary of Gulf Power Company's progress toward goal achievement. In 1998 Gulf's achievement in the Residential sector did not met the goals for winter peak demand reduction, summer peak demand reduction and annual energy reduction. However, the Commercial/Industrial sector has exceeded approved goals for winter peak demand reduction, summer peak demand reduction and annual energy reduction. Gulf's underachievement of the residential goals is primarily due to the delayed startup of the Advanced Energy Management program (AEM). This program will provide the customer with a means of conveniently and automatically controlling their energy purchases in response to prices that vary during the day and by season in relation to the Company's marginal costs. Several factors have contributed to delay in AEM implementation: the initial program delay pending a final order in Docket No. 941172-EG, an extensive contract negotiation process in order to ensure the best possible technology at the best price, the inability of suppliers to provide some components on the established schedule, and failures of electronic components during testing. These delays have occurred despite Gulf's best efforts.

Currently, prototype units are being extensively field-tested. Most of the problems encountered during field testing thus far have been resolved. Assuming successful field testing, Gulf anticipates the installation of production units will begin March 1999.

Q. How will these delays affect the goals in the long term?

A. Gulf's near term residential conservation goals have been adversely impacted as a result of the delays in implementing AEM, but the process has produced the most cost-effective solution that is currently available. Despite the unpreventable delays that have occurred, Gulf remains confident that AEM will be a success in the marketplace. As I stated previously, AEM is one of two pricing initiatives that make up the cornerstone of Gulf's conservation goals. Gulf is modifying the AEM schedule for market implementation as a result of the delays, and plans to increase the number of units deployed during the years 1999 to 2004 to still accomplish the basic program objective of achieving a total of approximately 80 megawatts of peak demand reduction by year-end 2004.

Q. Does this conclude your testimony?

A. Yes, it does.

Gulf Power Company

Before the Florida Public Service Commission
Prepared Direct Testimony of
Michael J. McCarthy
Docket 971006-EG
February 1, 1999

Q. Will you please state your name, business address, employer and position?

A. My name is Michael J. McCarthy and my business address is One Energy Place, Pensacola, Florida, 32520. I am employed by Gulf Power Company as a Market Specialist.

Q. Please summarize your educational background and professional experience.

A. I attended the University of Georgia and graduated with a Bachelor of Arts degree in Economics in 1971. I began my professional career in the electric utility industry at Mississippi Power Company in 1982. While at Mississippi Power Company I worked in the Economic Analysis Department. My duties included the development and analysis of rate case testimony, marketing surveys, community and economic development programs, and economic life evaluations in wrongful death suits. In 1991, I transferred to Southern Company Services in Atlanta, Georgia. My primary responsibility at Southern Company Services was the preparation of the long-term energy and demand forecast for Mississippi Power Company. I also on behalf of Southern Energy, Inc., reviewed, evaluated, and prepared independent energy forecasts for international and domestic clients. I began my present duties at Gulf Power Company in March 1998. Within Gulf Power Company's Marketing Services Department, I am principally engaged in the economic evaluation of marketing programs and services including demand-side energy programs and retail pricing options.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to summarize Gulf Power Company's cost-effectiveness evaluation of demand side measures and to provide 10-year projections of the total cost-effective winter and summer peak demand (kW) and annual energy(kWh) savings reasonably achievable through demand-side management.

Q. Have you prepared an exhibit in support of your testimony?

A. Yes, I have.

Council: We ask that Mr. McCarthy's exhibit consisting of 3 schedules be marked for identification as:
Exhibit No. __________ (MJM-1)

Q. Please summarize the process used by Gulf Power Company to test the cost-effectiveness of demand side measures.

A. The evaluation process started with the 120 demand side measures as listed by the commission staff in a workshop held on January 7, 1998. The screening of the measures took several steps. The initial review started with the cost-effectiveness analysis performed in Docket 930550-EG. The input data from that effort along with information from Gulf's most recent planning process was used to update the cost-effectiveness model. The data from the previous analysis consisted of information such as the incremental change in the customer's summer and winter demand and annual energy savings. The other major inputs were the customer incremental equipment cost, customer incremental operation and maintenance cost, and utility recurring and non-recurring costs per customer. Where new or more current information on these inputs was available they were used. In most cases, unless new or supplemental data was available, the analysis relied upon the data in the Synergic Resources Corporation's Electricity Conservation and Energy Efficiency in Florida, Appendix E-M, DSM Technology Data Base.

The demand-side measures were then subjected to the cost-effectiveness test. If a measure did not pass the Rate Impact Measure (RIM) it was eliminated from further consideration. The next step was to look at those measures that passed RIM but failed the participant's test. RIM dollars were then used to offset the participants' cost or increase the participants' benefit. The RIM dollars were allocated to the participant until such time as the RIM measure went below 1.0. If at this juncture the participants' test was still less than 1.0, the measure was dropped from consideration.

The process followed thus far resulted in a group of measures passing both the RIM and participants' tests. For screening purposes only, all the residential measures assumed 250 initial participants plus an additional 250 per year throughout the analysis period. In the commercial and industrial sector, the participant level started at 100 and was increased by 100 per year for the initial screening process.

Another explicit assumption in the initial screening was to assume no utility program costs or rebates and incentives, either one time or recurring. This was intentionally done to maximize the potential of a demand-side measure passing the RIM and participants' test. As noted above, if a measure did pass RIM but failed the participants' test, only then were utility costs allocated in the form of rebates or incentives to increase the value of the participants' test.

Q. From the initial screening how many residential measures passed both the RIM and participants' test?

A. Eight measures for new and existing residential customers passed both RIM and the participants' test. The measures which passed were: RSC-2, Ground Source Heat Pump; RSC-10B, Ceiling Insulation (R10 - R19); RSC-24A, High Efficiency Room AC; RSC-26A, Direct Load Control AC; RSC-26B, Direct Load Control AC; RF-1, Best Current Refrigerator (Frost-Free); RF-2, Best Current Refrigerator (Manual Defrost); and FR-1, Best Current Freezer (Frost-Free).

Q. What was next step in developing the portfolio of residential measures?

A. At this point, the measures were again reviewed for more current or relevant market data by residential marketing at Gulf Power Company. The measures then were evaluated against current building codes, existing marketing programs and efforts, and competing or complementary measures. During this evaluation period, the initial assumption on program participation was modified to reflect an estimate or projection of achievable participation less free riders.

Q. Can you please describe the results of the final screening process?

A. Yes, as a result of the final screening, two measures were dropped and a substitute measure was added and evaluated for two other measures.

The two measures dropped were the ceiling insulation and best freezer measures. The ceiling measure was dropped due to the very low market available for ceiling insulation upgrade. According to Gulf Power Company's 1994 on-site marketing survey, less than four (4) percent of the residential existing market has less than an R-10 ceiling insulation value. Gulf Power, in the normal course of performing residential energy audits, already recommends this demand-side measure.

The best freezer measure was dropped due to the lack of higher efficiency alternatives. Federal energy appliance efficiency standards do not apply to freezers with more than 30 cubic feet of space. The current choice in the freezer market is not in efficiency but in style (upright versus chest), size and/or color. Based on the professional judgement of residential marketing and Gulf Power's appliance sales staff, marketing efforts would have little or no impact on efficiency upgrades in this market.

Advanced energy management is a substitute, as well as competing measure, for direct load control. Advanced energy management was evaluated for new and existing residential customers. Advanced energy management is a direct application of Gulf Power's efforts in flexible pricing as a means of communicating to the customer a price signal based on the marginal cost of providing electric service. Advanced energy management has essentially the same load shape impact as the direct load control measure. Since the advanced energy management measure is more compatible with the Company's pricing philosophy and appears, based on customer research, to have wider customer appeal, it was substituted for direct load control of air conditioning.

Q. Were any other demand-side management measures evaluated?

A. Yes, The Legal Environmental Assistance Foundation (LEAF) submitted eight (8) measures for the new and existing residential market. The measures relating to compact fluorescent technologies were evaluated in the original list of 120 measures from the SRC study. These measures failed to pass both the RIM and participants' tests.

Blower door infiltration reduction, a measure proposed by LEAF, is assumed by Gulf Power Company to be part of the diagnostic guided duct leakage reduction measure contained in the SRC study. Both of these measures utilize the blower door to identify leakage areas of an existing home. In fact, duct leakage reduction actions do result in infiltration reduction for the entire home. Gulf Power has no data which singles out the benefit of only testing and repairing the structural envelope of the house and has found no source of such information. Gulf's experience with diagnostic guided duct leakage reduction has been that customers are unwilling to participate in the program offering. Therefore, the measure was excluded from the final portfolio of measures. While Gulf Power continues to offer this program to customers desiring to participate, the Company is not actively pursing this market.

Q. What portfolio of residential measures provide the basis for the goals proposed in the testimony of Margaret D. Neyman?

A. The final portfolio of residential market measures consists of the following: ground source heat pumps, high efficiency room air conditioners, best current refrigerators - frost free and manual defrost, and advanced energy management.

Q. Could you please describe the how the commercial and industrial measures were analyzed?

A. The commercial and industrial demand-side measures were evaluated in the same manner as the residential measures. The SRC measures were subjected to both the RIM and participants' tests based on information from Gulf Power Company's latest planning process. If the measure failed the RIM test it was dropped from further consideration. If the measure passed the RIM test but failed the participants' test, RIM dollars were allocated to the participant to increase the value or lower the cost to the participant. If this process resulted in the measure passing the participants' and the RIM tests, it was included for further analysis. Otherwise, the measure was dropped from further consideration.

As with the residential measures, the initial screening assumed neither recurring or one time utility program costs or rebates and incentives. Again, this was explicitly done to maximize the potential of a demand-side measure passing the RIM and participants' test and therefore making it into the final portfolio.

Q. From the first screening exercise, how many commercial and industrial measures passed both the RIM and participants' test?

A. In the new and existing commercial and industrial market thirteen (13) air conditioning, water heating, refrigeration, and cooking measures passed both RIM and the participants' test. In addition, thirteen lighting measures passed both tests.

Q. Could you please describe the process you used to include or exclude lighting demand-side options in the commercial and industrial market?

A. In the commercial and industrial market, many of the demand-side measures in the SRC study are competing or complementary in nature. For example, the lighting measures for existing buildings are competing technologies. The consumer, when deciding on replacing fixtures or bulbs, will generally choose only one option. In having to select among the competing technologies, the selection of one option automatically rules out the other options.

In new construction, the Florida Energy Efficiency Code for building construction has reduced the lighting unit power density (watts per square foot) in commercial buildings to a low enough allowable level that the new construction in Northwest Florida has almost completely adopted the new T-8 electronic ballast fluorescent technology. Locally and nationally, the net result has been a steady decline in the T-8 technology cost as competition to supply the market has driven cost down. The T-8s are currently the most efficient fluorescent lighting available and the market is essentially in a free rider situation. The premium for a four lamp T-8 lighting fixture is only $5.00 over the next most efficient lighting option.

The existing market for replacement energy efficient lighting is nearly the same as the new building market. The technology of choice is the T-8 option in retrofitting and conversion. Given, the high level of free ridership in the lighting market, Gulf Power did not include any measures from the lighting options.

Q. How did you evaluate lighting; heat, cooling, and ventilation; window options; and thermal shell in the commercial and industrial market?

A. While no single lighting technology was included in the demand-side portfolio, the interaction of lighting with heating and cooling requirements and other building features could not be ignored. Gulf Power Company evaluated the GoodCents building measure. The GoodCents building measure incorporates energy efficient lighting with heating, cooling, and ventilation and with thermal shell features (for example: windows, shading, and building insulation). Based on experience and program offerings, Gulf Power Company has collected data on the complementary nature of these building characteristics. While individually cost effective, for evaluation purposes it was more practical to assess these measures as a unit. This approach of packaging the best set of complementary energy efficient technologies maximizes the benefit to the consumer and to the utility as well. The GoodCents building measure passed both the RIM and participants' tests.

Three other demand-side measures from the SRC study passed both the RIM and participants' tests: high efficiency room air conditioners (PTAC units), heat pump water heating, and energy efficient electric fryers. These measures, along with GoodCents buildings, are included in the final portfolio of commercial and industrial demand side measures.

Q. Did you evaluate any other measures not originally included in the SRC study?

A. Yes, interruptible service and real time pricing were analyzed and included in the commercial and industrial measures. Interruptible service provides Gulf Power with a contracted and callable resource. Per contractual arrangements between the utility and the customers, participants agree to reduce demand in periods of reliability constraints.

Real time pricing, as with advanced energy management, is part of Gulf Power Company's strategy of employing flexible pricing mechanisms to achieve gains in economic efficiency. Customers are sent daily the forecasted prices for the next 24 hours. These price signals reflect the company's marginal cost of providing electric service. Customers receiving the price signals then make choices as to when and how much of the product they will consume. Real time pricing has resulted in customers responding to price by reducing peak demand consumption and making purchases in off-peak hours.

Q. Did you evaluate any of LEAF's supplemental commercial demand-side measures?

A. Yes. Some of the LEAF measures were duplicates of the SRC measures. Those measures were evaluated as previously described. Some of the measures were covered under existing building code requirements or would be more effectively handled as code changes rather than as demand-side management options. For the remaining measures, the data necessary to perform a cost-effectiveness test was not provided (for example, incremental demand and energy savings, cost, or market share and penetration rates).

Q. What portfolio of commercial and industrial demand side measures provide the basis for the goals proposed in the testimony of Margaret D. Neyman?

A. The final portfolio of commercial and industrial demand side measures consists of the following: high efficiency room air conditioners (PTAC), heat pump water heaters, energy efficient electric fryers, commercial GoodCents buildings, real time pricing, and interruptible service.

Q. Could you please describe the basis of Gulf's avoided unit costs used in the cost effectiveness model?

A. In an optimally planned system (that is, a system designed to meet an exogeneously determined load at minimum cost) prices should be set equal to the marginal running cost at any given hour plus the capital cost of meeting one extra kilowatt of peak demand charged at the peak hour only. Demand side management programs are generally constructed to reduce customer demand and/or energy. The cost avoided (or saved) is therefore also equal to the marginal generation cost at the period of peak demand and marginal energy reduction.

As part of the Southern electric system, Gulf Power Company's generation being avoided is at the time of the system peak. The most cost efficient means of supplying peak demand is through the purchase or construction of a combustion turbine. When evaluating a demand side management program for cost/benefit purposes, the savings/benefits accrue by avoiding construction of capacity or purchasing capacity and/or energy at the peak. If a demand side management program is successful at reducing demand, the Southern system avoids building peak capacity or purchasing capacity and energy in the market.

For evaluation purposes, the base year of the cost-effectiveness test was 2000. The first year of avoidable purchased or added capacity was assumed to be 2001. The Southern system until that time can meet current and projected load growth with existing generation and contracted purchased capacity. If capacity could be obtained in the market for a price less than the avoided cost of a combustion turbine then that cost would be the avoidable cost.

Capacity additions are planned to minimize total present value cost to the consumer. The addition of base or intermediate generation does not necessarily equate with the avoided generation that a demand side management program displaces. For example, assume that the next planned unit on a system was a base load coal unit. If a company were to introduce a program which reduced residential peak demand it is not the base load unit that would be avoided but a peaking unit. The base load unit's operating characteristics are such that it would be operated the maximum number of possible hours to balance relatively high initial capital cost with relatively low energy costs. It would be far more economical to build a combustion turbine or acquire in the market place an additional kilowatt from a combustion turbine or other peaking unit which is needed for only a few hours of the year.

In summary, a demand side program having an intended consequence of reducing demand saves the utility and its customers the cost of generation at the time of the peak reduction. If that occurs when the system is peaking, the savings are exactly equal to the capital cost of an avoided peaking unit including the running costs that are avoided.

Q. Does this conclude your testimony?

A. Yes, it does.

DOCKET NO. 971007-EG
TAMPA ELECTRIC COMPANY
SUBMITTED FOR FILING 02/01/99

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

PREPARED DIRECT TESTIMONY

OF

HOWARD T. BRYANT

Q. Please state your name, address and occupation.

A. My name is Howard T. Bryant. My business address is 702 North Franklin Street, Tampa, Florida 33602. I am the Manager of Energy Management and Forecasting for Tampa Electric Company.

Q. Please describe your educational background and business experience.

A. I graduated from the University of Florida in June 1973 with a Bachelor of Science degree in Business Administration. I have been employed by Tampa Electric Company since August 1981. My work has included various positions in Customer Relations, Energy Conservation Services, Demand Side Management (DSM) Planning, and Energy Management and Forecasting. In my current position, I am responsible for the company's conservation and load management activities and load forecasting. Specific to DSM, this responsibility includes ECCR expenditures and cost recovery, goals setting, program design initiatives and program monitoring and evaluation.

Q. Mr. Bryant, have you previously testified before this Commission?

A. Yes. I have testified before this Commission on conservation activities, the previous DSM goals setting hearing and various ECCR dockets.

Q. What is the purpose of your testimony?

A. My testimony addresses the process Tampa Electric Company utilized to propose reasonably achievable, cost-effective, numerical DSM goals for the 2000 - 2009 period and identifies those proposed demand and energy goals by residential and commercial/industrial segments.

Q. Have you prepared an exhibit in support of your testimony?

A. Yes, under my direction and supervision I have prepared an exhibit entitled, "Exhibit of Howard T. Bryant." It consists of four documents and has been identified as Exhibit No. _____ (HTB-1).

Q. Mr. Bryant, please describe the process Tampa Electric Company used to develop its proposed DSM goals.

A. Tampa Electric Company was an active participant in the October 8, 1997 and January 7, 1998 Commission workshops designed to initiate discussions and identify measures appropriate for evaluation in the upcoming DSM goals setting process as set forth in Rule 25-17.0021. To that end, the Commission Staff brought before the January 7, 1998 workshop participants a proposed list of DSM measures for evaluation by the investor-owned utilities in their respective goals dockets. These measures were from the Synergic Resources Corporation (SRC) report, "Electricity Conservation and Energy Efficiency in Florida: Technical, Economic and Achievable Results, Final Report." Furthermore, these measures had been identified by the Commission in Order No. PSC-93-1679-PCO-EG issued November 19, 1993 as appropriate measures to be considered for potential utility programs (UP). These measures became the foundation for Tampa Electric's evaluation process.

Q. Why are the SRC measures an appropriate starting point for Tampa Electric Company's evaluation process?

A. The SRC measures and methodology for identifying their evaluation characteristics are established and well known to the Commission and other parties. Furthermore, SRC developed data specific to Tampa Electric Company's service area. Finally, Rule 25-17.001(3) requires a.) the utility to project goals in both the residential and commercial/industrial market segments; b.) that consideration shall be given to measures applicable for new and existing construction in both market segments; c.) that major end-use categories listed in the rule be assessed; and d.) that the utility should address such things as overlapping measures, appliance efficiency standards, interactions with building codes, rebound effects, free riders and the utility's latest monitoring and evaluation data. The SRC measures meet these requirements.

Q. Mr. Bryant, did Tampa Electric Company limit its list of measures for inclusion in the goals setting process to just those SRC measures proposed by the Commission Staff?

A. No. First, Tampa Electric included those measures currently promoted through our existing programs but not a part of the original SRC list. These measures included: heat pump replacing strip heat, commercial/industrial load management and standby generator for emergency use. Second, Tampa Electric included the twenty-eight (28) measures identified by the Commission as CUE (Code/Utility Evaluation) in Order No. PSC-93-1679-PCO-EG. These were measures applied to new construction which had potential for implementation into the Florida Energy Efficiency Code for Building Construction or the potential to be part of a utility program. Finally, measures suggested by interested parties at the workshops where Florida specific data could be attained for their evaluation were included. Interestingly, several of those measures were already a part of the comprehensive SRC list provided by the Commission Staff. The ultimate list of measures evaluated by Tampa Electric is found in Document 1 of my Exhibit No. ____ (HTB-1).

Q. Once Tampa Electric Company compiled its list of measures for evaluation, did any screening occur prior to the evaluation?

A. No. All measures on the list were evaluated regardless of their cost-effectiveness results from the previous goals setting proceeding.

Q. Mr. Bryant, what impact resulted from Tampa Electric's ongoing monitoring and evaluating efforts?

A. The monitoring and evaluating efforts enabled the company to update certain demand and energy savings, utility costs and customer equipment costs for measures that are integral to the current DSM programs.

Additionally, we were able to identify the shrinking market potential, particularly in the residential segment, for measures that have had successful penetration rates from the early 1980s forward.

Q. Please describe the cost-effectiveness analysis Tampa Electric Company performed on the comprehensive list of measures.

A. Consistent with the last goals setting process, all measures were evaluated using the Commission prescribed cost-effectiveness methodology defined in Rule 25-17.008. The SRC and/or company specific data for each measure was input into the cost-effectiveness model (DSM_FIRE). Cost-effective measures were identified as those measures that passed the Rate Impact Measure (RIM) Test, the Total Resource Cost (TRC) Test, and the Participants' Test.

Participation rates for the passing measures were evaluated. In some cases, the rate was established at an aggressive level due to the relative newness and moderate adoption rate of the measure thus far in the marketplace. The duct repair measure for existing residential air distribution systems is an excellent example of such a measure. Conversely, some measures have been cost-effectively penetrating the marketplace since the early 1980s. Heat pump replacing strip heat and load control measures in the residential segment are examples of these types of measures. Simply stated, it is increasingly difficult to secure the next incremental participant for these measures. However, both of these mature measures are still cost-effective and will continue their respective contributions toward the DSM goals.

Q. Mr. Bryant, based on your evaluation process, what are you proposing for Tampa Electric Company's DSM goals for the ten year period 2000 through 2009?

A. For the ten year period beginning in 2000 and ending in 2009, Tampa Electric Company's cumulative proposed residential goals are a 38.8 mW reduction in the summer, a 107.2 mW reduction in the winter and a 75.3 gWh reduction in annual energy. The cumulative proposed commercial goals are a 30.8 mW reduction in the summer, a 13.4 mW reduction in the winter and a 114.3 gWh reduction in annual energy.

Document 2 of my Exhibit No. ____ (HTB-1) indicates the cumulative proposed residential goals for the period and Document 3 of my Exhibit No. ____ (HTB-1) indicates the cumulative proposed commercial goals for the period. All proposed reductions are from what the levels in demand and energy are projected to be in the absence of the proposed measures.

Q. Mr. Bryant, can you comment on Tampa Electric's resource planning practices utilized in this goals setting process?

A. Yes. Tampa Electric Company's resource planning process for this current goals process is consistent with the integrated approach identified in the previous goals hearing (Docket No. 930551-EG). The process is also delineated in the company's annual Ten Year Site Plan filing.

Q. Please identify the avoided cost assumptions used for measure analysis.

A. The avoided cost assumptions used for measure analysis are contained in Document 4 of my Exhibit No. _____ (HTB-1). Generation, transmission and distribution costs, fixed and variable O&M costs, fuel costs as well as respective escalation rates are provided.

Q. Please summarize your testimony.

A. Tampa Electric Company initiated its current goals process by utilizing the SRC list of UP measures proposed by the Commission Staff. Additional measures from company programs were added for analysis as well as modifications to measure characteristics where monitoring and evaluating results indicated a change was appropriate. All measures were evaluated for cost-effectiveness. For those measures that passed the Commission prescribed cost-effectiveness tests, participation rates were identified resulting in the proposed residential and commercial/industrial ten year goals for the 2000 through 2009 period.

Q. Does this conclude your testimony?

A. Yes.

(Exhibit 1 marked for identification and received in evidence.)

(Exhibit 2 marked for identification and received in evidence.)

(Exhibit 3 marked for identification and received in evidence.)

(Exhibit 4 marked for identification and received in evidence.)

(Exhibit 5 marked for identification and received in evidence.)

(Exhibit 6 marked for identification and received in evidence.)

(Exhibit 7 marked for identification and received in evidence.)

(Exhibit 8 marked for identification and received in evidence.)

MR. ELIAS: And then the last thing would be Staff's recommendation that all four dockets be closed.

CHAIRMAN GARCIA: Okay. And Commissioner Deason makes that motion; Commissioner Johnson seconds it. There being no objection, show it approved 5-0.

MR. ELIAS: And that's all the business that I'm aware of.

CHAIRMAN GARCIA: Thank you very much. We are now going to formally begin the Agenda.

(Thereupon, the hearing concluded at 9:45 a.m.)

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STATE OF FLORIDA)
: CERTIFICATE OF REPORTER
COUNTY OF LEON)

I, H. RUTHE POTAMI, CSR, RPR, FPSC Commission Reporter,

DO HEREBY CERTIFY that the Hearing in Docket Nos. 971004-EG, 971005-EG, 97006-EG and 971007-EG was heard by the Florida Public Service Commission at the time and place herein stated; it is further

CERTIFIED that I stenographically reported the said proceedings; that the same has been transcribed by me; and that this transcript, consisting of 154 pages, constitutes a true transcription of my notes of said proceedings and the insertion of the prescribed prefiled testimony of the witnesses.

DATED this 18th day of August, 1999.

H. RUTHE POTAMI, CSR, RPR
Official Commission Reporter
(850) 413-6734

Document No. 1

Goals by Market Sector

Summer MW @ Meter

Year	Residential Annual	Residential Cum	Commercial Annual	Commercial Cum	Total Annual	Total Cum
2000	75.5	75.5	46.2	46.2	121.7	121.7
2001	51.0	126.5	27.1	73.3	78.1	199.8
2002	42.9	169.4	26.3	99.6	69.2	269.0
2003	43.3	212.8	27.0	126.6	70.3	339.4
2004	43.8	256.6	27.3	153.8	71.0	410.4
2005	45.4	302.0	27.8	181.6	73.2	483.6
2006	45.0	347.0	25.6	207.2	70.6	554.2
2007	45.6	392.6	25.2	232.4	70.8	625.0
2008	46.7	439.4	24.8	257.2	71.5	696.5
2009	46.6	485.9	21.7	278.8	68.2	764.8

Winter MW @ Meter

Year	Residential Annual	Residential Cum	Commercial Annual	Commercial Cum	Total Annual	Total Cum
2000	91.6	91.6	20.5	20.5	112.1	112.1
2001	47.4	139.0	11.6	32.2	59.1	171.2
2002	31.0	170.0	11.9	44.1	42.9	214.1
2003	30.3	200.4	12.7	56.8	43.1	257.2
2004	29.8	230.1	13.3	70.1	43.0	300.2
2005	30.5	260.6	14.1	84.2	44.6	344.8
2006	28.5	289.0	12.9	97.1	41.4	386.1
2007	28.2	317.2	12.7	109.8	40.9	427.0
2008	28.4	345.7	12.4	122.2	40.9	467.9
2009	26.8	372.4	10.8	133.0	37.6	505.5

Energy (GWH) @ Meter

Year	Residential Annual	Residential Cum	Commercial Annual	Commercial Cum	Total Annual	Total Cum
2000	91.9	91.9	68.5	68.5	160.5	160.5
2001	86.4	178.3	29.1	97.6	115.5	276.0
2002	88.8	267.1	28.8	126.4	117.6	393.6
2003	90.2	357.3	30.7	157.1	120.9	514.4
2004	91.6	448.9	31.7	188.8	123.3	637.7
2005	95.2	544.2	33.8	222.6	129.1	766.8
2006	96.7	640.9	32.2	254.9	129.0	895.8
2007	98.4	739.3	30.9	285.7	129.2	1025.0
2008	101.0	840.3	29.6	315.3	130.6	1155.6
2009	102.9	943.2	28.1	343.4	131.0	1286.6

Florida Power and Light Co.
Docket No. 971004-EG
Testimony of C. Dennis Brandt
Exhibit No. ____
Document No. 2
Page 1 of 1

Document No. 2

Comparison of Achieved kW and kWH Reductions
with Annual Target Included in Public Service Commission Approved Goals
December 31, 1998

Residential

	Winter Peak mW Reduction			Summer Peak mW Reduction			gWh Energy Reduction		
Year	Cumulative Total Achieved	Cumulative Commission Approved Goal	% Variance	Cumulative Total Achieved	Cumulative Commission Approved Goal	% Variance	Cumulative Total Achieved	Cumulative Commission Approved Goal	% Variance
1994	101	77	31%	107	88	22%	102	66	55%
1995	191	157	22%	206	181	14%	213	150	42%
1996	285	236	21%	333	272	23%	396	239	65%
1997	411	315	30%	483	362	34%	623	337	85%
1998	502	394	27%	607	455	33%	774	453	71%
1999		468			543			568	
2000		542			631			684	
2001		617			719			799	
2002		691			807			914	
2003		765			895			1,030	

Commercial/Industrial

	Winter Peak mW Reduction			Summer Peak mW Reduction			gWh Energy Reduction		
Year	Cumulative Total Achieved	Cumulative Commission Approved Goal	% Variance	Cumulative Total Achieved	Cumulative Commission Approved Goal	% Variance	Cumulative Total Achieved	Cumulative Commission Approved Goal	% Variance
1994	17	9	91%	44	23	90%	144	67	114%
1995	100	69	44%	165	111	48%	352	139	154%
1996	156	93	68%	271	167	63%	690	212	225%
1997	174	114	53%	325	223	46%	816	292	179%
1998	206	136	51%	385	285	35%	915	383	139%
1999		158			353			473	
2000		180			420			563	
2001		202			487			652	
2002		223			554			742	
2003		245			622			832	

Document No. 3

Achievable Potential by End Use

Residential Summer Incremental MW

End Use	2000 New	2000 Exist	2001 New	2001 Exist	2002 New	2002 Exist	2003 New	2003 Exist	2004 New	2004 Exist	2005 New	2005 Exist	2006 New	2006 Exist	2007 New	2007 Exist	2008 New	2008 Exist	2009 New	2009 Exist
HVAC	0.00	24.29	0.00	22.58	0.00	23.56	0.00	24.46	0.00	25.31	0.00	26.12	0.00	26.90	0.00	27.67	0.00	28.44	0.00	29.22
Building Envelope	0.00	8.49	0.00	11.30	0.00	10.83	0.00	10.41	0.00	10.06	0.00	9.75	0.00	9.49	0.00	9.27	0.00	9.08	0.00	8.93
Peak Load Shaving	4.15	35.61	1.53	13.14	0.57	4.93	0.57	4.93	0.57	4.93	0.57	4.93	0.48	4.11	0.48	4.11	0.48	4.11	0.38	3.29
Water Heating	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Appliances	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Solar & Renewables	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Natural Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other	2.98	0.00	2.44	0.00	3.02	0.00	2.97	0.00	2.92	0.00	4.06	0.00	4.06	0.00	4.10	0.00	4.61	0.00	4.74	0.00
Total	7.13	68.39	3.97	47.03	3.59	39.32	3.54	39.81	3.49	40.29	4.63	40.79	4.54	40.49	4.58	41.05	5.09	41.63	5.12	41.43

Residential Summer Cumulative MW

End Use	2000 New	2000 Exist	2001 New	2001 Exist	2002 New	2002 Exist	2003 New	2003 Exist	2004 New	2004 Exist	2005 New	2005 Exist	2006 New	2006 Exist	2007 New	2007 Exist	2008 New	2008 Exist	2009 New	2009 Exist
HVAC	0.00	24.29	0.00	46.87	0.00	70.43	0.00	94.90	0.00	120.21	0.00	146.32	0.00	173.22	0.00	200.89	0.00	229.34	0.00	258.56
Building Envelope	0.00	8.49	0.00	19.79	0.00	30.62	0.00	41.04	0.00	51.09	0.00	60.84	0.00	70.33	0.00	79.60	0.00	88.68	0.00	97.61
Peak Load Shaving	4.15	35.61	5.68	48.75	6.25	53.68	6.82	58.60	7.40	63.53	7.97	68.46	8.45	72.57	8.93	76.67	9.41	80.78	9.79	84.07
Water Heating	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Appliances	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Solar & Renewables	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Natural Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other	2.98	0.00	5.42	0.00	8.44	0.00	11.40	0.00	14.32	0.00	18.38	0.00	22.44	0.00	26.54	0.00	31.15	0.00	35.89	0.00
Total	7.13	68.39	11.10	115.42	14.69	154.73	18.23	194.54	21.72	234.83	26.35	275.62	30.89	316.12	35.47	357.16	40.56	398.80	45.68	440.23

Florida Power and Light Co.
Docket No. 971004-EG
Testimony of C. Dennis Brandt
Exhibit No. ____
Document No. 3

Residential Winter Incremental MW

End Use	2000 New	2000 Exist	2001 New	2001 Exist	2002 New	2002 Exist	2003 New	2003 Exist	2004 New	2004 Exist	2005 New	2005 Exist	2006 New	2006 Exist	2007 New	2007 Exist	2008 New	2008 Exist	2009 New	2009 Exist
HVAC	0.00	7.43	0.00	3.30	0.00	3.44	0.00	3.57	0.00	3.69	0.00	3.81	0.00	3.92	0.00	4.04	0.00	4.15	0.00	4.26
Building Envelope	0.00	10.47	0.00	15.58	0.00	14.72	0.00	13.98	0.00	13.32	0.00	12.76	0.00	12.26	0.00	11.84	0.00	11.47	0.00	11.16
Peak Load Shaving	7.37	63.30	2.72	23.36	1.02	8.76	1.02	8.76	1.02	8.76	1.02	8.76	0.85	7.30	0.85	7.30	0.85	7.30	0.68	5.84
Water Heating	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Appliances	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Solar & Renewables	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Natural Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other	3.02	0.00	2.47	0.00	3.06	0.00	3.01	0.00	2.96	0.00	4.11	0.00	4.12	0.00	4.16	0.00	4.68	0.00	4.81	0.00
Total	10.39	81.20	5.20	42.24	4.08	26.92	4.03	26.31	3.98	25.78	5.13	25.33	4.97	23.49	5.01	23.17	5.53	22.92	5.49	21.27

Residential Winter Cumulative MW

End Use	2000 New	2000 Exist	2001 New	2001 Exist	2002 New	2002 Exist	2003 New	2003 Exist	2004 New	2004 Exist	2005 New	2005 Exist	2006 New	2006 Exist	2007 New	2007 Exist	2008 New	2008 Exist	2009 New	2009 Exist
HVAC	0.00	7.43	0.00	10.73	0.00	14.17	0.00	17.74	0.00	21.43	0.00	25.24	0.00	29.16	0.00	33.20	0.00	37.35	0.00	41.61
Building Envelope	0.00	10.47	0.00	26.04	0.00	40.77	0.00	54.74	0.00	68.07	0.00	80.82	0.00	93.09	0.00	104.92	0.00	116.40	0.00	127.56
Peak Load Shaving	7.37	63.30	10.09	86.66	11.11	95.42	12.13	104.19	13.15	112.95	14.17	121.71	15.02	129.01	15.87	136.31	16.72	143.61	17.40	149.45
Water Heating	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Appliances	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Solar & Renewables	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Natural Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other	3.02	0.00	5.50	0.00	8.56	0.00	11.57	0.00	14.53	0.00	18.64	0.00	22.76	0.00	26.92	0.00	31.59	0.00	36.40	0.00
Total	10.39	81.20	15.59	123.44	19.67	150.36	23.70	176.67	27.68	202.44	32.81	227.77	37.78	251.25	42.79	274.43	48.32	297.35	53.80	318.62

Residential Incremental GWH

	2000		2001		2002		2003		2004		2005		2006		2007		2008		2009	
End Use	New	Exist	New	Exist	New	Exist	New	Exist	New	Exist	New	Exist	New	Exist	New	Exist	New	Exist	New	Exist
HVAC	0.00	66.04	0.00	57.23	0.00	59.71	0.00	61.99	0.00	64.14	0.00	66.18	0.00	68.17	0.00	70.13	0.00	72.08	0.00	74.05
Building Envelope	0.00	18.79	0.00	24.03	0.00	23.15	0.00	22.39	0.00	21.74	0.00	21.19	0.00	20.72	0.00	20.34	0.00	20.02	0.00	19.77
Peak Load Shaving	0.15	1.32	0.06	0.49	0.02	0.18	0.02	0.18	0.02	0.18	0.02	0.18	0.02	0.15	0.02	0.15	0.02	0.15	0.01	0.12
Water Heating	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Appliances	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Solar & Renewables	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Natural Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other	5.63	0.00	4.61	0.00	5.70	0.00	5.61	0.00	5.52	0.00	7.67	0.00	7.67	0.00	7.75	0.00	8.72	0.00	8.96	0.00
Total	5.78	86.15	4.67	81.74	5.72	83.04	5.63	84.57	5.54	86.06	7.69	87.55	7.69	89.05	7.77	90.62	8.73	92.26	8.98	93.94

Residential Cumulative GWH

	2000		2001		2002		2003		2004		2005		2006		2007		2008		2009	
End Use	New	Exist	New	Exist	New	Exist	New	Exist	New	Exist	New	Exist	New	Exist	New	Exist	New	Exist	New	Exist
HVAC	0.00	66.04	0.00	123.26	0.00	182.97	0.00	244.96	0.00	309.10	0.00	375.28	0.00	443.45	0.00	513.58	0.00	585.66	0.00	659.71
Building Envelope	0.00	18.79	0.00	42.82	0.00	65.97	0.00	88.37	0.00	110.11	0.00	131.30	0.00	152.02	0.00	172.36	0.00	192.38	0.00	212.15
Peak Load Shaving	0.15	1.32	0.21	1.81	0.23	1.99	0.25	2.17	0.27	2.36	0.30	2.54	0.31	2.69	0.33	2.85	0.35	3.00	0.36	3.12
Water Heating	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Appliances	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Solar & Renewables	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Natural Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other	5.63	0.00	10.24	0.00	15.95	0.00	21.56	0.00	27.07	0.00	34.74	0.00	42.42	0.00	50.17	0.00	58.88	0.00	67.84	0.00
Total	5.78	86.15	10.45	167.89	16.18	250.93	21.81	335.50	27.35	421.56	35.04	509.12	42.73	598.17	50.50	688.78	59.23	781.04	68.21	874.97

Florida Power and Light Co.
Docket No. 971004-EG
Testimony of C. Dennis Brandt
Exhibit No. ____
Document No. 3

Commercial/Industrial Summer Incremental MW

End Use	2000 New	2000 Exist	2001 New	2001 Exist	2002 New	2002 Exist	2003 New	2003 Exist	2004 New	2004 Exist	2005 New	2005 Exist	2006 New	2006 Exist	2007 New	2007 Exist	2008 New	2008 Exist	2009 New	2009 Exist
HVAC	0.00	17.48	1.88	8.49	1.90	8.49	1.91	8.50	1.89	8.35	1.86	8.21	1.84	8.08	1.82	7.96	1.80	7.84	1.78	7.73
Building Envelope	0.00	5.10	0.00	3.60	0.00	3.56	0.00	3.53	0.00	3.50	0.00	3.47	0.00	3.44	0.00	3.41	0.00	3.38	0.00	3.35
Peak Load Shaving	4.11	14.82	1.71	8.38	1.64	7.53	1.64	7.53	1.64	7.53	1.64	7.53	1.34	6.00	1.34	6.00	1.34	6.00	0.89	3.69
Lighting	0.00	4.63	0.00	2.87	0.00	3.05	0.00	3.74	0.00	4.20	0.00	4.95	0.00	4.72	0.00	4.51	0.00	4.31	0.00	4.12
Water Heating	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Power Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Refrigeration	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Freezing Equip	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Appliances	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Solar & Renewables	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Self Service Cogen	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Natural Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other	0.00	0.08	0.01	0.12	0.01	0.14	0.01	0.12	0.01	0.14	0.01	0.12	0.01	0.14	0.01	0.12	0.01	0.14	0.01	0.12
Total	4.11	42.12	3.60	23.46	3.54	22.78	3.55	23.43	3.53	23.73	3.50	24.28	3.19	22.38	3.16	21.99	3.14	21.67	2.68	19.01

Commercial/Industrial Summer Cumulative MW

End Use	2000 New	2000 Exist	2001 New	2001 Exist	2002 New	2002 Exist	2003 New	2003 Exist	2004 New	2004 Exist	2005 New	2005 Exist	2006 New	2006 Exist	2007 New	2007 Exist	2008 New	2008 Exist	2009 New	2009 Exist
HVAC	0.00	17.48	1.88	25.98	3.78	34.47	5.69	42.97	7.58	51.32	9.44	59.53	11.28	67.61	13.09	75.57	14.89	83.40	16.67	91.13
Building Envelope	0.00	5.10	0.00	8.70	0.00	12.26	0.00	15.79	0.00	19.29	0.00	22.76	0.00	26.20	0.00	29.61	0.00	32.99	0.00	36.34
Peak Load Shaving	4.11	14.82	5.82	23.20	7.46	30.73	9.09	38.27	10.73	45.80	12.36	53.33	13.70	59.33	15.04	65.33	16.38	71.33	17.27	75.02
Lighting	0.00	4.63	0.00	7.51	0.00	10.56	0.00	14.30	0.00	18.50	0.00	23.45	0.00	28.17	0.00	32.68	0.00	36.99	0.00	41.12
Water Heating	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Power Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Refrigeration	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Freezing Equip	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Appliances	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Solar & Renewables	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Self Service Cogen	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Natural Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other	0.00	0.08	0.01	0.20	0.01	0.34	0.02	0.46	0.03	0.60	0.04	0.72	0.04	0.86	0.05	0.98	0.06	1.12	0.07	1.24
Total	4.11	42.12	7.71	65.57	11.25	88.35	14.80	111.78	18.33	135.51	21.84	159.79	25.02	182.17	28.19	204.17	31.33	225.83	34.01	244.84

Commercial/Industrial Winter Incremental MW

	2000		2001		2002		2003		2004		2005		2006		2007		2008		2009	
End Use	New	Exist	New	Exist	New	Exist	New	Exist	New	Exist	New	Exist	New	Exist	New	Exist	New	Exist	New	Exist
HVAC	0.00	1.15	0.43	1.77	0.45	1.81	0.46	1.86	0.46	1.86	0.46	1.86	0.46	1.85	0.46	1.85	0.46	1.85	0.46	1.85
Building Envelope	0.00	0.56	0.00	0.67	0.00	0.67	0.00	0.66	0.00	0.66	0.00	0.65	0.00	0.65	0.00	0.64	0.00	0.64	0.00	0.63
Peak Load Shaving	3.86	12.04	1.34	4.17	1.34	4.17	1.34	4.17	1.34	4.17	1.34	4.17	1.11	3.47	1.11	3.47	1.11	3.47	0.78	2.43
Lighting	0.00	2.92	0.00	3.26	0.00	3.46	0.00	4.25	0.00	4.77	0.00	5.61	0.00	5.36	0.00	5.12	0.00	4.89	0.00	4.67
Water Heating	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Power Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Refrigeration	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Freezing Equip	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Appliances	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Solar & Renewables	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Self Service Cogen	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Natural Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
Total	3.86	16.68	1.77	9.87	1.78	10.12	1.80	10.95	1.80	11.46	1.80	12.30	1.57	11.35	1.57	11.10	1.57	10.86	1.24	9.60

error

Commercial/Industrial Winter Cumulative MW

	2000		2001		2002		2003		2004		2005		2006		2007		2008		2009	
End Use	New	Exist	New	Exist	New	Exist	New	Exist	New	Exist	New	Exist	New	Exist	New	Exist	New	Exist	New	Exist
HVAC	0.00	1.15	0.43	2.92	0.88	4.73	1.34	6.60	1.80	8.46	2.26	10.32	2.72	12.17	3.18	14.02	3.63	15.87	4.09	17.72
Building Envelope	0.00	0.56	0.00	1.23	0.00	1.90	0.00	2.56	0.00	3.22	0.00	3.87	0.00	4.52	0.00	5.16	0.00	5.80	0.00	6.43
Peak Load Shaving	3.86	12.04	5.20	16.21	6.53	20.37	7.87	24.54	9.20	28.71	10.54	32.87	11.65	36.34	12.76	39.82	13.88	43.29	14.66	45.72
Lighting	0.00	2.92	0.00	6.18	0.00	9.64	0.00	13.88	0.00	18.65	0.00	24.26	0.00	29.61	0.00	34.73	0.00	39.62	0.00	44.30
Water Heating	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Power Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Refrigeration	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Freezing Equip	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Appliances	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Solar & Renewables	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Self Service Cogen	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Natural Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other	0.00	0.01	0.00	0.02	0.00	0.03	0.00	0.04	0.00	0.06	0.00	0.07	0.00	0.08	0.00	0.09	0.01	0.10	0.01	0.12
Total	3.86	16.68	5.63	26.55	7.41	36.67	9.21	47.62	11.00	59.09	12.80	71.38	14.37	82.73	15.94	93.82	17.52	104.69	18.75	114.29

Commercial/Industrial Incremental GWH

End Use	2000 New	2000 Exist	2001 New	2001 Exist	2002 New	2002 Exist	2003 New	2003 Exist	2004 New	2004 Exist	2005 New	2005 Exist	2006 New	2006 Exist	2007 New	2007 Exist	2008 New	2008 Exist	2009 New	2009 Exist
HVAC	0.00	40.70	1.73	10.49	1.62	9.85	1.51	9.23	1.42	8.68	1.33	8.17	1.24	7.68	1.16	7.21	1.08	6.77	1.01	6.35
Building Envelope	0.00	7.32	0.00	5.36	0.00	5.30	0.00	5.25	0.00	5.20	0.00	5.15	0.00	5.11	0.00	5.06	0.00	5.01	0.00	4.96
Peak Load Shaving	0.25	0.94	0.11	0.73	0.10	0.62	0.10	0.62	0.10	0.62	0.10	0.62	0.08	0.48	0.08	0.48	0.08	0.48	0.05	0.27
Lighting	0.00	19.31	0.00	10.66	0.00	11.34	0.00	13.94	0.00	15.67	0.00	18.46	0.00	17.65	0.00	16.87	0.00	16.13	0.00	15.43
Water Heating	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Power Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Refrigeration	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Freezing Equip	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Appliances	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Solar & Renewables	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Self Service Cogen	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Natural Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.25	68.27	1.85	27.24	1.72	27.12	1.61	29.04	1.52	30.18	1.43	32.40	1.32	30.91	1.24	29.62	1.16	28.40	1.06	27.02

Commercial/Industrial Cumulative GWH

End Use	2000 New	2000 Exist	2001 New	2001 Exist	2002 New	2002 Exist	2003 New	2003 Exist	2004 New	2004 Exist	2005 New	2005 Exist	2006 New	2006 Exist	2007 New	2007 Exist	2008 New	2008 Exist	2009 New	2009 Exist
HVAC	0.00	40.70	1.73	51.19	3.35	61.04	4.86	70.27	6.28	78.95	7.60	87.12	8.85	94.79	10.01	102.00	11.09	108.77	12.10	115.13
Building Envelope	0.00	7.32	0.00	12.68	0.00	17.98	0.00	23.24	0.00	28.44	0.00	33.60	0.00	38.70	0.00	43.76	0.00	48.77	0.00	53.74
Peak Load Shaving	0.25	0.94	0.37	1.67	0.47	2.29	0.57	2.91	0.67	3.53	0.77	4.16	0.85	4.64	0.93	5.12	1.02	5.61	1.07	5.88
Lighting	0.00	19.31	0.00	29.97	0.00	41.31	0.00	55.25	0.00	70.92	0.00	89.38	0.00	107.03	0.00	123.90	0.00	140.03	0.00	155.46
Water Heating	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Power Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Refrigeration	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Freezing Equip	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Appliances	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Solar & Renewables	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Self Service Cogen	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Natural Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.25	68.27	2.10	95.51	3.82	122.63	5.43	151.67	6.95	181.85	8.38	214.25	9.70	245.16	10.94	274.79	12.10	303.18	13.17	330.20

Document No. 4

DSM Achievable Potential By Measure - Summer MW

Residential New Construction

Measure		Description	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
BLDSMT-1		BuildSmart - EPI less than 90		2.440	3.018	2.968	2.920	4.057	4.060	4.100	4.611	4.741
RLC-1		Residential Load Control		1.530	0.574	0.574	0.574	0.574	0.478	0.478	0.478	0.383
		Existing DSM Programs	7.126									
Annual Total			7.126	3.971	3.591	3.542	3.493	4.631	4.538	4.578	5.090	5.124
Cumulative Total			7.126	11.096	14.688	18.229	21.723	26.354	30.892	35.470	40.560	45.684

Residential Existing Construction

Measure		Description	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
RSC-1		Hi Efficiency Air Source Heat Pump		3.796	3.957	4.107	4.248	4.383	4.515	4.645	4.775	4.905
RSC-2		Ground Source Heat Pump		0.031	0.032	0.034	0.035	0.036	0.037	0.038	0.039	0.040
RSC-5A		Reduced Duct Leakage		4.754	4.850	4.943	5.033	5.122	5.211	5.299	5.388	5.478
RSC-5B		Reduced Duct Leakage		1.055	1.077	1.097	1.117	1.137	1.157	1.176	1.196	1.216
RSC-10A		Ceiling Ins. R0-R19		4.993	4.452	3.972	3.545	3.165	2.828	2.528	2.261	2.024
RSC-10B		Ceiling Ins. R0-R19		0.501	0.449	0.403	0.362	0.325	0.292	0.262	0.235	0.212
RSC-21A		Hi Efficiency Central AC		18.755	19.571	20.322	21.026	21.696	22.348	22.990	23.630	24.274
RLC-1		Residential Load Control		13.142	4.928	4.928	4.928	4.928	4.107	4.107	4.107	3.285
		Existing DSM Programs	68.390									
Annual Total			68.390	47.027	39.316	39.805	40.293	40.793	40.494	41.046	41.632	41.434
Cumulative Total			68.390	115.417	154.733	194.538	234.832	275.624	316.118	357.164	398.796	440.230

Commercial/Industrial New Construction

Measure	Rate Class	Description	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
SC-D-1	GSD	High Eff. Chiller		0.052	0.050	0.048	0.046	0.044	0.043	0.041	0.040	0.038
SC-D-1	GSLD	High Eff. Chiller		0.179	0.169	0.159	0.151	0.142	0.134	0.127	0.119	0.113
SC-D-2	GSD	High Eff. Chiller W/ASD		0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
SC-D-2	GSLD	High Eff. Chiller W/ASD		0.009	0.008	0.008	0.008	0.007	0.007	0.006	0.006	0.006
SC-D-3	GS	Hi Efficiency DX AC		0.033	0.032	0.030	0.029	0.028	0.027	0.026	0.025	0.024
SC-D-3	GSD	Hi Efficiency DX AC		0.216	0.205	0.195	0.185	0.176	0.167	0.158	0.150	0.143
SC-D-3	GSLD	Hi Efficiency DX AC		0.055	0.052	0.049	0.046	0.044	0.041	0.039	0.037	0.035
SC-D-4	GS	Hi Eff. Room AC		0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
SC-D-5	GSD	Cool Storage		0.292	0.300	0.310	0.309	0.309	0.309	0.309	0.309	0.309
SC-D-5	GSLD	Cool Storage		1.045	1.076	1.108	1.108	1.108	1.108	1.108	1.108	1.108
OPBC	GSD	Off Peak Battery Charging		0.003	0.004	0.003	0.004	0.003	0.004	0.003	0.004	0.003
OPBC	GSLD	Off Peak Battery Charging		0.003	0.004	0.003	0.004	0.003	0.004	0.003	0.004	0.003
CILM	GS	Commercial/Industrial Load Management		0.225	0.188	0.188	0.188	0.188	0.150	0.150	0.150	0.075
CILM	GSD	Commercial/Industrial Load Management		0.150	0.113	0.113	0.113	0.113	0.075	0.075	0.075	0.038
CILM	GSLD	Commercial/Industrial Load Management		1.336	1.336	1.336	1.336	1.336	1.113	1.113	1.113	0.779
		Existing DSM Programs	4.108									
Annual Total			4.108	3.602	3.540	3.554	3.530	3.505	3.186	3.163	3.144	2.677
Cumulative Total			4.108	7.710	11.250	14.803	18.333	21.837	25.023	28.186	31.330	34.007

Commercial/Industrial Existing Construction

Measure	Rate Class	Description	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
SC-D-1	GSD	High Eff. Chiller		0.506	0.488	0.470	0.453	0.436	0.420	0.405	0.390	0.375
SC-D-1	GSLD	High Eff. Chiller		1.757	1.658	1.565	1.477	1.394	1.315	1.241	1.171	1.106
SC-D-2	GSD	High Eff. Chiller W/ASD		0.025	0.024	0.023	0.023	0.022	0.021	0.020	0.019	0.019
SC-D-2	GSLD	High Eff. Chiller W/ASD		0.088	0.083	0.078	0.074	0.070	0.066	0.062	0.059	0.055
SC-D-3	GS	Hi Efficiency DX AC		0.086	0.082	0.079	0.076	0.073	0.070	0.067	0.064	0.062
SC-D-3	GSD	Hi Efficiency DX AC		0.563	0.535	0.508	0.483	0.459	0.436	0.414	0.393	0.373
SC-D-3	GSLD	Hi Efficiency DX AC		0.145	0.136	0.129	0.121	0.115	0.108	0.102	0.096	0.091
SC-D-4	GS	Hi Eff. Room AC		0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001
SC-D-5	GSD	Cool Storage		1.160	1.195	1.231	1.230	1.230	1.230	1.230	1.230	1.230
SC-D-5	GSLD	Cool Storage		4.154	4.279	4.407	4.407	4.407	4.407	4.407	4.407	4.407
SC-D-18	GSD	Roof Insulation Chiller		0.786	0.781	0.775	0.770	0.764	0.759	0.754	0.748	0.743
SC-D-18	GSLD	Roof Insulation Chiller		0.757	0.751	0.746	0.741	0.736	0.730	0.725	0.720	0.715
SC-D-19	GS	Roof Insulation DX AC		0.563	0.559	0.555	0.551	0.547	0.543	0.539	0.535	0.532
SC-D-19	GSD	Roof Insulation DX AC		1.043	1.036	1.028	1.021	1.014	1.007	1.000	0.992	0.985
SC-D-19	GSLD	Roof Insulation DX AC		0.112	0.111	0.110	0.110	0.109	0.108	0.107	0.106	0.106
SC-D-22	GSD	Window Film Chiller		0.082	0.080	0.078	0.075	0.073	0.071	0.069	0.067	0.065
SC-D-22	GSLD	Window Film Chiller		0.028	0.027	0.026	0.025	0.025	0.024	0.023	0.023	0.022
SC-D-23	GS	Window Film DX AC		0.083	0.080	0.078	0.076	0.073	0.071	0.069	0.067	0.065
SC-D-23	GSD	Window Film DX AC		0.109	0.106	0.103	0.100	0.097	0.094	0.091	0.089	0.086
SC-D-23	GSLD	Window Film DX AC		0.004	0.004	0.004	0.004	0.004	0.003	0.003	0.003	0.003
SC-D-27	GS	Light Colored Roof DX		0.030	0.029	0.029	0.029	0.029	0.029	0.028	0.028	0.028
V-D-1	GS	Leak Free Ducts DX AC		0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
V-D-1	GSD	Leak Free Ducts DX AC		0.006	0.006	0.005	0.005	0.005	0.005	0.004	0.004	0.004
V-D-1	GSLD	Leak Free Ducts DX AC		0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
FL8HP	GS	Fluorescent 8 Hour High Permanence		0.097	0.106	0.133	0.153	0.183	0.179	0.174	0.169	0.165
FL8HP	GSD	Fluorescent 8 Hour High Permanence		1.213	1.282	1.575	1.759	2.059	1.940	1.828	1.723	1.624
FL8HP	GSLD	Fluorescent 8 Hour High Permanence		1.106	1.193	1.486	1.693	2.020	1.953	1.888	1.825	1.764
HID8HP	GSLD	HID 8 Hour High Permanence		0.455	0.471	0.549	0.599	0.683	0.652	0.623	0.595	0.568
OPBC	GSD	Off Peak Battery Charging		0.059	0.071	0.059	0.071	0.059	0.071	0.059	0.071	0.059
OPBC	GSLD	Off Peak Battery Charging		0.059	0.071	0.059	0.071	0.059	0.071	0.059	0.071	0.059
CILM	GS	Commercial/Industrial Load Management		2.526	2.105	2.105	2.105	2.105	1.684	1.684	1.684	0.842
CILM	GSD	Commercial/Industrial Load Management		1.684	1.263	1.263	1.263	1.263	0.842	0.842	0.842	0.421
CILM	GSLD	Commercial/Industrial Load Management		4.166	4.166	4.166	4.166	4.166	3.472	3.472	3.472	2.430
		Existing DSM Programs	42.118									
Annual Total			42.118	23.456	22.781	23.426	23.731	24.280	22.383	21.993	21.667	19.007
Cumulative Total			42.118	65.574	88.355	111.781	135.512	159.792	182.175	204.167	225.835	244.841

Document No. 4

DSM Achievable Potential By Measure - Winter MW

Residential New Construction

Measure		Description	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
BLDSMT-1		BuildSmart - EPI less than 90		2.475	3.060	3.010	2.961	4.114	4.117	4.158	4.676	4.808
RLC-1		Residential Load Control		2.721	1.020	1.020	1.020	1.020	0.850	0.850	0.850	0.680
		Existing DSM Programs	10.393									
Annual Total			10.393	5.195	4.080	4.030	3.981	5.134	4.967	5.008	5.527	5.488
Cumulative Total			10.393	15.588	19.668	23.698	27.679	32.813	37.781	42.789	48.315	53.804

Residential Existing Construction

Measure		Description	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
RSC-1		Hi Efficiency Air Source Heat Pump		3.287	3.426	3.555	3.678	3.795	3.909	4.022	4.134	4.246
RSC-2		Ground Source Heat Pump		0.012	0.012	0.013	0.013	0.014	0.014	0.015	0.015	0.015
RSC-5A		Reduced Duct Leakage		5.302	5.409	5.513	5.614	5.713	5.812	5.910	6.010	6.110
RSC-5B		Reduced Duct Leakage		1.177	1.201	1.224	1.246	1.268	1.290	1.312	1.334	1.356
RSC-10A		Ceiling Ins. R0-R19		8.560	7.632	6.808	6.076	5.426	4.848	4.334	3.876	3.469
RSC-10B		Ceiling Ins. R0-R19		0.537	0.482	0.432	0.388	0.348	0.313	0.281	0.252	0.227
RSC-21A		Hi Efficiency Central AC		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
RLC-1		Residential Load Control		23.363	8.761	8.761	8.761	8.761	7.301	7.301	7.301	5.841
		Existing DSM Programs	81.200									
Annual Total			81.200	42.237	26.923	26.306	25.776	25.325	23.487	23.175	22.922	21.266
Cumulative Total			81.200	123.437	150.360	176.666	202.442	227.768	251.255	274.430	297.352	318.617

Commercial/Industrial New Construction

Measure	Rate Class	Description	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
SC-D-1	GSD	High Eff. Chiller		0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
SC-D-1	GSLD	High Eff. Chiller		0.005	0.005	0.004	0.004	0.004	0.004	0.004	0.003	0.003
SC-D-2	GSD	High Eff. Chiller W/ASD		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SC-D-2	GSLD	High Eff. Chiller W/ASD		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SC-D-3	GS	Hi Efficiency DX AC		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SC-D-3	GSD	Hi Efficiency DX AC		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SC-D-3	GSLD	Hi Efficiency DX AC		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SC-D-4	GS	Hi Eff. Room AC		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SC-D-5	GSD	Cool Storage		0.099	0.102	0.106	0.106	0.106	0.106	0.106	0.106	0.106
SC-D-5	GSLD	Cool Storage		0.328	0.338	0.348	0.348	0.348	0.348	0.348	0.348	0.348
OPBC	GSD	Off Peak Battery Charging		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
OPBC	GSLD	Off Peak Battery Charging		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CILM	GS	Commercial/Industrial Load Management		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CILM	GSD	Commercial/Industrial Load Management		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CILM	GSLD	Commercial/Industrial Load Management		1.336	1.336	1.336	1.336	1.336	1.113	1.113	1.113	0.779
		Existing DSM Programs	3.860									
Annual Total			3.860	1.771	1.783	1.796	1.796	1.795	1.573	1.572	1.572	1.238
Cumulative Total			3.860	5.630	7.413	9.209	11.005	12.800	14.373	15.945	17.517	18.754

Commercial/Industrial Existing Construction

Measure	Rate Class	Description	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
SC-D-1	GSD	High Eff. Chiller		0.014	0.014	0.013	0.013	0.012	0.012	0.011	0.011	0.011
SC-D-1	GSLD	High Eff. Chiller		0.049	0.046	0.044	0.041	0.039	0.037	0.035	0.033	0.031
SC-D-2	GSD	High Eff. Chiller W/ASD		0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
SC-D-2	GSLD	High Eff. Chiller W/ASD		0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
SC-D-3	GS	Hi Efficiency DX AC		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SC-D-3	GSD	Hi Efficiency DX AC		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SC-D-3	GSLD	Hi Efficiency DX AC		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SC-D-4	GS	Hi Eff. Room AC		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SC-D-5	GSD	Cool Storage		0.396	0.407	0.420	0.420	0.420	0.420	0.420	0.420	0.420
SC-D-5	GSLD	Cool Storage		1.304	1.343	1.384	1.384	1.384	1.384	1.384	1.384	1.384
SC-D-18	GSD	Roof Insulation Chiller		0.205	0.204	0.202	0.201	0.199	0.198	0.197	0.195	0.194
SC-D-18	GSLD	Roof Insulation Chiller		0.198	0.196	0.195	0.193	0.192	0.191	0.189	0.188	0.187
SC-D-19	GS	Roof Insulation DX AC		0.088	0.087	0.087	0.086	0.085	0.085	0.084	0.084	0.083
SC-D-19	GSD	Roof Insulation DX AC		0.163	0.162	0.160	0.159	0.158	0.157	0.156	0.155	0.154
SC-D-19	GSLD	Roof Insulation DX AC		0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.016
SC-D-22	GSD	Window Film Chiller		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SC-D-22	GSLD	Window Film Chiller		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SC-D-23	GS	Window Film DX AC		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SC-D-23	GSD	Window Film DX AC		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SC-D-23	GSLD	Window Film DX AC		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SC-D-27	GS	Light Colored Roof DX		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
V-D-1	GS	Leak Free Ducts DX AC		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
V-D-1	GSD	Leak Free Ducts DX AC		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
V-D-1	GSLD	Leak Free Ducts DX AC		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
FL8HP	GS	Fluorescent 8 Hour High Permanence		0.110	0.120	0.151	0.173	0.208	0.203	0.197	0.192	0.187
FL8HP	GSD	Fluorescent 8 Hour High Permanence		1.371	1.448	1.780	1.987	2.326	2.192	2.066	1.947	1.835
FL8HP	GSLD	Fluorescent 8 Hour High Permanence		1.261	1.359	1.694	1.929	2.303	2.226	2.152	2.080	2.011
HID8HP	GSLD	HID 8 Hour High Permanence		0.514	0.532	0.620	0.677	0.772	0.737	0.704	0.672	0.642
OPBC	GSD	Off Peak Battery Charging		0.005	0.007	0.005	0.007	0.005	0.007	0.005	0.007	0.005
OPBC	GSLD	Off Peak Battery Charging		0.005	0.007	0.005	0.007	0.005	0.007	0.005	0.007	0.005
CILM	GS	Commercial/Industrial Load Management		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CILM	GSD	Commercial/Industrial Load Management		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CILM	GSLD	Commercial/Industrial Load Management		4.166	4.166	4.166	4.166	4.166	3.472	3.472	3.472	2.430
		Existing DSM Programs	16.682									
Annual Total			16.682	9.871	10.121	10.948	11.464	12.296	11.346	11.097	10.865	9.597
Cumulative Total			16.682	26.553	36.674	47.622	59.086	71.382	82.728	93.825	104.690	114.287

Florida Power and Light Co
Docket No. 971004-EG
Testimony of C. Dennis Brandt
Exhibit No. ____
Document No. 4
Page 6 of 9

Document No. 4

DSM Achievable Potential By Measure - Energy Gwh

Residential New Construction

Measure		Description	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
BLDSMT-1		BuildSmart - EPI less than 90		4.612	5.704	5.610	5.518	7.668	7.674	7.750	8.716	8.962
RLC-1		Residential Load Control		0.057	0.021	0.021	0.021	0.021	0.018	0.018	0.018	0.014
		Existing DSM Programs	5.785									
Annual Total			5.785	4.669	5.725	5.631	5.540	7.690	7.691	7.768	8.734	8.976
Cumulative Total			5.785	10.454	16.179	21.810	27.349	35.039	42.730	50.498	59.232	68.208

Residential Existing Construction

Measure		Description	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
RSC-1		Hi Efficiency Air Source Heat Pump		9.265	9.658	10.023	10.368	10.698	11.019	11.337	11.653	11.971
RSC-2		Ground Source Heat Pump		0.062	0.065	0.067	0.069	0.072	0.074	0.076	0.078	0.080
RSC-5A		Reduced Duct Leakage		10.970	11.192	11.406	11.615	11.820	12.025	12.228	12.434	12.641
RSC-5B		Reduced Duct Leakage		2.435	2.484	2.532	2.578	2.624	2.669	2.715	2.760	2.806
RSC-10A		Ceiling Ins. R0-R19		9.719	8.666	7.730	6.899	6.161	5.505	4.921	4.401	3.939
RSC-10B		Ceiling Ins. R0-R19		0.902	0.809	0.725	0.651	0.584	0.525	0.472	0.424	0.382
RSC-21A		Hi Efficiency Central AC		47.899	49.983	51.903	53.699	55.412	57.076	58.716	60.351	61.994
RLC-1		Residential Load Control		0.489	0.183	0.183	0.183	0.183	0.153	0.153	0.153	0.122
		Existing DSM Programs	86.150									
Annual Total			86.150	81.741	83.040	84.570	86.063	87.554	89.046	90.618	92.255	93.936
Cumulative Total			86.150	167.891	250.931	335.501	421.565	509.119	598.165	688.783	781.038	874.974

Commercial/Industrial New Construction

Measure	Rate Class	Description	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
SC-D-1	GSD	High Eff. Chiller		0.173	0.167	0.161	0.155	0.149	0.144	0.138	0.133	0.128
SC-D-1	GSLD	High Eff. Chiller		0.655	0.618	0.583	0.550	0.519	0.490	0.462	0.436	0.412
SC-D-2	GSD	High Eff. Chiller W/ASD		0.012	0.012	0.012	0.011	0.011	0.010	0.010	0.010	0.009
SC-D-2	GSLD	High Eff. Chiller W/ASD		0.047	0.044	0.042	0.040	0.037	0.035	0.033	0.031	0.030
SC-D-3	GS	Hi Efficiency DX AC		0.125	0.120	0.115	0.111	0.106	0.102	0.098	0.094	0.090
SC-D-3	GSD	Hi Efficiency DX AC		0.818	0.777	0.738	0.701	0.666	0.632	0.601	0.571	0.542
SC-D-3	GSLD	Hi Efficiency DX AC		0.226	0.213	0.201	0.189	0.179	0.169	0.159	0.150	0.142
SC-D-4	GS	Hi Eff. Room AC		0.002	0.002	0.002	0.002	0.001	0.001	0.001	0.001	0.001
SC-D-5	GSD	Cool Storage		-0.085	-0.087	-0.090	-0.090	-0.090	-0.090	-0.090	-0.090	-0.090
SC-D-5	GSLD	Cool Storage		-0.239	-0.246	-0.253	-0.253	-0.253	-0.253	-0.253	-0.253	-0.253
SC-D-27	GS	Light Colored Roof DX		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
OPBC	GSD	Off Peak Battery Charging		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
OPBC	GSLD	Off Peak Battery Charging		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CILM	GS	Commercial/Industrial Load Management		0.028	0.024	0.024	0.024	0.024	0.019	0.019	0.019	0.009
CILM	GSD	Commercial/Industrial Load Management		0.019	0.014	0.014	0.014	0.014	0.009	0.009	0.009	0.005
CILM	GSLD	Commercial/Industrial Load Management		0.064	0.064	0.064	0.064	0.064	0.053	0.053	0.053	0.037
		Existing DSM Programs	0.255									
Annual Total			0.255	1.845	1.721	1.611	1.517	1.427	1.322	1.241	1.165	1.062
Cumulative Total			0.255	2.100	3.821	5.433	6.949	8.376	9.698	10.939	12.104	13.166

Commercial/Industrial Existing Construction

Measure	Rate Class	Description	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
SC-D-1	GSD	High Eff. Chiller		1.699	1.637	1.577	1.519	1.463	1.410	1.358	1.308	1.260
SC-D-1	GSLD	High Eff. Chiller		6.420	6.059	5.719	5.397	5.094	4.807	4.537	4.282	4.041
SC-D-2	GSD	High Eff. Chiller W/ASD		0.122	0.118	0.114	0.109	0.105	0.101	0.098	0.094	0.091
SC-D-2	GSLD	High Eff. Chiller W/ASD		0.462	0.436	0.412	0.389	0.367	0.346	0.327	0.308	0.291
SC-D-3	GS	Hi Efficiency DX AC		0.327	0.314	0.301	0.289	0.277	0.266	0.255	0.245	0.235
SC-D-3	GSD	Hi Efficiency DX AC		2.137	2.030	1.928	1.831	1.739	1.652	1.569	1.490	1.416
SC-D-3	GSLD	Hi Efficiency DX AC		0.589	0.556	0.525	0.495	0.467	0.440	0.415	0.392	0.370
SC-D-4	GS	Hi Eff. Room AC		0.004	0.004	0.004	0.004	0.004	0.004	0.003	0.003	0.003
SC-D-5	GSD	Cool Storage		-0.337	-0.347	-0.358	-0.358	-0.358	-0.358	-0.358	-0.358	-0.358
SC-D-5	GSLD	Cool Storage		-0.949	-0.977	-1.006	-1.006	-1.006	-1.006	-1.006	-1.006	-1.006
SC-D-18	GSD	Roof Insulation Chiller		1.356	1.346	1.337	1.327	1.318	1.308	1.299	1.290	1.281
SC-D-18	GSLD	Roof Insulation Chiller		1.305	1.295	1.286	1.277	1.268	1.259	1.250	1.241	1.233
SC-D-19	GS	Roof Insulation DX AC		0.666	0.661	0.657	0.652	0.647	0.643	0.638	0.634	0.629
SC-D-19	GSD	Roof Insulation DX AC		1.235	1.226	1.217	1.209	1.200	1.192	1.183	1.175	1.167
SC-D-19	GSLD	Roof Insulation DX AC		0.132	0.132	0.131	0.130	0.129	0.128	0.127	0.126	0.125
SC-D-22	GSD	Window Film Chiller		0.164	0.159	0.155	0.150	0.146	0.141	0.137	0.133	0.129
SC-D-22	GSLD	Window Film Chiller		0.053	0.051	0.050	0.048	0.047	0.045	0.044	0.043	0.042
SC-D-23	GS	Window Film DX AC		0.166	0.161	0.156	0.151	0.147	0.143	0.138	0.134	0.130
SC-D-23	GSD	Window Film DX AC		0.218	0.212	0.205	0.199	0.193	0.188	0.182	0.177	0.172
SC-D-23	GSLD	Window Film DX AC		0.008	0.007	0.007	0.007	0.007	0.006	0.006	0.006	0.006
SC-D-27	GS	Light Colored Roof DX		0.054	0.054	0.054	0.053	0.053	0.052	0.052	0.052	0.051
V-D-1	GS	Leak Free Ducts DX AC		0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.001	0.001
V-D-1	GSD	Leak Free Ducts DX AC		0.012	0.012	0.011	0.011	0.010	0.009	0.009	0.009	0.008
V-D-1	GSLD	Leak Free Ducts DX AC		0.003	0.003	0.003	0.003	0.002	0.002	0.002	0.002	0.002
FL8HP	GS	Fluorescent 8 Hour High Permanence		0.318	0.347	0.436	0.499	0.601	0.585	0.570	0.555	0.540
FL8HP	GSD	Fluorescent 8 Hour High Permanence		4.304	4.547	5.587	6.240	7.304	6.883	6.486	6.112	5.761
FL8HP	GSLD	Fluorescent 8 Hour High Permanence		4.579	4.937	6.153	7.007	8.362	8.084	7.815	7.555	7.304
HID8HP	GSLD	HID 8 Hour High Permanence		1.461	1.513	1.762	1.923	2.194	2.094	1.999	1.909	1.823
OPBC	GSD	Off Peak Battery Charging		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
OPBC	GSLD	Off Peak Battery Charging		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CILM	GS	Commercial/Industrial Load Management		0.318	0.265	0.265	0.265	0.265	0.212	0.212	0.212	0.106
CILM	GSD	Commercial/Industrial Load Management		0.212	0.159	0.159	0.159	0.159	0.106	0.106	0.106	0.053
CILM	GSLD	Commercial/Industrial Load Management		0.198	0.198	0.198	0.198	0.198	0.165	0.165	0.165	0.116
		Existing DSM Programs	68.271									
Annual Total			68.271	27.239	27.117	29.044	30.179	32.403	30.912	29.622	28.396	27.021
Cumulative Total			68.271	95.510	122.627	151.671	181.850	214.253	245.165	274.787	303.183	330.204

Florida Power and Light Co
Docket No. 971004-EG
Testimony of C. Dennis Brandt
Exhibit No. ____
Document No. 4
Page 9 of 9

Document No. 5

FPL Measure Identification Process

	Step 1	Step 2	Step 3	Step 4
	FPSC Staff proposed list of measures for analysis	FPL restates Step 1 list by: expanding measures for analytical practices, adding utility measures previously analyzed & combining measures based on program experience	All measures that failed participant test and RIM ratio less than .9 last time are dropped	All measures for which FPL has new savings data are added back as utility proposed measures and measures from other parties
Measure Summary				
- C/I New Construction	14	42	28	45
- C/I Existing Construction	63	126	79	96
- Res New Construction	29	12	4	8
- Res Existing Construction	56	50	15	20
Total	162	230	126	169

Document No. 6

Process Step 1 **FPSC Staff proposed list of measures for analysis**

Residential New Construction - FPSC Staff Measures

End Use Category	Measure	Description
Cooling & Heating	RSC-1	Hi Efficiency Air Source Heat Pump
Cooling & Heating	RSC-2	Ground Source Heat Pump
Cooling & Heating	RSC-3	Two Speed Heat Pump
Cooling & Heating	RSC-7A	Setback/Programmable Thermostat
Cooling & Heating	RSC-7B	Setback/Programmable Thermostat
Peak Load Shaving	RSC-8A	Load Control for Residential Electric Heat
Peak Load Shaving	RSC-8B	Load Control for Residential Electric Heat
Cooling & Heating	RSC-21A	Hi Efficiency Central AC
Cooling & Heating	RSC-22A	2 Speed Central AC
Cooling & Heating	RSC-24	High Efficiency Room AC
Peak Load Shaving	RSC-26A	DLC of Central AC
Peak Load Shaving	RSC-26B	DLC of Central AC
Water Heating	WH-1	High Efficiency Elect. Resist. Water Heating
Water Heating	WH-2	Integral Heat Pump Water Heater
Renewables	WH-3	Solar Water Heater
Water Heating	WH-4	Heat Recovery (Desuperheater)
Water Heating	WH-4	Heat Recovery (Desuperheater)
Water Heating	WH-5	Add-On Heat Pump Water Heater
Water Heating	WH-6	DHW Heater Tank Insulation
Peak Load Shaving	WH-10	DLC of Electric Water Heater
Appliance Efficiency	CW-1	High Efficiency Clothes Washer
Other	LT-1	Compact Fluorescent
Other	LT-2	Efficient Incandescent
Other	LT-3	HPS Outdoor
Appliance Efficiency	RF-1	Bst Ref Frost Free
Appliance Efficiency	RF-2	Bst Ref Manual
Appliance Efficiency	FR-1	Bst Freezer FF
Appliance Efficiency	FR-2	Bst Freezer Manual
Peak Load Shaving	PP-3	DLC of Pool Pumps

Residential Existing Construction - FPSC Staff Measures

End Use Category	Measure	Description
Cooling & Heating	RSC-1	Hi Efficiency Air Source Heat Pump
Cooling & Heating	RSC-2	Ground Source Heat Pump
Cooling & Heating	RSC-3	Two Speed Heat Pump
Building Envelope	RSC-5A	Reduced Duct Leakage
Building Envelope	RSC-5B	Reduced Duct Leakage
Cooling & Heating	RSC-7A	Setback/Programmable Thermostat
Cooling & Heating	RSC-7B	Setback/Programmable Thermostat
Peak Load Shaving	RSC-8A	Load Control for Residential Electric Heat
Peak Load Shaving	RSC-8B	Load Control for Residential Electric Heat
Building Envelope	RSC-10A	Ceiling Ins. R0-R19
Building Envelope	RSC-10B	Ceiling Ins. R0-R19
Building Envelope	RSC-11A	Ceiling Ins. R11-R30
Building Envelope	RSC-11B	Ceiling Ins. R11-R30
Building Envelope	RSC-12A	Ceiling Ins. R19-R30
Building Envelope	RSC-12B	Ceiling Ins. R19-R30
Building Envelope	RSC-13A	Ceiling Insulation R30-R38
Building Envelope	RSC-13B	Ceiling Insulation R30-R38
Building Envelope	RSC-14A	Wall Insulation R0-R11 .EXS
Building Envelope	RSC-14B	Wall Insulation R0-R11 .EXS
Building Envelope	RSC-15A	Weather Strip/Caulk w/Blower Door
Building Envelope	RSC-15B	Weather Strip/Caulk w/Blower Door
Building Envelope	RSC-16A	Window Film & Reflective Glass
Building Envelope	RSC-16B	Window Film & Reflective Glass
Building Envelope	RSC-17A	Low E-Glass
Building Envelope	RSC-17B	Low E-Glass
Building Envelope	RSC-18A	Shade Screens
Building Envelope	RSC-18B	Shade Screens
Cooling & Heating	RSC-21A	Hi Efficiency Central AC
Cooling & Heating	RSC-22A	2 Speed Central AC
Cooling & Heating	RSC-24A	High Efficiency Room AC
Cooling & Heating	RSC-25A	Air Cond/ Heat Pump Maintenance
Cooling & Heating	RSC-25B	Air Cond/ Heat Pump Maintenance
Peak Load Shaving	RSC-26A	DLC of Central AC
Peak Load Shaving	RSC-26B	DLC of Central AC
Water Heating	WH-1	High Efficiency Elect. Resist. Water Heating
Water Heating	WH-2	Integral Heat Pump Water Heater
Renewables	WH-3	Solar Water Heater
Water Heating	WH-4	Heat Recovery (Desuperheater)
Water Heating	WH-5	Add-On Heat Pump Water Heater
Water Heating	WH-6	DHW Heater Tank Insulation
Water Heating	WH-7	DHW Pipe Insulation
Water Heating	WH-8	DHW Heat Trap
Water Heating	WH-9	Low Flow Shower Head, HD
Water Heating	WH-10	DLC of Electric Water Heater
Appliance Efficiency	CW-1	High Efficiency Clothes Washer

Other	LT-1	Compact Fluorescent
Other	LT-2	Efficient Incandescent
Other	LT-3	HPS Outdoor
Appliance Efficiency	RF-1	Bst Ref Frost Free
Appliance Efficiency	RF-2	Bst Ref Manual
Appliance Efficiency	RF-3	Bst Ref Manual
Appliance Efficiency	FR-1	Bst Freezer FF
Appliance Efficiency	FR-2	Bst Freezer Manual
Appliance Efficiency	FR-3	Bst Freezer Manual
Appliance Efficiency	PP-1	High Efficiency Pool Pumps
Peak Load Shaving	PP-3	DLC of Pool Pumps

Commercial/Industrial New Construction - FPSC Staff Measures

End Use Category	Measure	Description
Cooling & Heating	SC-D-1	High Eff. Chiller
Cooling & Heating	SC-D-2	High Eff. Chiller W/ASD
Cooling & Heating	SC-D-3	Hi Efficiency DX AC
Cooling & Heating	SC-D-4	Hi Eff. Room AC
Cooling & Heating	SC-D-5	Cool Storage
Cooling & Heating	V-D-8	High Eff. Motors Chiller
Cooling & Heating	V-D-9	High Eff. Motors DX AC
Lighting Efficiency	L-D-25	Compact Fluorescent Lamps (15/18/27W)
Lighting Efficiency	L-D-26	Two Lamp Compact Fluorescent (18W)
Water Heating	W-D-11	Heat Pump Water Heater
Water Heating	W-D-12	Solar Water Heating
Water Heating	W-D-13	HRU
Appliance Efficiency	C-D-18	Convection Oven
Appliance Efficiency	C-D-19	Energy Eff. Electric Fryer

Refrigeration	R-D-1	Multiplex: Air-Cooled/No Subcooling
Refrigeration	R-D-2	Multiplex: Air-Cooled/Ambient Subcooling
Refrigeration	R-D-3	Multiplex: Air-Cooled/Mechanical Subcooling
Refrigeration	R-D-4	Multiplex: Air-Cooled/Ambient & Mech. Subcooling
Refrigeration	R-D-5	Multiplex: Air-Cooled/External Liquid Suction HX
Refrigeration	R-D-6	Open-Drive Refrigeration (ASD)
Refrigeration	R-D-7	Anti - Condensate Heater Controls
Refrigeration	R-D-8	High R-Value Glass Doors
Refrigeration	R-D-9	Refrigeration EMS
Water Heating	W-D-11	Heat Pump Water Heater
Renewables	W-D-12	Solar Water Heating
Water Heating	W-D-13	Heat Recovery Water Heater
Water Heating	W-D-14	DHW Heater Insulation
Water Heating	W-D-15	DWH Heat Trap
Water Heating	W-D-16	Low Flow/Variable Flow Shower Head
Water Heating	W-D-17	DWH Recirculation pump
Appliance Efficiency	C-D-18	Convection Oven
Appliance Efficiency	C-D-19	Energy Eff. Electric Fryer

Document No. 7

Process Step 2 Expanded for Rate Classes, Other FPL Measures Added, Measures Combinec

Residential New Construction - FPSC Staff Measures

End Use Category	Measure	Description	Combined Measure
Cooling & Heating	RSC-1	Hi Efficiency Air Source Heat Pump	BLDSMT-1
Cooling & Heating	RSC-2	Ground Source Heat Pump	BLDSMT-1
Cooling & Heating	RSC-3	Two Speed Heat Pump	BLDSMT-1
Cooling & Heating	RSC-7A	Setback/Programmable Thermostat	BLDSMT-1
Cooling & Heating	RSC-7B	Setback/Programmable Thermostat	BLDSMT-1
Peak Load Shaving	RSC-8A	Load Control for Residential Electric Heat	RLC-1
Peak Load Shaving	RSC-8B	Load Control for Residential Electric Heat	RLC-1
Cooling & Heating	RSC-21A	Hi Efficiency Central AC	BLDSMT-1
Cooling & Heating	RSC-22A	2 Speed Central AC	BLDSMT-1
Cooling & Heating	RSC-24	High Efficiency Room AC	
Peak Load Shaving	RSC-26A	DLC of Central AC	RLC-1
Peak Load Shaving	RSC-26B	DLC of Central AC	RLC-1
Water Heating	WH-1	High Efficiency Elect. Resist. Water Heating	BLDSMT-1
Water Heating	WH-2	Integral Heat Pump Water Heater	BLDSMT-1
Renewables	WH-3	Solar Water Heater	
Water Heating	WH-4	Heat Recovery (Desuperheater)	BLDSMT-1
Water Heating	WH-4	Heat Recovery (Desuperheater)	BLDSMT-1
Water Heating	WH-5	Add-On Heat Pump Water Heater	BLDSMT-1
Water Heating	WH-6	DHW Heater Tank Insulation	
Peak Load Shaving	WH-10	DLC of Electric Water Heater	RLC-1
Appliance Efficiency	CW-1	High Efficiency Clothes Washer	
Other	LT-1	Compact Fluorescent	RSCLT-1
Other	LT-2	Efficient Incandescent	RSCLT-1
Other	LT-3	HPS Outdoor	RSCLT-2
Appliance Efficiency	RF-1	Bst Ref Frost Free	
Appliance Efficiency	RF-2	Bst Ref Manual	
Appliance Efficiency	FR-1	Bst Freezer FF	
Appliance Efficiency	FR-2	Bst Freezer Manual	
Peak Load Shaving	PP-3	DLC of Pool Pumps	RLC-1

Residential Existing Construction - FPSC Staff Measures

End Use Category	Measure	Description	Combined Measure
Cooling & Heating	RSC-1	Hi Efficiency Air Source Heat Pump	
Cooling & Heating	RSC-2	Ground Source Heat Pump	
Cooling & Heating	RSC-3	Two Speed Heat Pump	
Building Envelope	RSC-5A	Reduced Duct Leakage	
Building Envelope	RSC-5B	Reduced Duct Leakage	
Cooling & Heating	RSC-7A	Setback/Programmable Thermostat	
Cooling & Heating	RSC-7B	Setback/Programmable Thermostat	
Peak Load Shaving	RSC-8A	Load Control for Residential Electric Heat	RLC-1
Peak Load Shaving	RSC-8B	Load Control for Residential Electric Heat	RLC-1
Building Envelope	RSC-10A	Ceiling Ins. R0-R19	
Building Envelope	RSC-10B	Ceiling Ins. R0-R19	
Building Envelope	RSC-11A	Ceiling Ins. R11-R30	
Building Envelope	RSC-11B	Ceiling Ins. R11-R30	
Building Envelope	RSC-12A	Ceiling Ins. R19-R30	
Building Envelope	RSC-12B	Ceiling Ins. R19-R30	
Building Envelope	RSC-13A	Ceiling Insulation R30-R38	
Building Envelope	RSC-13B	Ceiling Insulation R30-R38	
Building Envelope	RSC-14A	Wall Insulation R0-R11 .EXS	
Building Envelope	RSC-14B	Wall Insulation R0-R11 .EXS	
Building Envelope	RSC-15A	Weather Strip/Caulk w/Blower Door	
Building Envelope	RSC-15B	Weather Strip/Caulk w/Blower Door	
Building Envelope	RSC-16A	Window Film & Reflective Glass	
Building Envelope	RSC-16B	Window Film & Reflective Glass	
Building Envelope	RSC-17A	Low E-Glass	
Building Envelope	RSC-17B	Low E-Glass	
Building Envelope	RSC-18A	Shade Screens	
Building Envelope	RSC-18B	Shade Screens	
Cooling & Heating	RSC-21A	Hi Efficiency Central AC	
Cooling & Heating	RSC-22A	2 Speed Central AC	
Cooling & Heating	RSC-24A	High Efficiency Room AC	
Cooling & Heating	RSC-25A	Air Cond/ Heat Pump Maintenance	
Cooling & Heating	RSC-25B	Air Cond/ Heat Pump Maintenance	
Peak Load Shaving	RSC-26A	DLC of Central AC	RLC-1
Peak Load Shaving	RSC-26B	DLC of Central AC	RLC-1
Water Heating	WH-1	High Efficiency Elect. Resist. Water Heating	
Water Heating	WH-2	Integral Heat Pump Water Heater	
Renewables	WH-3	Solar Water Heater	
Water Heating	WH-4	Heat Recovery (Desuperheater)	
Water Heating	WH-5	Add-On Heat Pump Water Heater	
Water Heating	WH-6	DHW Heater Tank Insulation	
Water Heating	WH-7	DHW Pipe Insulation	
Water Heating	WH-8	DHW Heat Trap	
Water Heating	WH-9	Low Flow Shower Head, HD	
Water Heating	WH-10	DLC of Electric Water Heater	RLC-1
Appliance Efficiency	CW-1	High Efficiency Clothes Washer	
Other	LT-1	Compact Fluorescent	RSCLT-1
Other	LT-2	Efficient Incandescent	RSCLT-1
Other	LT-3	HPS Outdoor	RSCLT-2
Appliance Efficiency	RF-1	Bst Ref Frost Free	
Appliance Efficiency	RF-2	Bst Ref Manual	
Appliance Efficiency	RF-3	Bst Ref Manual	
Appliance Efficiency	FR-1	Bst Freezer FF	
Appliance Efficiency	FR-2	Bst Freezer Manual	
Appliance Efficiency	FR-3	Bst Freezer Manual	
Appliance Efficiency	PP-1	High Efficiency Pool Pumps	
Peak Load Shaving	PP-3	DLC of Pool Pumps	RLC-1

Commercial/Industrial New Construction - FPSC Staff Measures

End Use Category	Measure	Description	Combined Measure	FPL Previously Analyzed	Rate Class Expansion
Cooling & Heating	SC-D-1	High Eff. Chiller			GSD GSLD
Cooling & Heating	SC-D-2	High Eff. Chiller W/ASD			GSD GSLD
Cooling & Heating	SC-D-3	Hi Efficiency DX AC			GS GSD GSLD
Cooling & Heating	SC-D-4	Hi Eff. Room AC			GS GSD GSLD
Cooling & Heating	SC-D-5	Cool Storage			GSD GSLD
Cooling & Heating	V-D-8	High Eff. Motors Chiller			GSD GSLD
Cooling & Heating	V-D-9	High Eff. Motors DX AC			GS GSD GSLD
Lighting Efficiency	L-D-25	Compact Fluorescent Lamps (15/18/27W)	FL8LP		GS GSD GSLD
Lighting Efficiency	L-D-26	Two Lamp Compact Fluorescent (18W)	FL8LP		GS GSD GSLD
Water Heating	W-D-11	Heat Pump Water Heater			GS GSD GSLD
Water Heating	W-D-12	Solar Water Heating			GS GSD GSLD
Water Heating	W-D-13	HRU			GS GSD GSLD
Appliance Efficiency	C-D-18	Convection Oven			GS GSD GSLD
Water Heating	W-D-11	Heat Pump Water Heater			GS GSD GSLD
Power Equipment	FPLM-1	Motors		Yes	GS GSD GSLD
Other	OPBC	Off Peak Battery Charging		Yes	GSD GSLD
Peak Load Shaving	CILM	Commercial/Industrial Load Management		Yes	GS GSLD

Commercial/Industrial Existing Construction - FPSC Staff Measures

End Use Category	Measure	Description	Combined Measure	FPL Previously Analyzed	Rate Class Expansion
Cooling & Heating	SC-D-1	High Eff. Chiller			GSD GSLD
Cooling & Heating	SC-D-2	High Eff. Chiller W/ASD			GSD GSLD
Cooling & Heating	SC-D-3	Hi Efficiency DX AC			GS GSD GSLD
Cooling & Heating	SC-D-4	Hi Eff. Room AC			GS GSD GSLD
Cooling & Heating	SC-D-5	Cool Storage			GSD GSLD
Cooling & Heating	SC-D-8	3 Speed Motor for Cooling Tower			GSD GSLD
Cooling & Heating	SC-D-10	AC Maintenance - Chiller			GSD GSLD
Cooling & Heating	SC-D-11	AC Maintenance - DX AC			GS GSD GSLD
Cooling & Heating	SC-D-12	HVAC Air Duct/Water Pipe Insul Chiller			GSD GSLD
Cooling & Heating	SC-D-13	HVAC Air Duct/Water Pipe Insul DX AC			GS GSD GSLD
Building Envelope	SC-D-18	Roof Insulation Chiller			GSD GSLD
Building Envelope	SC-D-19	Roof Insulation DX AC			GS GSD GSLD
Building Envelope	SC-D-22	Window Film Chiller			GSD GSLD
Building Envelope	SC-D-23	Window Film DX AC			GS GSD GSLD
Cooling & Heating	V-D-1	Leak Free Ducts DX AC			GS GSD GSLD
Cooling & Heating	V-D-8	High Eff. Motors Chiller			GSD GSLD
Cooling & Heating	V-D-9	High Eff. Motors DX			GS GSD GSLD
Cooling & Heating	V-D-10	Sep Makeup Air / Exhaust Hoods Chiller			GSD GSLD
Cooling & Heating	V-D-11	Sep Makeup Air / Exhaust Hoods DX AC			GS GSD GSLD
Lighting Efficiency	L-D-1	4' - 34W Fluor. Lamps / Hybrid Ballasts (#1)	FL8HP		GS GSD GSLD
Lighting Efficiency	L-D-2	4' - 34W Fluor. Lamps / Hybrid Ballasts (#2)	FL8HP		GS GSD GSLD
Lighting Efficiency	L-D-3	4' - 34W Fluor. Lamps / Electron Ballasts (#1)	FL8HP		GS GSD GSLD
Lighting Efficiency	L-D-4	4' - 34W Fluor. Lamps / Electron Ballasts (#2)	FL8HP		GS GSD GSLD
Lighting Efficiency	L-D-5	8' - 60W Fluor. Lamps / Electron Ballasts (#1)	FL8HP		GS GSD GSLD
Lighting Efficiency	L-D-6	8' - 60W Fluor. Lamps / Electron Ballasts (#2)	FL8HP		GS GSD GSLD
Lighting Efficiency	L-D-7	T8 Lamps / Electron Ballasts (#1)	FL8HP		GS GSD GSLD
Lighting Efficiency	L-D-8	T8 Lamps / Electron Ballasts (#2)	FL8HP		GS GSD GSLD
Lighting Efficiency	L-D-9	Refl/Delamps #1: Install 4' - 40W Fluor. Lamps/EE Ballast	FL8LP		GS GSD GSLD
Lighting Efficiency	L-D-10	Refl/Delamps #2: Install 4' - 34 W & 40W Fluor. Lamps/EE Ballast	FL8LP		GS GSD GSLD
Lighting Efficiency	L-D-11	Refl/Delamps #3: Install 8' - 75W Fluor. Lamps/EE Ballast	FL8LP		GS GSD GSLD
Lighting Efficiency	L-D-12	Refl/Delamps #4: Install 8' -60W Fluor. Lamps/EE Ballast	FL8LP		GS GSD GSLD
Lighting Efficiency	L-D-13	Refl/Delamps #5: Install 4' - 34W & 40W Fluor. Lamps/Hyb. Ballast	FL8LP		GS GSD GSLD
Lighting Efficiency	L-D-14	Refl/Delamps #6: Install 4' - 34W & 40W Fluor. Lamps/Hyb. Ballast	FL8LP		GS GSD GSLD
Lighting Efficiency	L-D-15	Refl/Delamps #7: Install 4' - 34W & 40W Fluor. Lamps/Elec. Ballast	FL8LP		GS GSD GSLD
Lighting Efficiency	L-D-16	Refl/Delamps #8: Install 4' - 34W & 40W Fluor. Lamps/Elec. Ballast	FL8HP		GS GSD GSLD
Lighting Efficiency	L-D-17	Refl/Delamps #9: 8' - 60W Fluor. Lamps/Elec. Ballast	FL8HP		GS GSD GSLD
Lighting Efficiency	L-D-18	Refl/Delamps #10: 8' - 60W Fluor. Lamps/Elec. Ballast	FL8HP		GS GSD GSLD
Lighting Efficiency	L-D-19	4' - 34W Fluor. Lamps / Dimming Ballasts (#1)	FL8HP		GS GSD GSLD
Lighting Efficiency	L-D-20	4' - 34W Fluor. Lamps / Dimming Ballasts (#2)	FL8HP		GS GSD GSLD
Lighting Efficiency	L-D-21	High pressure Sodium (70/100/150/250W)	HID8HP		GS GSD GSLD
Lighting Efficiency	L-D-22	High pressure Sodium (70/100/150/250W w/ES Ballast)	HID8HP		GS GSD GSLD
Lighting Efficiency	L-D-23	High pressure Sodium (35W)	HID8HP		GS GSD GSLD
Lighting Efficiency	L-D-24	Metal Halide (32W)	HID8HP		GS GSD GSLD
Lighting Efficiency	L-D-25	Compact Fluorescent Lamps (15/18/27W)	INC8LP		GS GSD GSLD
Lighting Efficiency	L-D-26	Two Lamp Compact Fluorescent (18W)	FL8LP		GS GSD GSLD
Lighting Efficiency	FPL-31	I LAMP EXIT SGN. FLR	FL24LP	Yes	GS GSD GSLD
Lighting Efficiency	FPL-32	I LAMP EXIT SGN. LED	FL24HP	Yes	GS GSD GSLD
Lighting Efficiency	FPL-33	I LAMP EXIT SGN. FLR	FL24LP	Yes	GS GSD GSLD
Lighting Efficiency	FPL-34	I LAMP EXIT SGN. LED	FL24HP	Yes	GS GSD GSLD
Lighting Efficiency	FPL-35	2-LAMP4FF T-8 EB	FL8HP	Yes	GS GSD GSLD
Lighting Efficiency	FPL-36	2-LAMP4FF T-8 HYB	FL8HP	Yes	GS GSD GSLD
Lighting Efficiency	FPL-37	2-LAMP4FF T-8 EB	FL8HP	Yes	GS GSD GSLD
Lighting Efficiency	FPL-38	2-LAMP4FF T-8 HYB	FL8HP	Yes	GS GSD GSLD
Lighting Efficiency	FPL-39	HPS 400W	HID8HP	Yes	GS GSD GSLD
Lighting Efficiency	FPL-40	HALOGEN HIR 60W	INC8LP	Yes	GS GSD GSLD
Lighting Efficiency	FPL-41	2-LAMP4FF T-10 EE	FL8LP	Yes	GS GSD GSLD
Lighting Efficiency	FPL-42	2-LAMP4FF T-10 EE	FL8LP	Yes	GS GSD GSLD
Lighting Efficiency	FPL-43	2-LAMP4FF T-10 EE	FL8LP	Yes	GS GSD GSLD
Lighting Efficiency	FPL-44	2-LAMP4FF T-10 EE	FL8LP	Yes	GS GSD GSLD
Lighting Efficiency	FPL-45	COMP.FL.REFLECTOR	FL8LP	Yes	GS GSD GSLD
Lighting Efficiency	FPL-46	4-4FF T8 EB	FL8HP	Yes	GS GSD GSLD

Lighting Efficiency	FPL-47	2-8FF T8 EB	FL8HP	Yes	GS GSD GSLD
Lighting Efficiency	FPL-48	2-2X2U-BEND T8 EB	FL8HP	Yes	GS GSD GSLD
Lighting Efficiency	FPL-49	2-T8 EB REF.	FL8HP	Yes	GS GSD GSLD
Lighting Efficiency	FPL-50	COMP.FLR.22W	FL8LP	Yes	GS GSD GSLD
Lighting Efficiency	FPL-51	HALOGEN PAR38 45W	INC8LP	Yes	GS GSD GSLD
Refrigeration	R-D-1	Multiplex: Air-Cooled/No Subcooling			GS GSD GSLD
Refrigeration	R-D-2	Multiplex: Air-Cooled/Ambient Subcooling			GS GSD GSLD
Refrigeration	R-D-3	Multiplex: Air-Cooled/Mechanical Subcooling			GS GSD GSLD
Refrigeration	R-D-4	Multiplex: Air-Cooled/Ambient & Mech. Subcooling			GS GSD GSLD
Refrigeration	R-D-5	Multiplex: Air-Cooled/External Liquid Suction HX			GS GSD GSLD
Refrigeration	R-D-6	Open-Drive Refrigeration (ASD)			GS GSD GSLD
Refrigeration	R-D-7	Anti - Condensate Heater Controls			GS GSD GSLD
Refrigeration	R-D-8	High R-Value Glass Doors			GS GSD GSLD
Refrigeration	R-D-9	Refrigeration EMS			GS GSD GSLD
Water Heating	W-D-11	Heat Pump Water Heater			GS GSD GSLD
Renewables	W-D-12	Solar Water Heating			GS GSD GSLD
Water Heating	W-D-13	Heat Recovery Water Heater			GS GSD GSLD
Water Heating	W-D-14	DHW Heater Insulation			GS GSD GSLD
Water Heating	W-D-15	DWH Heat Trap			GS GSD GSLD
Water Heating	W-D-16	Low Flow/Variable Flow Shower Head			GS GSD GSLD
Water Heating	W-D-17	DWH Recirculation pump			GS GSD GSLD
Appliance Efficiency	C-D-18	Convection Oven			GS GSD GSLD
Appliance Efficiency	C-D-19	Energy Eff. Electric Fryer			GS GSD GSLD
Power Equipment	FPLM-1	Motors		Yes	GS GSD GSLD
Other	OPBC	Off Peak Battery Charging		Yes	GSD GSLD
Peak Load Shaving	CILM	Commercial/Industrial Load Management		Yes	GS GSLD

Document No. 8

Summary of Combined Measures

Technology	Combined Measure	Comments
C/I Lighting	FL8HP FL8LP FL24HP FL24LP INC8HP INC8LP INC24HP INC24LP HID8HP HID8LP HID24HP HID24LP	All Commercial / Industrial lighting measures are combined based on: - the type of lighting technology (fluorescent, incandescent or HID) - the daily usage (24 hours a day vs 'day time usage') - the permanence of the new technology (high vs low) This results in 12 potential combined measures. Measure codes are structured as follows: - FL = flourescent - INC = incandescent - HID = HID - 8 = day time usage - 24 = 24 hours a day usage - HP = high permanance - LP = low permanance For example: FL8HP is a high permanance florescent fixture that is used for day time lighting
Residential Lighting	RSCLT-1 RSCLT-2	Residential lighting was combined based on whether is was used for indoor or outdoor lighting
Residential Load Control	RLC-1	Many of the costs of systems and equipment are shared between the various equipment options. The combined measure considers the impacts of an average program participant who signs up for more than one appliance option.
Residential New Construction	BldSmt-1	Those measures which are awarded points toward an EPI rating as calculated using the State of Florida Whole Building Performance Method are evaluated as the BuildSmart program. This program considers the overall efficiency of the resulting structure as opposed to sub-optimizing the building by encouraging energy efficiency of one technology which can be used to allow another technology to be not as energy efficient as it would otherwise be.

Note: The individual measures that form a combined measure can be determined from the "Combined Measure" column on the list of measures in Document No. 7

Document No. 9

Process Step 3 **Cost Effectiveness of Measures - Pre Screening**

Residential New Construction

Measure		Description	Latest CPF	RIM	TRC	Participant	Comments	Evaluate
BLDSMT-1		BuildSmart - EPI less than 90	97 Pgm Filing	1.20	1.32	1.76		Yes
RLC-1		Residential Load Control	97 Pgm Rev	1.09	3.30	Infinite		Yes
RSC-24		High Efficiency Room AC	97 Pgm Rev	1.04	0.90	1.30		Yes
WH-3		Solar Water Heater	96 R&D Project	0.38	0.28	1.00	HT-55	No
WH-6		DHW Heater Tank Insulation	95 Goals	0.57	0.56	1.62		No
CW-1		High Efficiency Clothes Washer	95 Goals	0.50	0.24	0.66		No
RSCLT-1		Residential Indoor Lighting	95 Goals	0.64	0.14	0.35	Most cost-effective measure	No
RSCLT-1		Residential Outdoor Lighting	95 Goals	0.63	0.15	0.39		No
RF-1		Bst Ref Frost Free	95 Goals	0.86	1.18	2.44	$0 incentives	No
RF-2		Bst Ref Manual	95 Goals	0.81	0.97	2.08	$0 incentives	No
FR-1		Bst Freezer FF	95 Goals	0.94	2.06	4.36	$0 incentives	Yes
FR-2		Bst Freezer Manual	95 Goals	0.88	2.21	6.17	$0 incentives	No

Residential Existing Construction

Measure		Description	Latest CPF	RIM	TRC	Participant	Comments	Evaluate
RSC-1		Hi Efficiency Air Source Heat Pump	97 Pgm Rev	1.02	1.16	1.74		Yes
RSC-2		Ground Source Heat Pump	97 Pgm Rev	1.02	1.01	1.49		Yes
RSC-3		Two Speed Heat Pump	95 Goals	0.83	0.53	1.00		No
RSC-5A		Reduced Duct Leakage	97 Pgm Rev	1.02	1.54	2.49		Yes
RSC-5B		Reduced Duct Leakage	97 Pgm Rev	1.02	1.38	2.13		Yes
RSC-7A		Setback/Programmable Thermostat	Not evaluated					Yes
RSC-7B		Setback/Programmable Thermostat	Not evaluated					Yes
RSC-10A		Ceiling Ins. R0-R19	97 Pgm Rev	1.02	1.84	2.72		Yes
RSC-10B		Ceiling Ins. R0-R19	97 Pgm Rev	1.02	1.60	2.35		Yes
RSC-11A		Ceiling Ins. R11-R30	97 Pgm Rev	0.50	0.41	1.00		No
RSC-11B		Ceiling Ins. R11-R30	95 Goals	0.54	0.48	1.00		No
RSC-12A		Ceiling Ins. R19-R30	97 Pgm Rev	0.31	0.28	1.00		No
RSC-12B		Ceiling Ins. R19-R30	95 Goals	0.24	0.23	1.00		No
RSC-13A		Ceiling Insulation R30-R38	95 Goals	0.24	0.23	1.00		No
RSC-13B		Ceiling Insulation R30-R38	95 Goals	0.19	0.19	1.00		No
RSC-14A		Wall Insulation R0-R11 .EXS	95 Goals	0.18	0.16	1.00		No
RSC-14B		Wall Insulation R0-R11 .EXS	95 Goals	0.13	0.11	1.00		No
RSC-15A		Weather Strip/Caulk w/Blower Door	95 Goals	0.53	0.63	2.03		No
RSC-15B		Weather Strip/Caulk w/Blower Door	95 Goals	0.51	0.61	2.03		No
RSC-16A		Window Film & Reflective Glass	97 Pgm Rev	0.92	0.68	1.11	$0 incentives	Yes
RSC-16B		Window Film & Reflective Glass	95 Goals	0.12	0.12	1.00		No
RSC-17A		Low E-Glass	97 Pgm Rev	0.53	0.40	1.00		No
RSC-17B		Low E-Glass	95 Goals	0.42	0.38	1.00		No
RSC-18A		Shade Screens	97 Pgm Rev	0.85	0.57	1.00		No
RSC-18B		Shade Screens	95 Goals	0.14	0.13	1.00		No
RSC-21A		Hi Efficiency Central AC	97 Pgm Rev	1.03	1.62	2.50		Yes
RSC-22A		2 Speed Central AC	95 Goals	0.91	0.90	1.61	$0 incentives	Yes
RSC-24A		High Efficiency Room AC	97 Pgm Rev	1.04	0.90	1.30		Yes
RSC-25A		Air Cond/ Heat Pump Maintenance	95 Goals	0.57	0.33	0.61		No
RSC-25B		Air Cond/ Heat Pump Maintenance	95 Goals	0.52	0.29	0.56		No
WH-1		High Efficiency Elect. Resist. Water Heating	95 Goals	0.49	0.28	0.72		No
WH-2		Integral Heat Pump Water Heater	95 Goals	0.36	0.28	1.00		No
WH-3		Solar Water Heater	96 R&D Project	0.38	0.28	1.00	HT-55	No
WH-4		Heat Recovery (Desuperheater)	97 Pgm Rev	0.33	0.28	1.00		No
WH-5		Add-On Heat Pump Water Heater	95 Goals	0.72	0.28	0.59		No
WH-6		DHW Heater Tank Insulation	95 Goals	0.57	0.56	1.62		No
WH-7		DHW Pipe Insulation	95 Goals	0.80	0.61	1.00		No
WH-8		DHW Heat Trap	95 Goals	0.47	0.40	1.00		No
WH-9		Low Flow Shower Head. HD	95 Goals	0.72	1.45	4.32		No
CW-1		High Efficiency Clothes Washer	95 Goals	0.50	0.24	0.66		No
RF-1		Bst Ref Frost Free	95 Goals	0.86	1.18	2.44	$0 incentives	No
RF-2		Bst Ref Manual	95 Goals	0.81	0.97	2.08	$0 incentives	No
RF-3		Bst Ref Manual	95 Goals	0.78	7.96	Infinite	$0 incentives	No
FR-1		Bst Freezer FF	95 Goals	0.94	2.06	4.36	$0 incentives	Yes
FR-2		Bst Freezer Manual	95 Goals	0.88	2.21	6.17	$0 incentives	No
FR-3		Bst Freezer Manual	95 Goals	0.81	7.60	Infinite	$0 incentives	No
PP-1		High Efficiency Pool Pumps	95 Goals	0.94	1.33	3.24	$0 incentives	Yes
RLC-1		Residential Load Control	97 Pgm Rev	1.09	3.30	Infinite		Yes
RSCLT-1		Residential Indoor Lighting	95 Goals	0.64	0.14	0.35	Most cost-effective measure	No
RSCLT-1		Residential Outdoor Lighting	95 Goals	0.63	0.15	0.39		No

Commercial/Industrial New Construction

Measure	Rate Class	Description	Latest CPF	RIM	TRC	Participant	Comments	Evaluate
SC-D-1	GSD	High Eff. Chiller	97 Pgm Rev	1.09	2.00	2.30		Yes
SC-D-1	GSLD	High Eff. Chiller	97 Pgm Rev	1.06	2.00	2.35		Yes
SC-D-2	GSD	High Eff. Chiller W/ASD	97 Pgm Rev	1.07	1.07	1.19		Yes
SC-D-2	GSLD	High Eff. Chiller W/ASD	97 Pgm Rev	1.05	1.07	1.19		Yes
SC-D-3	GS	Hi Efficiency DX AC	97 Pgm Rev	1.10	1.67	2.12		Yes
SC-D-3	GSD	Hi Efficiency DX AC	97 Pgm Rev	1.06	1.67	1.98		Yes
SC-D-3	GSLD	Hi Efficiency DX AC	97 Pgm Rev	1.05	1.67	1.98		Yes
SC-D-4	GS	Hi Eff. Room AC	95 Goals	1.04	1.49	2.26		Yes
SC-D-4	GSD	Hi Eff. Room AC	95 Goals	0.99	1.23	1.93		Yes
SC-D-4	GSLD	Hi Eff. Room AC	95 Goals	0.99	1.23	1.85		Yes
SC-D-5	GSD	Cool Storage	97 Pgm Rev	1.04	1.08	1.01		Yes
SC-D-5	GSLD	Cool Storage	97 Pgm Rev	1.05	1.05	1.02		Yes
V-D-8	GSD	High Eff. Motors Chiller	95 Goals	0.65	1.05	3.94	$0 incentives	No
V-D-8	GSLD	High Eff. Motors Chiller	95 Goals	1.13	3.88	5.03	Payback<2 years	Yes
V-D-9	GS	High Eff. Motors DX AC	95 Goals	0.88	1.99	3.74	$0 incentives	No
V-D-9	GSD	High Eff. Motors DX AC	95 Goals	0.89	1.65	3.82	$0 incentives	No
V-D-9	GSLD	High Eff. Motors DX AC	95 Goals	0.91	2.23	5.63	$0 incentives	Yes
FL8LP	GS	Fluorescent 8 Hour Low Permanence					New bundle	Yes
FL8LP	GSD	Fluorescent 8 Hour Low Permanence					New bundle	Yes
FL8LP	GSLD	Fluorescent 8 Hour Low Permanence					New bundle	Yes
W-D-11	GS	Heat Pump Water Heater	95 Goals	0.54	0.10	0.20		No
W-D-11	GSD	Heat Pump Water Heater	95 Goals	0.50	0.42	1.00		No
W-D-11	GSLD	Heat Pump Water Heater	95 Goals	0.48	0.41	1.00		No
W-D-12	GS	Solar Water Heating	95 Goals	0.56	0.07	0.14		No
W-D-12	GSD	Solar Water Heating	95 Goals	0.39	0.35	1.00		No
W-D-12	GSLD	Solar Water Heating	95 Goals	0.39	0.34	1.00		No
W-D-13	GS	HRU	95 Goals	0.42	0.36	1.00		No
W-D-13	GSD	HRU	95 Goals	0.95	1.69	2.53	$0 incentives	Yes
W-D-13	GSLD	HRU	95 Goals	0.96	1.58	2.41	$0 incentives	Yes
C-D-18	GS	Convection Oven	95 Goals	0.66	1.59	3.67	$0 incentives	No
C-D-18	GSD	Convection Oven	95 Goals	0.88	1.84	3.05	$0 incentives	No
C-D-18	GSLD	Convection Oven	95 Goals	1.10	2.54	3.30	$0 incentives	Yes
C-D-19	GS	Energy Eff. Electric Fryer	95 Goals	0.63	2.34	7.96	$0 incentives	No
C-D-19	GSD	Energy Eff. Electric Fryer	95 Goals	0.81	2.85	6.46	$0 incentives	No
C-D-19	GSLD	Energy Eff. Electric Fryer	95 Goals	1.01	4.20	7.09	$0 incentives	Yes
FPLM-1	GS	Motors	97 Pgm Rev	1.00	1.28	1.95	$9.65 incentive per motor	Yes
FPLM-1	GSD	Motors	97 Pgm Rev	0.92	1.38	2.02	$0 incentives	Yes
FPLM-1	GSLD	Motors	97 Pgm Rev	0.94	1.38	1.94	$0 incentives	Yes
OPBC	GSD	Off Peak Battery Charging	97 Pgm Rev	1.63	2.88	2.32		Yes
OPBC	GSLD	Off Peak Battery Charging	97 Pgm Rev	1.63	2.88	2.32		Yes
CILM	GS	Commercial/Industrial Load Management	97 Pgm Rev	1.15	2.94	Infinite		Yes
CILM	GSLD	Commercial/Industrial Load Management	95 Goals	1.49	44.74	167.90		Yes

Commercial/Industrial Existing Construction

Measure	Rate Class	Description	Latest CPF	RIM	TRC	Participant	Comments	Evaluate
SC-D-1	GSD	High Eff. Chiller	97 Pgm Rev	1.09	2.00	2.30		Yes
SC-D-1	GSLD	High Eff. Chiller	97 Pgm Rev	1.06	2.00	2.35		Yes
SC-D-2	GSD	High Eff. Chiller W/ASD	97 Pgm Rev	1.07	1.07	1.19		Yes
SC-D-2	GSLD	High Eff. Chiller W/ASD	97 Pgm Rev	1.05	1.07	1.19		Yes
SC-D-3	GS	Hi Efficiency DX AC	97 Pgm Rev	1.10	1.67	2.12		Yes
SC-D-3	GSD	Hi Efficiency DX AC	97 Pgm Rev	1.06	1.67	1.98		Yes
SC-D-3	GSLD	Hi Efficiency DX AC	97 Pgm Rev	1.05	1.67	1.98		Yes
SC-D-4	GS	Hi Eff. Room AC	95 Goals	1.04	1.49	2.26		Yes
SC-D-4	GSD	Hi Eff. Room AC	95 Goals	0.99	1.23	1.93		Yes
SC-D-4	GSLD	Hi Eff. Room AC	95 Goals	0.99	1.23	1.85		Yes
SC-D-5	GSD	Cool Storage	97 Pgm Rev	1.04	1.08	1.01		Yes
SC-D-5	GSLD	Cool Storage	97 Pgm Rev	1.05	1.05	1.02		Yes
SC-D-8	GSD	3 Speed Motor for Cooling Tower	95 Goals	0.91	2.89	5.28	$0 incentives	Yes
SC-D-8	GSLD	3 Speed Motor for Cooling Tower	95 Goals	1.01	3.30	4.94	$0 incentives	Yes
SC-D-10	GSD	AC Maintenance Chiller	95 Goals	0.09	0.09	1.00		No
SC-D-10	GSLD	AC Maintenance Chiller	95 Goals	0.09	0.09	1.00		No
SC-D-11	GS	AC Maintenance DX AC	95 Goals	0.11	0.11	1.00		No
SC-D-11	GSD	AC Maintenance DX AC	95 Goals	0.09	0.09	1.00		No
SC-D-11	GSLD	AC Maintenance DX AC	95 Goals	0.09	0.08	1.00		No
SC-D-12	GSD	HVAC Air Duct/Water Pipe Insul Chiller	95 Goals	0.25	0.02	0.03	$0 incentives	No
SC-D-12	GSLD	HVAC Air Duct/Water Pipe Insul Chiller	95 Goals	0.25	0.02	0.03	$0 incentives	No
SC-D-13	GS	HVAC Air Duct/Water Pipe Insul DX AC	95 Goals	0.03	0.03	1.00		No
SC-D-13	GSD	HVAC Air Duct/Water Pipe Insul DX AC	95 Goals	0.02	0.02	1.00		No
SC-D-13	GSLD	HVAC Air Duct/Water Pipe Insul DX AC	95 Goals	0.02	0.02	1.00		No
SC-D-18	GSD	Roof Insulation Chiller	97 Pgm Rev	1.02	1.27	1.40		Yes
SC-D-18	GSLD	Roof Insulation Chiller	97 Pgm Rev	1.02	1.45	1.59		Yes
SC-D-19	GS	Roof Insulation DX AC	97 Pgm Rev	1.03	1.28	1.62		Yes
SC-D-19	GSD	Roof Insulation DX AC	97 Pgm Rev	1.03	1.53	1.66		Yes
SC-D-19	GSLD	Roof Insulation DX AC	97 Pgm Rev	1.03	1.73	1.85		Yes
SC-D-22	GSD	Window Film Chiller	97 Pgm Rev	1.02	1.21	1.38		Yes
SC-D-22	GSLD	Window Film Chiller	97 Pgm Rev	1.02	1.25	1.39		Yes
SC-D-23	GS	Window Film DX AC	97 Pgm Rev	1.02	1.07	1.33		Yes
SC-D-23	GSD	Window Film DX AC	97 Pgm Rev	1.02	1.19	1.37		Yes
SC-D-23	GSLD	Window Film DX AC	97 Pgm Rev	1.02	1.26	1.40		Yes
V-D-1	GS	Leak Free Ducts DX AC	97 Pgm Rev	1.25	1.29	1.35		Yes
V-D-1	GSD	Leak Free Ducts DX AC	97 Pgm Rev	1.06	1.29	1.42		Yes
V-D-1	GSLD	Leak Free Ducts DX AC	97 Pgm Rev	1.03	1.29	1.44		Yes
V-D-8	GSD	High Eff. Motors Chiller	95 Goals	0.65	1.05	3.94	$0 incentives	No
V-D-8	GSLD	High Eff. Motors Chiller	95 Goals	1.13	3.88	5.03	$0 incentives	Yes
V-D-9	GS	High Eff. Motors DX AC	95 Goals	0.88	1.99	3.74	$0 incentives	No
V-D-9	GSD	High Eff. Motors DX AC	95 Goals	0.89	1.85	3.92	$0 incentives	No
V-D-9	GSLD	High Eff. Motors DX AC	95 Goals	0.91	2.23	5.63	$0 incentives	Yes
V-D-10	GSD	Sep Makeup Air / Exhaust Hoods Chiller	97 Pgm Rev	1.00	0.83	1.00		Yes
V-D-10	GSLD	Sep Makeup Air / Exhaust Hoods Chiller	97 Pgm Rev	0.99	0.83	1.00		Yes
V-D-11	GS	Sep Makeup Air / Exhaust Hoods DX AC	97 Pgm Rev	1.07	0.84	1.00		Yes
V-D-11	GSD	Sep Makeup Air / ExhaustHoods DX AC	97 Pgm Rev	0.96	0.84	1.00		Yes
V-D-11	GSLD	Sep Makeup Air / ExhaustHoods DX AC	97 Pgm Rev	0.95	0.84	1.00		Yes
FL24HP	GS	Fluorescent 24 Hour High Permanence					New bundle	Yes
FL24HP	GSD	Fluorescent 24 Hour High Permanence					New bundle	Yes
FL24HP	GSLD	Fluorescent 24 Hour High Permanence					New bundle	Yes
FL24LP	GS	Fluorescent 24 Hour Low Permanence					New bundle	Yes
FL24LP	GSD	Fluorescent 24 Hour Low Permanence					New bundle	Yes
FL24LP	GSLD	Fluorescent 24 Hour Low Permanence					New bundle	Yes
FL8HP	GS	Fluorescent 8 Hour High Permanence					New bundle	Yes
FL8HP	GSD	Fluorescent 8 Hour High Permanence					New bundle	Yes
FL8HP	GSLD	Fluorescent 8 Hour High Permanence					New bundle	Yes
FL8LP	GS	Fluorescent 8 Hour Low Permanence					New bundle	Yes
FL8LP	GSD	Fluorescent 8 Hour Low Permanence					New bundle	Yes
FL8LP	GSLD	Fluorescent 8 Hour Low Permanence					New bundle	Yes
HID8HP	GSLD	HID 8 Hour High Permanence					New bundle	Yes
INC8LP	GSD	Incandescent 8 Hour Low Permanence					New bundle	Yes
INC8LP	GSLD	Incandescent 8 Hour Low Permanence					New bundle	Yes
R-D-1	GS	Multiplex: Air-Cooled/No Subcooling	95 Goals	0.60	1.28	4.20	$0 incentives	No
R-D-1	GSD	Multiplex: Air-Cooled/No Subcooling	95 Goals	0.96	2.01	2.94	$0 incentives	Yes
R-D-1	GSLD	Multiplex: Air-Cooled/No Subcooling	95 Goals	1.03	2.23	2.99	$0 incentives	Yes
R-D-2	GS	Multiplex: Air-Cooled/Ambient Subcooling	95 Goals	0.59	1.19	3.63	$0 incentives	No
R-D-2	GSD	Multiplex: Air-Cooled/Ambient Subcooling	95 Goals	0.96	1.75	2.52	$0 incentives	Yes
R-D-2	GSLD	Multiplex: Air-Cooled/Ambient Subcooling	95 Goals	1.03	1.93	2.56	$0 incentives	Yes
RD-3	GS	Multiplex: Air-Cooled/Mechanical Subcooling	95 Goals	0.58	0.80	2.05	$0 incentives	No
RD-3	GSD	Multiplex: Air-Cooled/Mechanical Subcooling	95 Goals	1.04	0.97	1.37	$0 incentives	Yes
RD-3	GSLD	Multiplex: Air-Cooled/Mechanical Subcooling	95 Goals	1.03	1.05	1.38	$0 incentives	Yes
R-D-4	GS	Multiplex: Air-Cooled/Ambient & Mech. Subcooling	95 Goals	0.58	0.83	2.15	$0 incentives	No
R-D-4	GSD	Multiplex: Air-Cooled/Ambient & Mech. Subcooling	95 Goals	0.96	1.01	1.41	$0 incentives	Yes
R-D-4	GSLD	Multiplex: Air-Cooled/Ambient & Mech. Subcooling	95 Goals	1.03	1.09	1.43	$0 incentives	Yes
R-D-5	GS	Multiplex: Air-Cooled/External Liquid Suction HX	95 Goals	0.74	1.26	2.64	$0 incentives	No
R-D-5	GSD	Multiplex: Air-Cooled/External Liquid Suction HX	95 Goals	1.05	1.49	1.94	$0 incentives	Yes
R-D-5	GSLD	Multiplex: Air-Cooled/External Liquid Suction HX	95 Goals	1.10	1.59	1.90	$0 incentives	Yes
R-D-6	GS	Open - Drive Refrigeration System (ASD)	95 Goals	0.50	0.56	1.57	$0 incentives	No
R-D-6	GSD	Open - Drive Refrigeration System (ASD)	95 Goals	0.91	0.72	1.06	$0 incentives	Yes

R-D-6	GSLD	Open - Drive Refrigeration System (ASD)	95 Goals	0.72	0.62	1.00		No
R-D-7	GS	Anti - Condensate Heater Controls	95 Goals	0.63	0.20	0.34	$0 incentives	No
R-D-7	GSD	Anti - Condensate Heater Controls	95 Goals	0.20	0.19	1.00		No
R-D-7	GSLD	Anti - Condensate Heater Controls	95 Goals	0.20	0.19	1.00		No
R-D-8	GS	High R-Value Glass Doors	95 Goals	0.79	1.21	2.19	$0 incentives	No
R-D-8	GSD	High R-Value Glass Doors	95 Goals	1.04	1.21	1.58	$0 incentives	Yes
R-D-8	GSLD	High R-Value Glass Doors	95 Goals	1.10	1.25	1.52	$0 incentives	Yes
R-D-9	GS	Refrigeration Energy Mgt System	95 Goals	0.59	0.58	1.31	$0 incentives	No
R-D-9	GSD	Refrigeration Energy Mgt System	95 Goals	0.71	0.60	1.00		No
R-D-9	GSLD	Refrigeration Energy Mgt System	95 Goals	0.75	0.61	1.00		No
W-D-11	GS	Heat Pump Water Heater	95 Goals	0.11	0.10	1.00		No
W-D-11	GSD	Heat Pump Water Heater	95 Goals	0.51	0.43	1.00		No
W-D-11	GSLD	Heat Pump Water Heater	95 Goals	0.49	0.42	1.00		No
W-D-12	GS	Solar Water Heating	95 Goals	0.14	0.13	1.00		No
W-D-12	GSD	Solar Water Heating	95 Goals	0.35	0.32	1.00		No
W-D-12	GSLD	Solar Water Heating	95 Goals	0.34	0.31	1.00		No
W-D-13	GS	HRU	95 Goals	0.42	0.36	1.00		No
W-D-13	GSD	HRU	95 Goals	0.95	1.72	2.56	$0 incentives	Yes
W-D-13	GSLD	HRU	95 Goals	0.96	1.61	2.43	$0 incentives	Yes
W-D-14	GS	DWH Heater Insulation	95 Goals	0.08	0.08	1.00		No
W-D-14	GSD	DWH Heater Insulation	95 Goals	0.62	0.66	1.47	$0 incentives	No
W-D-14	GSLD	DWH Heater Insulation	95 Goals	0.65	0.66	1.38	$0 incentives	No
W-D-15	GS	DWH Heat Trap	95 Goals	0.37	0.31	1.00		No
W-D-15	GSD	DWH Heat Trap	95 Goals	0.90	2.33	4.29	$0 incentives	Yes
W-D-15	GSLD	DWH Heat Trap	95 Goals	0.94	2.33	4.05	$0 incentives	Yes
W-D-16	GS	Low Flow/Variable Flow Shower Head	95 Goals	0.83	1.27	2.94	$0 incentives	No
W-D-16	GSD	Low Flow/Variable Flow Shower Head	95 Goals	1.11	4.50	6.75	$0 incentives	Yes
W-D-16	GSLD	Low Flow/Variable Flow Shower Head	95 Goals	1.15	4.50	6.50	$0 incentives	Yes
W-D-17	GS	DWH Recirculation pump	95 Goals	0.74	6.77	13.74	$0 incentives	No
W-D-17	GSD	DWH Recirculation pump	95 Goals	0.97	6.77	10.46	$0 incentives	Yes
W-D-17	GSLD	DWH Recirculation pump	95 Goals	1.03	6.77	9.78	$0 incentives	Yes
C-D-18	GS	Convection Oven	95 Goals	0.66	1.59	3.67	$0 incentives	No
C-D-18	GSD	Convection Oven	95 Goals	0.88	1.84	3.05	$0 incentives	No
C-D-18	GSLD	Convection Oven	95 Goals	1.10	2.54	3.30	$0 incentives	Yes
C-D-19	GS	Energy Eff. Electric Fryer	95 Goals	0.63	2.34	7.96	$0 incentives	No
C-D-19	GSD	Energy Eff. Electric Fryer	95 Goals	0.81	2.85	6.46	$0 incentives	No
C-D-19	GSLD	Energy Eff. Electric Fryer	95 Goals	1.01	4.20	7.09	$0 incentives	Yes
FPLM-1	GS	Motors	97 Pgm Rev	1.00	1.28	1.95	$9.65 incentive per motor	Yes
FPLM-1	GSD	Motors	97 Pgm Rev	0.92	1.38	2.02	$0 incentives	Yes
FPLM-1	GSLD	Motors	97 Pgm Rev	0.94	1.38	1.94	$0 incentives	Yes
OPBC	GSD	Off Peak Battery Charging	97 Pgm Rev	1.63	2.88	2.32		Yes
OPBC	GSLD	Off Peak Battery Charging	97 Pgm Rev	1.63	2.88	2.32		Yes
CILM	GS	Commercial/Industrial Load Management	97 Pgm Rev	1.15	2.94	Infinite		Yes
CILM	GSLD	Commercial/Industrial Load Management	95 Goals	1.49	44.74	167.90		Yes

Document No. 10

Process Step 4 Cost Effectiveness of Measures - Final Listing

Residential New Construction

Measure		Description	Added Measure
BLDSMT-1		BuildSmart - EPI less than 90	
RLC-1		Residential Load Control	
RSC-19A		Reflective Roof Coatings	Yes
RSC-19B		Reflective Roof Coatings	Yes
RSC-24		High Efficiency Room AC	
RSC-27A		LandScape Shading	Yes
RSC-27B		LandScape Shading	Yes
FR-1		Bst Freezer FF	

Residential Existing Construction

Measure		Description	Added Measure
RSC-1		Hi Efficiency Air Source Heat Pump	
RSC-2		Ground Source Heat Pump	
RSC-5A		Reduced Duct Leakage	
RSC-5B		Reduced Duct Leakage	
RSC-7A		Setback/Programmable Thermostat	
RSC-7B		Setback/Programmable Thermostat	
RSC-10A		Ceiling Ins. R0-R19	
RSC-10B		Ceiling Ins. R0-R19	
RSC-16A		Window Film & Reflective Glass	
RSC-19A		Reflective Roof Coatings	Yes
RSC-19B		Reflective Roof Coatings	Yes
RSC-21A		Hi Efficiency Central AC	
RSC-22A		2 Speed Central AC	
RSC-24A		High Efficiency Room AC	
RSC-27A		LandScape Shading	Yes
RSC-27B		LandScape Shading	Yes
FPL-BD		Blower Door Infiltration Reduction	Yes
FR-1		Bst Freezer FF	
PP-1		High Efficiency Pool Pumps	
RLC-1		Residential Load Control	

Commercial/Industrial New Construction

Measure	Rate Class	Description	Added Measure
SC-D-1	GSD	High Eff. Chiller	
SC-D-1	GSLD	High Eff. Chiller	
SC-D-2	GSD	High Eff. Chiller W/ASD	
SC-D-2	GSLD	High Eff. Chiller W/ASD	
SC-D-3	GS	Hi Efficiency DX AC	
SC-D-3	GSD	Hi Efficiency DX AC	
SC-D-3	GSLD	Hi Efficiency DX AC	
SC-D-4	GS	Hi Eff. Room AC	
SC-D-4	GSD	Hi Eff. Room AC	
SC-D-4	GSLD	Hi Eff. Room AC	
SC-D-5	GSD	Cool Storage	
SC-D-5	GSLD	Cool Storage	
SC-D-6	GS	Heat Pipe DX	Yes
SC-D-6	GSD	Heat Pipe DX	Yes
SC-D-6	GSLD	Heat Pipe DX	Yes
SC-D-26A	GSD	Light Colored Roof Chiller Air	Yes
SC-D-26A	GSLD	Light Colored Roof Chiller Air	Yes
SC-D-26W	GSD	Light Colored Roof Chiller Water	Yes
SC-D-26W	GSLD	Light Colored Roof Chiller Water	Yes
SC-D-27	GS	Light Colored Roof DX	Yes
SC-D-27	GSD	Light Colored Roof DX	Yes
SC-D-27	GSLD	Light Colored Roof DX	Yes
FL8LP	GS	Fluorescent 8 Hour Low Permanence	
FL8LP	GSD	Fluorescent 8 Hour Low Permanence	
FL8LP	GSLD	Fluorescent 8 Hour Low Permanence	
V-D-8	GSLD	High Eff. Motors Chiller	
V-D-9	GSLD	High Eff. Motors DX AC	
R-D-10	GS	Dual Path AC	Yes
R-D-10	GSD	Dual Path AC	Yes
R-D-10	GSLD	Dual Path AC	Yes
W-D-13	GSD	HRU	
W-D-13	GSLD	HRU	
C-D-18	GSLD	Convection Oven	
C-D-19	GSLD	Energy Eff. Electric Fryer	
FPLM-1	GS	Motors	
FPLM-1	GSD	Motors	
FPLM-1	GSLD	Motors	
OPBC	GSD	Off Peak Battery Charging	
OPBC	GSLD	Off Peak Battery Charging	
FPLC-1	GS	Dessicant Cooling	Yes
FPLC-1	GSD	Dessicant Cooling	Yes
FPLC-1	GSLD	Dessicant Cooling	Yes
CILM	GS	Commercial/Industrial Load Management	
CILM	GSD	Commercial/Industrial Load Management	Yes
CILM	GSLD	Commercial/Industrial Load Management	

Commercial/Industrial Existing Construction

Measure	Rate Class	Description	Added Measure
SC-D-1	GSD	High Eff. Chiller	
SC-D-1	GSLD	High Eff. Chiller	
SC-D-2	GSD	High Eff. Chiller W/ASD	
SC-D-2	GSLD	High Eff. Chiller W/ASD	
SC-D-3	GS	Hi Efficiency DX AC	
SC-D-3	GSD	Hi Efficiency DX AC	
SC-D-3	GSLD	Hi Efficiency DX AC	
SC-D-4	GS	Hi Eff. Room AC	
SC-D-4	GSD	Hi Eff. Room AC	
SC-D-4	GSLD	Hi Eff. Room AC	
SC-D-5	GSD	Cool Storage	
SC-D-5	GSLD	Cool Storage	
SC-D-6	GS	Heat Pipe DX	Yes
SC-D-6	GSD	Heat Pipe DX	Yes
SC-D-6	GSLD	Heat Pipe DX	Yes
SC-D-8	GSD	3 Speed Motor for Cooling Tower	
SC-D-8	GSLD	3 Speed Motor for Cooling Tower	
SC-D-18	GSD	Roof Insulation Chiller	
SC-D-18	GSLD	Roof Insulation Chiller	
SC-D-19	GS	Roof Insulation DX AC	
SC-D-19	GSD	Roof Insulation DX AC	
SC-D-19	GSLD	Roof Insulation DX AC	
SC-D-22	GSD	Window Film Chiller	
SC-D-22	GSLD	Window Film Chiller	
SC-D-23	GS	Window Film DX AC	
SC-D-23	GSD	Window Film DX AC	
SC-D-23	GSLD	Window Film DX AC	
SC-D-26A	GSD	Light Colored Roof Chiller Air	Yes
SC-D-26A	GSLD	Light Colored Roof Chiller Air	Yes
SC-D-26W	GSD	Light Colored Roof Chiller Water	Yes
SC-D-26W	GSLD	Light Colored Roof Chiller Water	Yes
SC-D-27	GS	Light Colored Roof DX	Yes
SC-D-27	GSD	Light Colored Roof DX	Yes
SC-D-27	GSLD	Light Colored Roof DX	Yes
V-D-1	GS	Leak Free Ducts DX AC	
V-D-1	GSD	Leak Free Ducts DX AC	
V-D-1	GSLD	Leak Free Ducts DX AC	
V-D-8	GSLD	High Eff. Motors Chiller	
V-D-9	GSLD	High Eff. Motors DX AC	
V-D-10	GSD	Sep Makeup Air / Exhaust Hoods Chiller	
V-D-10	GSLD	Sep Makeup Air / Exhaust Hoods Chiller	
V-D-11	GS	Sep Makeup Air / Exhaust Hoods DX AC	
V-D-11	GSD	Sep Makeup Air / ExhaustHoods DX AC	
V-D-11	GSLD	Sep Makeup Air / ExhaustHoods DX AC	
FL24HP	GS	Fluorescent 24 Hour High Permanence	
FL24HP	GSD	Fluorescent 24 Hour High Permanence	
FL24HP	GSLD	Fluorescent 24 Hour High Permanence	

FL24LP	GS	Fluorescent 24 Hour Low Permanence	
FL24LP	GSD	Fluorescent 24 Hour Low Permanence	
FL24LP	GSLD	Fluorescent 24 Hour Low Permanence	
FL8HP	GS	Fluorescent 8 Hour High Permanence	
FL8HP	GSD	Fluorescent 8 Hour High Permanence	
FL8HP	GSLD	Fluorescent 8 Hour High Permanence	
FL8LP	GS	Fluorescent 8 Hour Low Permanence	
FL8LP	GSD	Fluorescent 8 Hour Low Permanence	
FL8LP	GSLD	Fluorescent 8 Hour Low Permanence	
HID8HP	GSLD	HID 8 Hour High Permanence	
INC8LP	GSD	Incandescent 8 Hour Low Permanence	
INC8LP	GSLD	Incandescent 8 Hour Low Permanence	
R-D-1	GSD	Multiplex: Air-Cooled/No Subcooling	
R-D-1	GSLD	Multiplex: Air-Cooled/No Subcooling	
R-D-2	GSD	Multiplex: Air-Cooled/Ambient Subcooling	
R-D-2	GSLD	Multiplex: Air-Cooled/Ambient Subcooling	
RD-3	GSD	Multiplex: Air-Cooled/Mechanical Subcooling	
RD-3	GSLD	Multiplex: Air-Cooled/Mechanical Subcooling	
R-D-4	GSD	Multiplex: Air-Cooled/Ambient & Mech. Subcooling	
R-D-4	GSLD	Multiplex: Air-Cooled/Ambient & Mech. Subcooling	
R-D-5	GSD	Multiplex: Air-Cooled/External Liquid Suction HX	
R-D-5	GSLD	Multiplex: Air-Cooled/External Liquid Suction HX	
R-D-6	GSD	Open - Drive Refrigeration System (ASD)	
R-D-8	GSD	High R-Value Glass Doors	
R-D-8	GSLD	High R-Value Glass Doors	
R-D-10	GS	Dual Path AC	Yes
R-D-10	GSD	Dual Path AC	Yes
R-D-10	GSLD	Dual Path AC	Yes
W-D-13	GSD	HRU	
W-D-13	GSLD	HRU	
W-D-15	GSD	DWH Heat Trap	
W-D-15	GSLD	DWH Heat Trap	
W-D-16	GSD	Low Flow/Variable Flow Shower Head	
W-D-16	GSLD	Low Flow/Variable Flow Shower Head	
W-D-17	GSD	DWH Recirculation pump	
W-D-17	GSLD	DWH Recirculation pump	
C-D-18	GSLD	Convection Oven	
C-D-19	GSLD	Energy Eff. Electric Fryer	
FPLM-1	GS	Motors	
FPLM-1	GSD	Motors	
FPLM-1	GSLD	Motors	
OPBC	GSD	Off Peak Battery Charging	
OPBC	GSLD	Off Peak Battery Charging	
FPLC-1	GS	Dessicant Cooling	Yes
FPLC-1	GSD	Dessicant Cooling	Yes
FPLC-1	GSLD	Dessicant Cooling	Yes
CILM	GS	Commercial/Industrial Load Management	
CILM	GSD	Commercial/Industrial Load Management	Yes
CILM	GSLD	Commercial/Industrial Load Management	

Document No. 11

Cost Effectiveness of Measures - Cost Effectiveness Models Inputs & Sources

Residential New Construction

									Data Sources		
Measure		Description	Participan t	Summer kw	Winter kw	kwh	Admin $/Part *	Participant Cost *	kw & kwh	Participant Cost	Admin Cost
BLDSMT-1		BuildSmart - EPI less than 90	Participant	0.71	0.72	1,342	$ 215	$ 960	End-Use Eval	BuildSmart Pgm	BuildSmart Pgm
RLC-1		Residential Load Control	Participant	1.08	1.92	40	$ 26	$ -	End-Use Eval	N/A	On Call Pgm
RSC-19A		Reflective Roof Coatings	Participant	0.46	-	561	$ 12	$ -	Cool Comm R&D	Cool Comm R&D	Res Build Env Pgm
RSC-19B		Reflective Roof Coatings	Participant	0.39	-	476	$ 12	$ -	Cool Comm R&D	Cool Comm R&D	Res Build Env Pgm
RSC-24		High Efficiency Room AC	Participant	0.50	-	215	$ 21	$ 155	End-Use Eval	SRC Study / Eng Estimate	Res HVAC Pgm
RSC-27A		LandScape Shading	Participant	0.22	-	263	$ 12	$ 335	Cool Comm R&D	Cool Comm R&D	Res Build Env Pgm
RSC-27B		LandScape Shading	Participant	0.34	-	409	$ 12	$ 335	Cool Comm R&D	Cool Comm R&D	Res Build Env Pgm
FR-1		Bst Freezer FF	Participant	0.06	0.04	282	$ 21	$ 62	SRC Study	SRC Study	Res HVAC Pgm

Residential Existing Construction

									Data Sources		
Measure		Description	Participant	Summer kw	Winter kw	kwh	Admin $/Part *	Participant Cost *	kw & kwh	Participant Cost	Admin Cost
RSC-1		Hi Efficiency Air Source Heat Pump	Participant	0.42	0.40	1,166	$ 21	$ 160	End-Use Eval	Res HVAC Pgm	Res HVAC Pgm
RSC-2		Ground Source Heat Pump	Participant	0.73	0.28	1,455	$ 21	$ 967	End-Use Eval	SRC Study / Eng Estimate	Res HVAC Pgm
RSC-5A		Reduced Duct Leakage	Participant	0.26	0.29	600	$ 82	$ 273	End-Use Eval	Res Duct Pgm	Res Duct Pgm
RSC-5B		Reduced Duct Leakage	Participant	0.26	0.29	600	$ 82	$ 273	End-Use Eval	Res Duct Pgm	Res Duct Pgm
RSC-7A		Setback/Programmable Thermostat	Participant	-	-	519	$ 21	$ 87	SRC Study	SRC Study	Res HVAC Pgm
RSC-7B		Setback/Programmable Thermostat	Participant	-	-	609	$ 21	$ 103	SRC Study	SRC Study	Res HVAC Pgm
RSC-10A		Ceiling Ins R0-R21	Participant	0.28	0.48	545	$ 12	$ 280	End-Use Eval	Trade Ally Survey	Res Build Env Pgm
RSC-10B		Ceiling Ins. R0-R21	Participant	0.28	0.30	504	$ 12	$ 280	End-Use Eval	Trade Ally Survey	Res Build Env Pgm
RSC-16A		Window Film & Reflective Glass	Participant	0.044	0.02	97	$ 12	$ 75	End-Use Eval	Res Build Env Pgm	Res Build Env Pgm
RSC-16B		Window Film & Reflective Glass	Participant	0.043	0.01	104	$ 12	$ 75	End-Use Eval	Res Build Env Pgm	Res Build Env Pgm
RSC-19A		Reflective Roof Coatings	Participant	0.46	-	561	$ 12	$ -	Cool Comm R&D	Res Build Env Pgm	Res Build Env Pgm
RSC-19B		Reflective Roof Coatings	Participant	0.39	-	476	$ 12	$ -	Cool Comm R&D	Res Build Env Pgm	Res Build Env Pgm
RSC-21A		Hi Efficiency Central AC	Participant	0.48	-	1,247	$ 21	$ 360	End-Use Eval	Res HVAC Pgm	Res HVAC Pgm
RSC-22A		2 Speed Central AC	Participant	0.235	-	1,247	$ 21	$ 700	End-Use Eval	SRC Study	Res HVAC Pgm
RSC-24A		High Efficiency Room AC	Participant	0.50	-	215	$ 21	$ 155	End-Use Eval	SRC Study / Eng Estimate	Res HVAC Pgm
RSC-27A		LandScape Shading	Participant	0.22	-	263	$ 12	$ 335	Cool Comm R&D	Cool Comm R&D	Res Build Env Pgm
RSC-27B		LandScape Shading	Participant	0.34	-	409	$ 12	$ 335	Cool Comm R&D	Cool Comm R&D	Res Build Env Pgm
FPL-BD		Blower Door Infiltration Reduction	Participant	0.001	0.001	395	$ 121	$ 75	HELP End Use Eval	Res Duct Pgm	Res Duct Pgm
FR-1		Bst Freezer FF	Participant	0.06	0.04	282	$ 21	$ 62	SRC Study	SRC Study	Res HVAC Pgm
PP-1		High Efficiency Pool Pumps	Participant	0.44	0.01	181	$ 21	$ 37	SRC Study	SRC Study	Res HVAC Pgm
RLC-1		Residential Load Control	Participant	1.08	1.92	40	$ 26	$ -	End-Use Eval	N/A	On Call Pgm

Commercial/Industrial New Construction

Measure	Rate Class	Description	Participant	Summer kw	Winter kw	kwh	Admin $/Part *	Participant Cost *	Data Sources: kw & kwh	Data Sources: Participant Cost	Data Sources: Admin Cost
SC-D-1	GSD	High Eff. Chiller	1 Summer kw	1.00	0.028	3,356	$ 31	$ 636	End-Use Eval	Industry Costs	HVAC Pgm - Chiller
SC-D-1	GSLD	High Eff. Chiller	1 Summer kw	1.00	0.028	3,655	$ 31	$ 636	End-Use Eval	Industry Costs	HVAC Pgm - Chiller
SC-D-2	GSD	High Eff. Chiller W/ASD	1 Summer kw	1.00	0.028	4,833	$ 31	$ 1,523	End-Use Eval / Eng Estimate	Industry Costs	HVAC Pgm - Chiller
SC-D-2	GSLD	High Eff. Chiller W/ASD	1 Summer kw	1.00	0.028	5,263	$ 31	$ 1,523	End-Use Eval / Eng Estimate	Industry Costs	HVAC Pgm - Chiller
SC-D-3	GS	Hi Efficiency DX AC	1 Summer kw	1.00	-	3,808	$ 83	$ 721	End-Use Eval	Industry Costs	HVAC Pgm - DX
SC-D-3	GSD	Hi Efficiency DX AC	1 Summer kw	1.00	-	3,793	$ 83	$ 721	End-Use Eval	Industry Costs	HVAC Pgm - DX
SC-D-3	GSLD	Hi Efficiency DX AC	1 Summer kw	1.00	-	4,075	$ 83	$ 721	End-Use Eval	Industry Costs	HVAC Pgm - DX
SC-D-4	GS	Hi Eff. Room AC	1 Summer kw	1.00	-	2,165	$ 83	$ 627	SRC Study	SRC Study	HVAC Pgm - DX
SC-D-5	GSD	Cool Storage	1 Summer kw	1.00	0.341	(291)	$ 115	$ 372	End-Use Eval / Eng Estimate	HVAC Pgm - TES	HVAC Pgm - TES
SC-D-5	GSLD	Cool Storage	1 Summer kw	1.00	0.314	(228)	$ 115	$ 447	End-Use Eval / Eng Estimate	HVAC Pgm - TES	HVAC Pgm - TES
SC-D-6	GS	Heat Pipe DX	1 Summer kw	1.00	(0.039)	(3,595)	$ 83	$ 4,159	FSEC Dehumid R&D	FSEC Dehumid R&D	HVAC Pgm - DX
SC-D-6	GSD	Heat Pipe DX	1 Summer kw	1.00	(0.039)	(3,595)	$ 83	$ 4,159	FSEC Dehumid R&D	FSEC Dehumid R&D	HVAC Pgm - DX
SC-D-6	GSLD	Heat Pipe DX	1 Summer kw	1.00	(0.039)	(3,595)	$ 83	$ 4,159	FSEC Dehumid R&D	FSEC Dehumid R&D	HVAC Pgm - DX
SC-D-26A	GSD	Light Colored Roof Chiller Air	1 Summer kw	1.00	-	1,953	$ 100	$ -	FSEC / QC Lgt Roof R&D	N/A	CIBE Pgm
SC-D-26A	GSLD	Light Colored Roof Chiller Air	1 Summer kw	1.00	-	1,953	$ 100	$ -	FSEC / QC Lgt Roof R&D	N/A	CIBE Pgm
SC-D-26W	GSD	Light Colored Roof Chiller Water	1 Summer kw	1.00	-	1,968	$ 100	$ -	FSEC / QC Lgt Roof R&D	N/A	CIBE Pgm
SC-D-26W	GSLD	Light Colored Roof Chiller Water	1 Summer kw	1.00	-	1,968	$ 100	$ -	FSEC / QC Lgt Roof R&D	N/A	CIBE Pgm
SC-D-27	GS	Light Colored Roof DX	1 Summer kw	1.00	-	1,833	$ 100	$ -	FSEC / QC Lgt Roof R&D	N/A	CIBE Pgm
SC-D-27	GSD	Light Colored Roof DX	1 Summer kw	1.00	-	1,833	$ 100	$ -	FSEC / QC Lgt Roof R&D	N/A	CIBE Pgm
SC-D-27	GSLD	Light Colored Roof DX	1 Summer kw	1.00	-	1,833	$ 100	$ -	FSEC / QC Lgt Roof R&D	N/A	CIBE Pgm
FL8LP	GS	Fluorescent 8 Hour Low Permanence	1 Summer kw	1.00	1.14	3,806	$ 50	$ 816	End-Use Eval	CIL Pgm	CIL Pgm
FL8LP	GSD	Fluorescent 8 Hour Low Permanence	1 Summer kw	1.00	1.12	4,130	$ 50	$ 816	End-Use Eval	CIL Pgm	CIL Pgm
FL8LP	GSLD	Fluorescent 8 Hour Low Permanence	1 Summer kw	1.00	1.13	4,263	$ 50	$ 816	End-Use Eval	CIL Pgm	CIL Pgm
V-D-8	GSD	High Eff. Motors Chiller	1 Summer kw	1.00	0.66	5,299	$ 973	$ 776	SRC Study	SRC Study	Motors Pgm
V-D-8	GSLD	High Eff. Motors Chiller	1 Summer kw	1.00	0.66	5,299	$ 973	$ 776	SRC Study	SRC Study	Motors Pgm
V-D-9	GS	High Eff. Motors DX AC	1 Summer kw	1.00	1.00	5,895	$ 973	$ 1,158	SRC Study	SRC Study	Motors Pgm
V-D-9	GSD	High Eff. Motors DX AC	1 Summer kw	1.00	1.00	5,870	$ 973	$ 870	SRC Study	SRC Study	Motors Pgm
V-D-9	GSLD	High Eff. Motors DX AC	1 Summer kw	1.00	1.00	5,869	$ 973	$ 579	SRC Study	SRC Study	Motors Pgm
R-D-10	GS	Dual Path AC	1 Summer kw	1.00	0.752	(9,192)	$ 83	$ 6,618	FSEC Dehumid R&D	FSEC Dehumid R&D	HVAC Pgm - DX
R-D-10	GSD	Dual Path AC	1 Summer kw	1.00	0.752	(9,192)	$ 83	$ 6,618	FSEC Dehumid R&D	FSEC Dehumid R&D	HVAC Pgm - DX
R-D-10	GSLD	Dual Path AC	1 Summer kw	1.00	0.752	(9,192)	$ 83	$ 6,618	FSEC Dehumid R&D	FSEC Dehumid R&D	HVAC Pgm - DX
W-D-13	GS	HRU	1 Summer kw	1.00	0.98	6,284	$ 100	$ 7,368	U of F R&D	U of F R&D / EPRI	CIBE Pgm
W-D-13	GSD	HRU	1 Summer kw	1.00	1.40	9,845	$ 100	$ 1,513	U of F R&D	U of F R&D / EPRI	CIBE Pgm
W-D-13	GSLD	HRU	1 Summer kw	1.00	1.40	9,845	$ 100	$ 1,513	U of F R&D	U of F R&D / EPRI	CIBE Pgm
C-D-18	GS	Convection Oven	1 Summer kw	1.00	1.84	13,285	$ 83	$ 2,018	SRC Study	SRC Study	HVAC Pgm - Vent
C-D-18	GSD	Convection Oven	1 Summer kw	1.00	1.84	13,285	$ 83	$ 2,018	SRC Study	SRC Study	HVAC Pgm - Vent
C-D-18	GSLD	Convection Oven	1 Summer kw	1.00	1.84	13,285	$ 83	$ 2,018	SRC Study	SRC Study	HVAC Pgm - Vent
C-D-21	GS	Energy Eff. Electric Fryer	1 Summer kw	1.00	2.14	16,494	$ 83	$ 1,159	SRC Study	SRC Study	HVAC Pgm - Vent
C-D-21	GSD	Energy Eff. Electric Fryer	1 Summer kw	1.00	2.14	16,494	$ 83	$ 1,159	SRC Study	SRC Study	HVAC Pgm - Vent
C-D-21	GSLD	Energy Eff. Electric Fryer	1 Summer kw	1.00	2.14	16,494	$ 83	$ 1,159	SRC Study	SRC Study	HVAC Pgm - Vent
FPLM-1	GS	Motors	1 Summer kw	1.00	1.00	2,905	$ 973	$ 830	Motors Pgm	SRC Study	Motors Pgm
FPLM-1	GSD	Motors	1 Summer kw	1.00	1.00	2,905	$ 973	$ 830	Motors Pgm	SRC Study	Motors Pgm
FPLM-1	GSLD	Motors	1 Summer kw	1.00	1.00	2,905	$ 973	$ 830	Motors Pgm	SRC Study	Motors Pgm
OPBC	GSD	Off Peak Battery Charging	1 Summer kw	1.00	0.093	-	$ 63	$ 244	End-Use Eval	OPBC Pgm	OPBC Pgm
OPBC	GSLD	Off Peak Battery Charging	1 Summer kw	1.00	0.093	-	$ 63	$ 244	End-Use Eval	OPBC Pgm	OPBC Pgm
FPLC-1	GS	Dessicant Cooling	1 Summer kw	1.00	6.55	1,150	$ 83	$ 981	FSEC Dehumid R&D	FSEC Dehumid R&D	HVAC Pgm - DX
FPLC-1	GSD	Dessicant Cooling	1 Summer kw	1.00	6.55	1,150	$ 83	$ 981	FSEC Dehumid R&D	FSEC Dehumid R&D	HVAC Pgm - DX
FPLC-1	GSLD	Dessicant Cooling	1 Summer kw	1.00	6.55	1,150	$ 83	$ 981	FSEC Dehumid R&D	FSEC Dehumid R&D	HVAC Pgm - DX
CILM	GS	Commercial/Industrial Load Management	1 Summer kw	1.00	-	126	$ 24	$ -	End-Use Eval	GS On Call Pgm	GS On Call Pgm
CILM	GSD	Commercial/Industrial Load Management	1 Summer kw	1.00	-	28	$ 24	$ -		GS On Call Pgm	GS On Call Pgm
CILM	GSLD	Commercial/Industrial Load Management	1 Summer kw	1.00	1.00	48	$ 9	$ -	CILC Pgm	CILC Pgm	CILC Pgm

Commercial/Industrial Existing Construction

Measure	Rate Class	Description	Participant	Summer kw	Winter kw	kwh	Admin $/Part *	Participant Cost *	Data Sources: kw & kwh	Data Sources: Participant Cost	Data Sources: Admin Cost
SC-D-1	GSD	High Eff. Chiller	1 Summer kw	1.00	0.028	3,356	$ 31	$ 636	End-Use Eval	Industry Costs	HVAC Pgm - Chiller
SC-D-1	GSLD	High Eff. Chiller	1 Summer kw	1.00	0.028	3,655	$ 31	$ 636	End-Use Eval	Industry Costs	HVAC Pgm - Chiller
SC-D-2	GSD	High Eff. Chiller W/ASD	1 Summer kw	1.00	0.028	4,833	$ 31	$ 1,523	End-Use Eval / Eng Estimate	Industry Costs	HVAC Pgm - Chiller
SC-D-2	GSLD	High Eff. Chiller W/ASD	1 Summer kw	1.00	0.028	5,263	$ 31	$ 1,523	End-Use Eval / Eng Estimate	Industry Costs	HVAC Pgm - Chiller
SC-D-3	GS	Hi Efficiency DX AC	1 Summer kw	1.00	-	3,808	$ 83	$ 721	End-Use Eval	Industry Costs	HVAC Pgm - DX
SC-D-3	GSD	Hi Efficiency DX AC	1 Summer kw	1.00	-	3,793	$ 83	$ 721	End-Use Eval	Industry Costs	HVAC Pgm - DX
SC-D-3	GSLD	Hi Efficiency DX AC	1 Summer kw	1.00	-	4,075	$ 83	$ 721	End-Use Eval	Industry Costs	HVAC Pgm - DX
SC-D-4	GS	Hi Eff. Room AC	1 Summer kw	1.00	-	2,165	$ 83	$ 627	SRC Study	SRC Study	HVAC Pgm - DX
SC-D-5	GSD	Cool Storage	1 Summer kw	1.00	0.341	(291)	$ 115	$ 372	End-Use Eval / Eng Estimate	HVAC Pgm - TES	HVAC Pgm - TES
SC-D-5	GSLD	Cool Storage	1 Summer kw	1.00	0.314	(228)	$ 115	$ 447	End-Use Eval / Eng Estimate	HVAC Pgm - TES	HVAC Pgm - TES
SC-D-6	GS	Heat Pipe DX	1 Summer kw	1.00	(0.039)	(3,595)	$ 83	$ 4,159	FSEC Dehumid R&D	FSEC Dehumid R&D	HVAC Pgm - DX
SC-D-6	GSD	Heat Pipe DX	1 Summer kw	1.00	(0.039)	(3,595)	$ 83	$ 4,159	FSEC Dehumid R&D	FSEC Dehumid R&D	HVAC Pgm - DX
SC-D-6	GSLD	Heat Pipe DX	1 Summer kw	1.00	(0.039)	(3,595)	$ 83	$ 4,159	FSEC Dehumid R&D	FSEC Dehumid R&D	HVAC Pgm - DX
SC-D-8	GSD	3 Speed Motor for Cooling Tower	Motor	-	-	231	$ 61	$ 21	SRC Study	SRC Study	Motors Pgm
SC-D-8	GSLD	3 Speed Motor for Cooling Tower	Motor	-	-	231	$ 61	$ 21	SRC Study	SRC Study	Motors Pgm
SC-D-18	GSD	Roof Insulation Chiller	1 Summer kw	1.00	0.26	1,724	$ 75	$ 971	CIBE Pgm	CIBE Pgm	CIBE Pgm
SC-D-18	GSLD	Roof Insulation Chiller	1 Summer kw	1.00	0.26	1,724	$ 75	$ 856	CIBE Pgm	CIBE Pgm	CIBE Pgm
SC-D-21	GS	Roof Insulation DX AC	1 Summer kw	1.00	0.16	1,184	$ 75	$ 625	CIBE Pgm	CIBE Pgm	CIBE Pgm
SC-D-21	GSD	Roof Insulation DX AC	1 Summer kw	1.00	0.16	1,184	$ 75	$ 695	CIBE Pgm	CIBE Pgm	CIBE Pgm
SC-D-21	GSLD	Roof Insulation DX AC	1 Summer kw	1.00	0.16	1,184	$ 75	$ 629	CIBE Pgm	CIBE Pgm	CIBE Pgm
SC-D-22	GSD	Window Film Chiller	1 Summer kw	1.00	0.00	1,995	$ 75	$ 839	CIBE Pgm	CIBE Pgm	CIBE Pgm
SC-D-22	GSLD	Window Film Chiller	1 Summer kw	1.00	0.00	1,895	$ 75	$ 839	CIBE Pgm	CIBE Pgm	CIBE Pgm
SC-D-23	GS	Window Film DX AC	1 Summer kw	1.00	0.00	2,005	$ 75	$ 880	CIBE Pgm	CIBE Pgm	CIBE Pgm
SC-D-23	GSD	Window Film DX AC	1 Summer kw	1.00	0.00	1,995	$ 83	$ 963	CIBE Pgm	CIBE Pgm	CIBE Pgm
SC-D-23	GSLD	Window Film DX AC	1 Summer kw	1.00	0.00	1,895	$ 75	$ 813	CIBE Pgm	CIBE Pgm	CIBE Pgm
SC-D-26A	GSD	Light Colored Roof Chiller Air	1 Summer kw	1.00	-	1,953	$ 100	$ 1,282	FSEC / QC Lgt Roof R&D	FSEC / Local Contractors	CIBE Pgm
SC-D-26A	GSLD	Light Colored Roof Chiller Air	1 Summer kw	1.00	-	1,953	$ 100	$ 1,282	FSEC / QC Lgt Roof R&D	FSEC / Local Contractors	CIBE Pgm
SC-D-26W	GSD	Light Colored Roof Chiller Water	1 Summer kw	1.00	-	1,968	$ 100	$ 2,000	FSEC / QC Lgt Roof R&D	FSEC / Local Contractors	CIBE Pgm
SC-D-26W	GSLD	Light Colored Roof Chiller Water	1 Summer kw	1.00	-	1,968	$ 100	$ 2,000	FSEC / QC Lgt Roof R&D	FSEC / Local Contractors	CIBE Pgm
SC-D-27	GS	Light Colored Roof DX	1 Summer kw	1.00	-	1,833	$ 100	$ 1,190	FSEC / QC Lgt Roof R&D	FSEC / Local Contractors	CIBE Pgm
SC-D-27	GSD	Light Colored Roof DX	1 Summer kw	1.00	-	1,833	$ 100	$ 1,190	FSEC / QC Lgt Roof R&D	FSEC / Local Contractors	CIBE Pgm
SC-D-27	GSLD	Light Colored Roof DX	1 Summer kw	1.00	-	1,833	$ 100	$ 1,190	FSEC / QC Lgt Roof R&D	FSEC / Local Contractors	CIBE Pgm
V-D-1	GS	Leak Free Ducts DX AC	1 Summer kw	1.00	0.052	2,054	$ 83	$ 627	HVAC Pgm	SRC Study	HVAC Pgm - DX
V-D-1	GSD	Leak Free Ducts DX AC	1 Summer kw	1.00	0.052	2,054	$ 83	$ 627	HVAC Pgm	SRC Study	HVAC Pgm - DX
V-D-1	GSLD	Leak Free Ducts DX AC	1 Summer kw	1.00	0.052	2,054	$ 83	$ 627	HVAC Pgm	SRC Study	HVAC Pgm - DX
V-D-8	GSD	High Eff. Motors Chiller	1 Summer kw	1.00	0.69	5,163	$ 973	$ 855	SRC Study	SRC Study	Motors Pgm
V-D-8	GSLD	High Eff. Motors Chiller	1 Summer kw	1.00	0.69	5,163	$ 973	$ 855	SRC Study	SRC Study	Motors Pgm
V-D-9	GS	High Eff. Motors DX AC	1 Summer kw	1.00	1.00	5,895	$ 973	$ 1,158	SRC Study	SRC Study	Motors Pgm
V-D-9	GSD	High Eff. Motors DX AC	1 Summer kw	1.00	1.00	5,870	$ 973	$ 870	SRC Study	SRC Study	Motors Pgm
V-D-9	GSLD	High Eff. Motors DX AC	1 Summer kw	1.00	1.00	5,869	$ 973	$ 579	SRC Study	SRC Study	Motors Pgm
V-D-10	GSD	Sep Makeup Air / Exhaust Hoods Chiller	1 Summer kw	1.00	0.42	4,474	$ 83	$ 2,392	SRC Study	SRC Study	HVAC Pgm - Chiller
V-D-10	GSLD	Sep Makeup Air / Exhaust Hoods Chiller	1 Summer kw	1.00	0.42	4,474	$ 83	$ 2,392	SRC Study	SRC Study	HVAC Pgm - Chiller
V-D-11	GS	Sep Makeup Air / Exhaust Hoods DX AC	1 Summer kw	1.00	0.14	2,467	$ 83	$ 1,581	SRC Study	SRC Study	HVAC Pgm - DX
V-D-11	GSD	Sep Makeup Air / ExhaustHoods DX AC	1 Summer kw	1.00	0.14	2,467	$ 83	$ 1,581	SRC Study	SRC Study	HVAC Pgm - DX
V-D-11	GSLD	Sep Makeup Air / ExhaustHoods DX AC	1 Summer kw	1.00	0.14	2,467	$ 83	$ 1,581	SRC Study	SRC Study	HVAC Pgm - DX
FL24HP	GS	Fluorescent 24 Hour High Permanence	1 Summer kw	1.00	1.16	7,650	$ 50	$ 2,763	End-Use Eval	CIL Pgm	CIL Pgm
FL24HP	GSD	Fluorescent 24 Hour High Permanence	1 Summer kw	1.00	1.18	9,510	$ 50	$ 2,763	End-Use Eval	CIL Pgm	CIL Pgm
FL24HP	GSLD	Fluorescent 24 Hour High Permanence	1 Summer kw	1.00	1.10	7,772	$ 50	$ 2,763	End-Use Eval	CIL Pgm	CIL Pgm
FL24LP	GS	Fluorescent 24 Hour Low Permanence	1 Summer kw	1.00	1.17	7,624	$ 50	$ 1,347	End-Use Eval	CIL Pgm	CIL Pgm
FL24LP	GSD	Fluorescent 24 Hour Low Permanence	1 Summer kw	1.00	1.18	8,194	$ 50	$ 1,347	End-Use Eval	CIL Pgm	CIL Pgm
FL24LP	GSLD	Fluorescent 24 Hour Low Permanence	1 Summer kw	1.00	1.17	8,907	$ 50	$ 1,347	End-Use Eval	CIL Pgm	CIL Pgm
FL8HP	GS	Fluorescent 8 Hour High Permanence	1 Summer kw	1.00	1.14	3,275	$ 50	$ 1,160	End-Use Eval	CIL Pgm	CIL Pgm
FL8HP	GSD	Fluorescent 8 Hour High Permanence	1 Summer kw	1.00	1.13	3,548	$ 50	$ 1,160	End-Use Eval	CIL Pgm	CIL Pgm
FL8HP	GSLD	Fluorescent 8 Hour High Permanence	1 Summer kw	1.00	1.14	4,140	$ 50	$ 1,160	End-Use Eval	CIL Pgm	CIL Pgm
FL8LP	GS	Fluorescent 8 Hour Low Permanence	1 Summer kw	1.00	1.14	3,806	$ 50	$ 816	End-Use Eval	CIL Pgm	CIL Pgm
FL8LP	GSD	Fluorescent 8 Hour Low Permanence	1 Summer kw	1.00	1.12	4,130	$ 50	$ 816	End-Use Eval	CIL Pgm	CIL Pgm
FL8LP	GSLD	Fluorescent 8 Hour Low Permanence	1 Summer kw	1.00	1.13	4,263	$ 50	$ 816	End-Use Eval	CIL Pgm	CIL Pgm
HID8HP	GSLD	HID 8 Hour High Permanence	1 Summer kw	1.00	1.13	3,210	$ 50	$ 1,847	End-Use Eval	CIL Pgm	CIL Pgm

INC8LP	GSD	Incandescent 8 Hour Low Permanence	1 Summer kw	1.00	1.18	3,579	$ 50	$ 816	End-Use Eval	CIL Pgm	CIL Pgm
INC8LP	GSLD	Incandescent 8 Hour Low Permanence	1 Summer kw	1.00	1.26	3,731	$ 50	$ 816	End-Use Eval	CIL Pgm	CIL Pgm
R-D-1	GS	Multiplex: Air-Cooled/No Subcooling	1 Summer kw	1.00	0.87	10,264	$ 83	$ 1,504	SRC Study	SRC Study	HVAC Pgm - DX
R-D-1	GSD	Multiplex: Air-Cooled/No Subcooling	1 Summer kw	1.00	0.89	10,556	$ 83	$ 1,504	SRC Study	SRC Study	HVAC Pgm - DX
R-D-1	GSLD	Multiplex: Air-Cooled/No Subcooling	1 Summer kw	1.00	0.92	11,441	$ 83	$ 1,504	SRC Study	SRC Study	HVAC Pgm - DX
R-D-2	GS	Multiplex: Air-Cooled/Ambient Subcooling	1 Summer kw	1.00	0.88	11,134	$ 83	$ 1,770	SRC Study	SRC Study	HVAC Pgm - DX
R-D-2	GSD	Multiplex: Air-Cooled/Ambient Subcooling	1 Summer kw	1.00	0.88	11,134	$ 83	$ 1,770	SRC Study	SRC Study	HVAC Pgm - DX
R-D-2	GSLD	Multiplex: Air-Cooled/Ambient Subcooling	1 Summer kw	1.00	0.88	11,134	$ 83	$ 1,770	SRC Study	SRC Study	HVAC Pgm - DX
RD-3	GS	Multiplex: Air-Cooled/Mechanical Subcooling	1 Summer kw	1.00	0.88	11,566	$ 83	$ 1,907	SRC Study	SRC Study	HVAC Pgm - DX
RD-3	GSD	Multiplex: Air-Cooled/Mechanical Subcooling	1 Summer kw	1.00	0.88	11,566	$ 83	$ 1,907	SRC Study	SRC Study	HVAC Pgm - DX
RD-3	GSLD	Multiplex: Air-Cooled/Mechanical Subcooling	1 Summer kw	1.00	0.88	11,566	$ 83	$ 1,907	SRC Study	SRC Study	HVAC Pgm - DX
R-D-4	GS	Multiplex: Air-Cooled/Ambient & Mech. Subcooling	1 Summer kw	1.00	0.89	12,377	$ 83	$ 2,268	SRC Study	SRC Study	HVAC Pgm - DX
R-D-4	GSD	Multiplex: Air-Cooled/Ambient & Mech. Subcooling	1 Summer kw	1.00	0.89	12,377	$ 83	$ 2,268	SRC Study	SRC Study	HVAC Pgm - DX
R-D-4	GSLD	Multiplex: Air-Cooled/Ambient & Mech. Subcooling	1 Summer kw	1.00	0.89	12,377	$ 83	$ 2,268	SRC Study	SRC Study	HVAC Pgm - DX
R-D-5	GS	Multiplex: Air-Cooled/External Liquid Suction HX	1 Summer kw	1.00	0.88	7,685	$ 83	$ 1,279	SRC Study	SRC Study	HVAC Pgm - DX
R-D-5	GSD	Multiplex: Air-Cooled/External Liquid Suction HX	1 Summer kw	1.00	0.88	7,685	$ 83	$ 1,279	SRC Study	SRC Study	HVAC Pgm - DX
R-D-5	GSLD	Multiplex: Air-Cooled/External Liquid Suction HX	1 Summer kw	1.00	0.88	7,685	$ 83	$ 1,279	SRC Study	SRC Study	HVAC Pgm - DX
R-D-6	GS	Open - Drive Refrigeration System (ASD)	1 Summer kw	1.00	3.41	30,368	$ 83	$ 10,474	SRC Study	SRC Study	HVAC Pgm - DX
R-D-6	GSD	Open - Drive Refrigeration System (ASD)	1 Summer kw	1.00	3.58	31,978	$ 83	$ 10,520	SRC Study	SRC Study	HVAC Pgm - DX
R-D-6	GSLD	Open - Drive Refrigeration System (ASD)	1 Summer kw	1.00	3.17	26,402	$ 83	$ 10,520	SRC Study	SRC Study	HVAC Pgm - DX
R-D-8	GS	High R-Value Glass Doors	1 Summer kw	1.00	0.89	8,225	$ 147	$ 410	SRC Study	SRC Study	CIBE Pgm - 1st year
R-D-8	GSD	High R-Value Glass Doors	1 Summer kw	1.00	0.89	8,225	$ 147	$ 410	SRC Study	SRC Study	CIBE Pgm - 1st year
R-D-8	GSLD	High R-Value Glass Doors	1 Summer kw	1.00	0.89	8,225	$ 147	$ 410	SRC Study	SRC Study	CIBE Pgm - 1st year
R-D-10	GS	Dual Path AC	1 Summer kw	1.00	0.752	(9,192)	$ 83	$ 6,618	FSEC Dehumid R&D	FSEC Dehumid R&D	HVAC Pgm - DX
R-D-10	GSD	Dual Path AC	1 Summer kw	1.00	0.752	(9,192)	$ 83	$ 6,618	FSEC Dehumid R&D	FSEC Dehumid R&D	HVAC Pgm - DX
R-D-10	GSLD	Dual Path AC	1 Summer kw	1.00	0.752	(9,192)	$ 83	$ 6,618	FSEC Dehumid R&D	FSEC Dehumid R&D	HVAC Pgm - DX
W-D-13	GS	HRU	1 Summer kw	1.00	0.98	6,284	$ 100	$ 7,368	U of F R&D	U of F R&D / EPRI	CIBE Pgm
W-D-13	GSD-	HRU	1 Summer kw	1.00	1.40	9,845	$ 100	$ 1,513	U of F R&D	U of F R&D / EPRI	CIBE Pgm
W-D-13	GSLD	HRU	1 Summer kw	1.00	1.40	9,845	$ 100	$ 1,513	U of F R&D	U of F R&D / EPRI	CIBE Pgm
W-D-15	GS	DWH Heat Trap	1 Summer kw	1.00	1.66	165,178	$ 83	$ 1,898	SRC Study	SRC Study	Res Bldg Env Pgm
W-D-15	GSD	DWH Heat Trap	1 Summer kw	1.00	1.66	165,178	$ 83	$ 1,898	SRC Study	SRC Study	Res Bldg Env Pgm
W-D-15	GSLD	DWH Heat Trap	1 Summer kw	1.00	1.66	165,178	$ 83	$ 1,898	SRC Study	SRC Study	Res Bldg Env Pgm
W-D-16	GS	Low Flow/Variable Flow Shower Head	1 Summer kw	1.00	0.37	4,934	$ 83	$ 28	SRC Study	SRC Study	Res Bldg Env Pgm
W-D-16	GSD	Low Flow/Variable Flow Shower Head	1 Summer kw	1.00	0.37	4,934	$ 83	$ 28	SRC Study	SRC Study	Res Bldg Env Pgm
W-D-16	GSLD	Low Flow/Variable Flow Shower Head	1 Summer kw	1.00	0.37	4,934	$ 83	$ 28	SRC Study	SRC Study	Res Bldg Env Pgm
W-D-17	GS	DWH Recirculation pump	1 Summer kw	-	-	284	$ 83	$ 4	SRC Study	SRC Study	Res Bldg Env Pgm
W-D-17	GSD	DWH Recirculation pump	1 Summer kw	-	-	284	$ 83	$ 4	SRC Study	SRC Study	Res Bldg Env Pgm
W-D-17	GSLD	DWH Recirculation pump	1 Summer kw	-	-	284	$ 83	$ 4	SRC Study	SRC Study	Res Bldg Env Pgm
C-D-18	GS	Convection Oven	1 Summer kw	1.00	1.84	13,284	$ 83	$ 2,018	SRC Study	SRC Study	HVAC Pgm - Vent
C-D-18	GSD	Convection Oven	1 Summer kw	1.00	1.84	13,284	$ 83	$ 2,018	SRC Study	SRC Study	HVAC Pgm - Vent
C-D-18	GSLD	Convection Oven	1 Summer kw	1.00	1.84	13,284	$ 83	$ 2,018	SRC Study	SRC Study	HVAC Pgm - Vent
C-D-21	GS	Energy Eff. Electric Fryer	1 Summer kw	1.00	2.14	16,495	$ 83	$ 1,159	SRC Study	SRC Study	HVAC Pgm - Vent
C-D-21	GSD	Energy Eff. Electric Fryer	1 Summer kw	1.00	2.14	16,495	$ 83	$ 1,159	SRC Study	SRC Study	HVAC Pgm - Vent
C-D-21	GSLD	Energy Eff. Electric Fryer	1 Summer kw	1.00	2.14	16,495	$ 83	$ 1,159	SRC Study	SRC Study	HVAC Pgm - Vent
FPLM-1	GS	Motors	1 Summer kw	1.00	1.00	2,905	$ 973	$ 830	Motors Pgm	SRC Study	Motors Pgm
FPLM-1	GSD	Motors	1 Summer kw	1.00	1.00	2,905	$ 973	$ 830	Motors Pgm	SRC Study	Motors Pgm
FPLM-1	GSLD	Motors	1 Summer kw	1.00	1.00	2,905	$ 973	$ 830	Motors Pgm	SRC Study	Motors Pgm
OPBC	GSD	Off Peak Battery Charging	1 Summer kw	1.00	0.093	-	$ 63	$ 244	End-Use Eval	OPBC Pgm	OPBC Pgm
OPBC	GSLD	Off Peak Battery Charging	1 Summer kw	1.00	0.093	-	$ 63	$ 244	End-Use Eval	OPBC Pgm	OPBC Pgm
FPLC-1	GS	Dessicant Cooling	1 Summer kw	1.00	6.55	1,150	$ 83	$ 981	FSEC Dehumid R&D	FSEC Dehumid R&D	HVAC Pgm - DX
FPLC-1	GSD	Dessicant Cooling	1 Summer kw	1.00	6.55	1,150	$ 83	$ 981	FSEC Dehumid R&D	FSEC Dehumid R&D	HVAC Pgm - DX
FPLC-1	GSLD	Dessicant Cooling	1 Summer kw	1.00	6.55	1,150	$ 83	$ 981	FSEC Dehumid R&D	FSEC Dehumid R&D	HVAC Pgm - DX
CILM	GS	Commercial/Industrial Load Management	1 Summer kw	1.00	-	126	$ 24	$ -	End-Use Eval	GS On Call Pgm	GS On Call Pgm
CILM	GSD	Commercial/Industrial Load Management	1 Summer kw	1.00	-	28	$ 24	$ -	Demand LC R&D	GS On Call Pgm	GS On Call Pgm
CILM	GSLD	Commercial/Industrial Load Management	1 Summer kw	1.00	1.00	48	$ 9	$ -	CILC Pgm	CILC Pgm	CILC Pgm

* = Includes capital cost and 1 year of O&M

Document No. 12

Cost Effectiveness of Measures - Results

Residential New Construction

Measure		Description	Participant	RIM	TRC	Part	Incentive / Participant	Payback
BLDSMT-1		BuildSmart - EPI less than 90	Particpant	1.02	0.85	1.24	144	7.3
RLC-1		Residential Load Control	Particpant	1.21	3.36	N/A	72	N/A
RSC-19A		Reflective Roof Coatings	Particpant	0.12	0.22	N/A	0	N/A
RSC-19B		Reflective Roof Coatings	Particpant	0.10	0.19	N/A	0	N/A
RSC-24		High Efficiency Room AC	Particpant	0.72	0.41	0.85	0	8.6
RSC-27A		LandScape Shading	Particpant	0.54	0.47	1.00	353	-2.4
RSC-27B		LandScape Shading	Particpant	0.90	0.73	1.00	265	2.5
FR-1		Bst Freezer FF	Particpant	0.95	1.29	2.41	0	2.6

Residential Existing Construction

Measure		Description	Participant	RIM	TRC	Part	Incentive / Participant	Payback
RSC-1		Hi Efficiency Air Source Heat Pump	Particpant	1.02	1.27	1.91	160	4.0
RSC-2		Ground Source Heat Pump	Particpant	1.02	1.02	1.47	318	5.3
RSC-5A		Reduced Duct Leakage	Particpant	1.02	1.60	2.73	69	4.1
RSC-5B		Reduced Duct Leakage	Particpant	1.02	1.60	2.73	69	4.1
RSC-7A		Setback/Programmable Thermostat	Particpant	0.38	0.49	2.22	0	2.0
RSC-7B		Setback/Programmable Thermostat	Particpant	0.39	0.50	2.20	0	2.0
RSC-10A		Ceiling Ins. R0-R19	Particpant	1.06	2.04	2.83	189	2.0
RSC-10B		Ceiling Ins. R0-R19	Particpant	1.02	1.89	2.69	196	2.0
RSC-16A		Window Film & Reflective Glass	Particpant	0.99	0.55	0.78	0	-351.1
RSC-16B		Window Film & Reflective Glass	Particpant	0.94	0.55	0.84	0	203.7
RSC-19A		Reflective Roof Coatings	Particpant	0.12	0.22	1.00	2,027	-2.7
RSC-19B		Reflective Roof Coatings	Particpant	0.10	0.19	1.00	2,079	-4.5
RSC-21A		Hi Efficiency Central AC	Particpant	1.02	1.92	3.03	105	2.4
RSC-22A		2 Speed Central AC	Particpant	0.99	0.54	0.87	0	6.7
RSC-24A		High Efficiency Room AC	Particpant	0.72	0.41	0.85	0	8.6
RSC-27A		LandScape Shading	Particpant	0.54	0.47	1.00	353	-2.4
RSC-27B		LandScape Shading	Particpant	0.90	0.73	1.00	265	2.5
FPL-BD		Blower Door Infiltration Reduction	Particpant	0.22	0.27	2.58	0	2.3
FR-1		Bst Freezer FF	Particpant	0.95	1.29	2.41	0	2.6
PP-1		High Efficiency Pool Pumps	Particpant	0.81	0.87	1.82	0	2.4
RLC-1		Residential Load Control	Particpant	1.21	3.36	N/A	72	N/A

Commercial/Industrial New Construction

Measure		Description	Participant	RIM	TRC	Part	Incentive / Participant	Payback
SC-D-1	GSD	High Eff. Chiller	1 Summer kw	1.05	2.30	2.68	93	2.0
SC-D-1	GSLD	High Eff. Chiller	1 Summer kw	1.07	2.39	2.73	85	2.0
SC-D-2	GSD	High Eff. Chiller W/ASD	1 Summer kw	1.01	1.18	1.44	93	4.1
SC-D-2	GSLD	High Eff. Chiller W/ASD	1 Summer kw	1.01	1.23	1.49	143	4.0
SC-D-3	GS	Hi Efficiency DX AC	1 Summer kw	1.01	1.87	2.61	36	2.1
SC-D-3	GSD	Hi Efficiency DX AC	1 Summer kw	1.01	1.86	2.35	90	2.2
SC-D-3	GSLD	Hi Efficiency DX AC	1 Summer kw	1.01	1.93	2.42	133	2.0
SC-D-4	GS	Hi Eff. Room AC	1 Summer kw	1.01	0.85	1.04	260	3.7
SC-D-4	GSD	Hi Eff. Room AC	1 Summer kw	0.96	0.85	1.00	136	4.0
SC-D-4	GSLD	Hi Eff. Room AC	1 Summer kw	0.95	0.85	1.00	165	3.9
SC-D-5	GSD	Cool Storage	1 Summer kw	1.02	1.39	1.47	478	2.1
SC-D-5	GSLD	Cool Storage	1 Summer kw	1.02	1.15	1.16	281	2.3
SC-D-6	GS	Heat Pipe DX	1 Summer kw	0.17	-0.05	-0.42	0	-13.2
SC-D-6	GSD	Heat Pipe DX	1 Summer kw	0.86	-0.05	-0.14	0	-54.5
SC-D-6	GSLD	Heat Pipe DX	1 Summer kw	1.18	-0.05	-0.12	0	-69.6
SC-D-26A	GSD	Light Colored Roof Chiller Air	1 Summer kw	1.16	11.21	N/A	0	0.0
SC-D-26A	GSLD	Light Colored Roof Chiller Air	1 Summer kw	1.29	11.21	N/A	0	0.0
SC-D-26W	GSD	Light Colored Roof Chiller Water	1 Summer kw	1.16	11.24	N/A	0	0.0
SC-D-26W	GSLD	Light Colored Roof Chiller Water	1 Summer kw	1.29	11.24	N/A	0	0.0
SC-D-27	GS	Light Colored Roof DX	1 Summer kw	1.44	10.93	N/A	0	0.0
SC-D-27	GSD	Light Colored Roof DX	1 Summer kw	1.17	10.93	N/A	0	0.0
SC-D-27	GSLD	Light Colored Roof DX	1 Summer kw	1.30	10.93	N/A	0	0.0
FL8LP	GS	Fluorescent 8 Hour Low Permanence	1 Summer kw	0.96	1.01	1.43	0	2.4
FL8LP	GSD	Fluorescent 8 Hour Low Permanence	1 Summer kw	0.99	1.05	1.31	0	2.5
FL8LP	GSLD	Fluorescent 8 Hour Low Permanence	1 Summer kw	1.00	1.06	1.30	16	2.4
V-D-8	GSD	High Eff. Motors Chiller	1 Summer kw	0.72	1.13	2.85	0	2.2
V-D-8	GSLD	High Eff. Motors Chiller	1 Summer kw	0.73	1.13	2.73	0	2.3
V-D-9	GS	High Eff. Motors DX AC	1 Summer kw	0.71	1.09	2.64	0	2.3
V-D-9	GSD	High Eff. Motors DX AC	1 Summer kw	0.73	1.09	2.53	0	2.4
V-D-9	GSLD	High Eff. Motors DX AC	1 Summer kw	0.64	0.93	2.47	0	2.2
R-D-10	GS	Dual Path AC	1 Summer kw	0.28	-0.13	-0.67	0	-8.2
R-D-10	GSD	Dual Path AC	1 Summer kw	0.61	-0.13	-0.34	0	-18.8
R-D-10	GSLD	Dual Path AC	1 Summer kw	0.68	-0.13	-0.31	0	-21.0
W-D-13	GS	HRU	1 Summer kw	0.85	0.21	0.31	0	13.4
W-D-13	GSD	HRU	1 Summer kw	0.87	1.17	1.75	0	2.5
W-D-13	GSLD	HRU	1 Summer kw	0.92	1.17	1.66	0	2.7
C-D-18	GS	Convection Oven	1 Summer kw	0.61	1.08	2.43	0	1.7
C-D-18	GSD	Convection Oven	1 Summer kw	0.83	1.08	1.70	0	2.6
C-D-18	GSLD	Convection Oven	1 Summer kw	0.88	1.08	1.61	0	2.8
C-D-19	GS	Energy Eff. Electric Fryer	1 Summer kw	0.59	2.17	5.25	0	0.8
C-D-19	GSD	Energy Eff. Electric Fryer	1 Summer kw	0.82	2.17	3.59	0	1.2
C-D-19	GSLD	Energy Eff. Electric Fryer	1 Summer kw	0.87	2.17	3.39	0	1.3
FPLM-1	GS	Motors	1 Summer kw	0.71	0.80	1.70	0	3.3
FPLM-1	GSD	Motors	1 Summer kw	0.66	0.80	1.71	0	3.2
FPLM-1	GSLD	Motors	1 Summer kw	0.68	0.80	1.64	0	3.3
OPBC	GSD	Off Peak Battery Charging	1 Summer kw	1.86	2.97	1.73	144	2.0
OPBC	GSLD	Off Peak Battery Charging	1 Summer kw	1.86	2.97	1.74	144	2.0
FPLC-1	GS	Dessicant Cooling	1 Summer kw	0.98	0.91	1.01	1,495	-212.1
FPLC-1	GSD	Dessicant Cooling	1 Summer kw	0.95	0.91	1.01	1,160	-4.6
FPLC-1	GSLD	Dessicant Cooling	1 Summer kw	0.95	0.91	1.01	1,175	-5.0
CILM	GS	Commercial/Industrial Load Management	1 Summer kw	1.23	2.70	N/A	39	N/A
CILM	GSD	Commercial/Industrial Load Management	1 Summer kw	1.26	2.54	N/A	39	N/A
CILM	GSLD	Commercial/Industrial Load Management	1 Summer kw	1.04	5.71	N/A	57	N/A

Commercial/Industrial Existing Construction

Measure		Description	Participant	RIM	TRC	Part	Incentive / Participant	Payback
SC-D-1	GSD	High Eff. Chiller	1 Summer kw	1.05	2.30	2.68	93	2.0
SC-D-1	GSLD	High Eff. Chiller	1 Summer kw	1.07	2.39	2.73	85	2.0
SC-D-2	GSD	High Eff. Chiller W/ASD	1 Summer kw	1.01	1.18	1.44	93	4.1
SC-D-2	GSLD	High Eff. Chiller W/ASD	1 Summer kw	1.01	1.23	1.49	143	4.0
SC-D-3	GS	Hi Efficiency DX AC	1 Summer kw	1.01	1.87	2.61	36	2.1
SC-D-3	GSD	Hi Efficiency DX AC	1 Summer kw	1.01	1.86	2.35	90	2.2
SC-D-3	GSLD	Hi Efficiency DX AC	1 Summer kw	1.01	1.93	2.42	133	2.0
SC-D-4	GS	Hi Eff. Room AC	1 Summer kw	1.01	0.85	1.04	260	3.7
SC-D-4	GSD	Hi Eff. Room AC	1 Summer kw	0.96	0.85	1.00	136	4.0
SC-D-4	GSLD	Hi Eff. Room AC	1 Summer kw	0.95	0.85	1.00	165	3.9
SC-D-5	GSD	Cool Storage	1 Summer kw	1.02	1.39	1.47	478	2.1
SC-D-5	GSLD	Cool Storage	1 Summer kw	1.02	1.15	1.16	281	2.3
SC-D-6	GS	Heat Pipe DX	1 Summer kw	0.17	-0.05	-0.42	0	-13.2
SC-D-6	GSD	Heat Pipe DX	1 Summer kw	0.86	-0.05	-0.14	0	-54.5
SC-D-6	GSLD	Heat Pipe DX	1 Summer kw	1.18	-0.05	-0.12	0	-69.6
SC-D-8	GSD	3 Speed Motor for Cooling Tower	motor	0.06	0.35	22.49	0	0.2
SC-D-8	GSLD	3 Speed Motor for Cooling Tower	motor	0.06	0.35	22.41	0	0.2
SC-D-18	GSD	Roof Insulation Chiller	1 Summer kw	1.01	1.13	1.27	271	4.0
SC-D-18	GSLD	Roof Insulation Chiller	1 Summer kw	1.01	1.27	1.43	393	3.0
SC-D-19	GS	Roof Insulation DX AC	1 Summer kw	1.19	1.48	1.53	417	2.0
SC-D-19	GSD	Roof Insulation DX AC	1 Summer kw	1.01	1.34	1.50	247	3.0
SC-D-19	GSLD	Roof Insulation DX AC	1 Summer kw	1.01	1.47	1.65	359	2.1
SC-D-22	GSD	Window Film Chiller	1 Summer kw	1.01	0.94	1.06	80	3.7
SC-D-22	GSLD	Window Film Chiller	1 Summer kw	1.01	0.92	1.02	190	3.8
SC-D-23	GS	Window Film DX AC	1 Summer kw	1.01	0.90	1.10	295	3.3
SC-D-23	GSD	Window Film DX AC	1 Summer kw	1.01	0.96	1.08	80	3.7
SC-D-23	GSLD	Window Film DX AC	1 Summer kw	1.01	0.94	1.05	190	3.6
SC-D-26A	GSD	Light Colored Roof Chiller Air	1 Summer kw	0.75	0.81	1.00	334	5.1
SC-D-26A	GSLD	Light Colored Roof Chiller Air	1 Summer kw	0.70	0.81	1.00	464	5.0
SC-D-26W	GSD	Light Colored Roof Chiller Water	1 Summer kw	0.38	0.54	1.00	1,224	4.1
SC-D-26W	GSLD	Light Colored Roof Chiller Water	1 Summer kw	0.37	0.54	1.00	1,354	3.9
SC-D-27	GS	Light Colored Roof DX	1 Summer kw	1.01	0.85	1.02	397	4.9
SC-D-27	GSD	Light Colored Roof DX	1 Summer kw	0.80	0.85	1.00	265	5.1
SC-D-27	GSLD	Light Colored Roof DX	1 Summer kw	0.74	0.85	1.00	392	5.0
V-D-1	GS	Leak Free Ducts DX AC	1 Summer kw	1.11	1.62	1.94	267	2.0
V-D-1	GSD	Leak Free Ducts DX AC	1 Summer kw	1.01	1.62	1.93	140	2.4
V-D-1	GSLD	Leak Free Ducts DX AC	1 Summer kw	1.01	1.62	1.92	161	2.4
V-D-8	GSD	High Eff. Motors Chiller	1 Summer kw	0.72	1.13	2.85	0	2.2
V-D-8	GSLD	High Eff. Motors Chiller	1 Summer kw	0.73	1.13	2.73	0	2.3
V-D-9	GS	High Eff. Motors DX AC	1 Summer kw	0.71	1.09	2.64	0	2.3
V-D-9	GSD	High Eff. Motors DX AC	1 Summer kw	0.73	1.09	2.53	0	2.4
V-D-9	GSLD	High Eff. Motors DX AC	1 Summer kw	0.64	0.93	2.47	0	2.2
V-D-10	GSD	Sep Makeup Air / Exhaust Hoods Chiller	1 Summer kw	0.40	0.51	1.00	1,300	3.3
V-D-10	GSLD	Sep Makeup Air / Exhaust Hoods Chiller	1 Summer kw	0.39	0.51	1.00	1,370	3.3
V-D-11	GS	Sep Makeup Air / Exhaust Hoods DX AC	1 Summer kw	0.45	0.57	1.00	879	3.2
V-D-11	GSD	Sep Makeup Air / ExhaustHoods DX AC	1 Summer kw	0.44	0.57	1.00	858	3.2
V-D-11	GSLD	Sep Makeup Air / ExhaustHoods DX AC	1 Summer kw	0.62	0.57	1.00	900	3.1
FL24HP	GS	Fluorescent 24 Hour High Permanence	1 Summer kw	0.67	1.27	2.58	0	4.1
FL24HP	GSD	Fluorescent 24 Hour High Permanence	1 Summer kw	0.82	1.44	2.29	0	4.6
FL24HP	GSLD	Fluorescent 24 Hour High Permanence	1 Summer kw	0.89	1.27	1.83	0	5.7
FL24LP	GS	Fluorescent 24 Hour Low Permanence	1 Summer kw	0.66	0.84	1.74	0	2.0
FL24LP	GSD	Fluorescent 24 Hour Low Permanence	1 Summer kw	0.82	0.87	1.36	0	2.5
FL24LP	GSLD	Fluorescent 24 Hour Low Permanence	1 Summer kw	0.84	0.91	1.39	0	2.5
FL8HP	GS	Fluorescent 8 Hour High Permanence	1 Summer kw	1.02	2.05	2.73	154	3.5
FL8HP	GSD	Fluorescent 8 Hour High Permanence	1 Summer kw	1.02	2.12	2.58	127	3.4
FL8HP	GSLD	Fluorescent 8 Hour High Permanence	1 Summer kw	1.02	2.28	2.78	136	3.2
FL8LP	GS	Fluorescent 8 Hour Low Permanence	1 Summer kw	0.96	1.01	1.43	0	2.4
FL8LP	GSD	Fluorescent 8 Hour Low Permanence	1 Summer kw	0.99	1.05	1.31	0	2.5
FL8LP	GSLD	Fluorescent 8 Hour Low Permanence	1 Summer kw	1.00	1.06	1.30	16	2.4
HID8HP	GSLD	HID 8 Hour High Permanence	1 Summer kw	1.02	1.29	1.52	214	5.8
INC8LP	GSD	Incandescent 8 Hour Low Permanence	1 Summer kw	1.02	1.83	2.30	0	1.4
INC8LP	GSLD	Incandescent 8 Hour Low Permanence	1 Summer kw	1.05	1.87	2.29	0	1.4
R-D-1	GSD	Multiplex: Air-Cooled/No Subcooling	1 Summer kw	0.86	1.20	1.84	0	2.4
R-D-1	GSLD	Multiplex: Air-Cooled/No Subcooling	1 Summer kw	0.88	1.25	1.87	0	2.4
R-D-2	GSD	Multiplex: Air-Cooled/Ambient Subcooling	1 Summer kw	0.84	1.05	1.64	0	2.7
R-D-2	GSLD	Multiplex: Air-Cooled/Ambient Subcooling	1 Summer kw	0.88	1.05	1.55	0	2.9
RD-3	GS	Multiplex: Air-Cooled/Mechanical Subcooling	1 Summer kw	0.61	1.00	2.23	0	1.9
RD-3	GSD	Multiplex: Air-Cooled/Mechanical Subcooling	1 Summer kw	0.83	1.00	1.57	0	2.8

RD-3	GSLD	Multiplex: Air-Cooled/Mechanical Subcooling	1 Summer kw	0.87	1.00	1.49	0	3.0
R-D-4	GS	Multiplex: Air-Cooled/Ambient & Mech. Subcooling	1 Summer kw	0.60	0.88	2.01	0	2.1
R-D-4	GSD	Multiplex: Air-Cooled/Ambient & Mech. Subcooling	1 Summer kw	0.82	0.88	1.40	0	3.2
R-D-4	GSLD	Multiplex: Air-Cooled/Ambient & Mech. Subcooling	1 Summer kw	0.87	0.88	1.33	0	3.4
R-D-5	GS	Multiplex: Air-Cooled/External Liquid Suction HX	1 Summer kw	0.76	1.22	2.21	0	1.9
R-D-5	GSD	Multiplex: Air-Cooled/External Liquid Suction HX	1 Summer kw	0.96	1.22	1.65	0	2.7
R-D-5	GSLD	Multiplex: Air-Cooled/External Liquid Suction HX	1 Summer kw	1.00	1.22	1.57	0	2.8
R-D-6	GS	Open - Drive Refrigeration System (ASD)	1 Summer kw	0.54	0.43	1.07	0	3.9
R-D-6	GSD	Open - Drive Refrigeration System (ASD)	1 Summer kw	0.81	0.45	0.73	0	6.3
R-D-6	GSLD	Open - Drive Refrigeration System (ASD)	1 Summer kw	0.87	0.38	0.57	0	8.1
R-D-8	GS	High R-Value Glass Doors	1 Summer kw	0.72	3.08	7.39	0	0.6
R-D-8	GSD	High R-Value Glass Doors	1 Summer kw	0.88	3.08	5.57	0	0.8
R-D-8	GSLD	High R-Value Glass Doors	1 Summer kw	0.92	3.08	5.28	0	0.8
R-D-10	GS	Dual Path AC	1 Summer kw	0.28	-0.13	-0.67	0	-8.2
R-D-10	GSD	Dual Path AC	1 Summer kw	0.61	-0.13	-0.34	0	-18.8
R-D-10	GSLD	Dual Path AC	1 Summer kw	0.68	-0.13	-0.31	0	-21.0
W-D-13	GS	HRU	1 Summer kw	0.85	0.21	0.31	0	13.4
W-D-13	GSD	HRU	1 Summer kw	0.87	1.17	1.75	0	2.5
W-D-13	GSLD	HRU	1 Summer kw	0.92	1.17	1.66	0	2.7
W-D-15	GS	DWH Heat Trap	1 Summer kw	0.46	10.58	32.06	0	0.1
W-D-15	GSD	DWH Heat Trap	1 Summer kw	0.74	10.58	19.99	0	0.2
W-D-15	GSLD	DWH Heat Trap	1 Summer kw	0.79	10.58	18.71	0	0.2
W-D-16	GS	Low Flow/Variable Flow Shower Head	1 Summer kw	0.93	12.01	65.80	0	0.1
W-D-16	GSD	Low Flow/Variable Flow Shower Head	1 Summer kw	1.00	12.01	55.63	0	0.1
W-D-16	GSLD	Low Flow/Variable Flow Shower Head	1 Summer kw	1.04	12.01	53.08	0	0.1
W-D-17	GSD	DWH Recirculation pump	1 Summer kw	0.06	0.40	117.84	0	0.0
W-D-17	GSLD	DWH Recirculation pump	1 Summer kw	0.06	0.40	117.20	0	0.0
C-D-18	GS	Convection Oven	1 Summer kw	0.61	1.08	2.43	0	1.7
C-D-18	GSD	Convection Oven	1 Summer kw	0.83	1.08	1.70	0	2.6
C-D-18	GSLD	Convection Oven	1 Summer kw	0.88	1.08	1.61	0	2.8
C-D-19	GS	Energy Eff. Electric Fryer	1 Summer kw	0.59	2.17	5.25	0	0.8
C-D-19	GSD	Energy Eff. Electric Fryer	1 Summer kw	0.82	2.17	3.59	0	1.2
C-D-19	GSLD	Energy Eff. Electric Fryer	1 Summer kw	0.87	2.17	3.39	0	1.3
FPLM-1	GS	Motors	1 Summer kw	0.71	0.80	1.70	0	3.3
FPLM-1	GSD	Motors	1 Summer kw	0.66	0.80	1.71	0	3.2
FPLM-1	GSLD	Motors	1 Summer kw	0.68	0.80	1.64	0	3.3
OPBC	GSD	Off Peak Battery Charging	1 Summer kw	1.86	2.97	1.73	144	2.0
OPBC	GSLD	Off Peak Battery Charging	1 Summer kw	1.86	2.97	1.74	144	2.0
FPLC-1	GS	Dessicant Cooling	1 Summer kw	0.98	0.91	1.01	1.495	-212.1
FPLC-1	GSD	Dessicant Cooling	1 Summer kw	0.95	0.91	1.01	1.160	-4.6
FPLC-1	GSLD	Dessicant Cooling	1 Summer kw	0.95	0.91	1.01	1.175	-5.0
CILM	GS	Commercial/Industrial Load Management	1 Summer kw	1.23	2.70	N/A	39	N/A
CILM	GSD	Commercial/Industrial Load Management	1 Summer kw	1.26	2.54	N/A	39	N/A
CILM	GSLD	Commercial/Industrial Load Management	1 Summer kw	1.04	5.71	N/A	57	N/A

Incentive for load management measures is annual recurring amount

Document No. 13

Cost Effectiveness of CUE Measures - Pre Screening

Residential New Construction

Measure		Description	Latest CPF	RIM	TRC	Participant	Comments	Evaluate
RSC-6A		Reduced Duct Heat Transfer	95 Goals	0.14	0.13	1.00		No
RSC-6B		Reduced Duct Heat Transfer	95 Goals	0.12	0.11	1.00		No
RSC-9A		Ceiling Insulation	95 Goals	1.24	0.82	1.00		Yes
RSC-9B		Ceiling Insulation	95 Goals	0.32	0.31	1.00		No
RSC-28A		Ceiling Fans	95 Goals	0.30	0.25	1.00		No
RSC-28B		Ceiling Fans	95 Goals	0.23	0.20	1.00		No
PP-1		High Efficiency Pool pump	95 Goals	0.85	1.33	3.24	$0 incentives	No
PP-2		Big Pipe / Little Pump	95 Goals	1.05	5.14	11.25	$0 incentives	Yes

Commercial/Industrial New Construction

Measure	Rate Class	Description	Latest CPF	RIM	TRC	Participant	Comments	Evaluate
SC-D-8	GSD	3 Speed Motor for Cooling Tower	95 Goals	0.91	2.89	5.29	$0 incentives	Yes
SC-D-8	GSLD	3 Speed Motor for Cooling Tower	95 Goals	1.01	3.30	4.94	$0 incentives	Yes
SC-D-9	GSD	Speed Control for Cooling Tower	95 Goals	0.92	0.78	1.13	$0 incentives	Yes
SC-D-9	GSLD	Speed Control for Cooling Tower	95 Goals	1.02	0.80	1.06	$0 incentives	Yes
SC-D-18	GSD	Roof Insulation Chiller	95 Goals	0.15	0.14	1.00		No
SC-D-18	GSLD	Roof Insulation Chiller	95 Goals	0.18	0.17	1.00		No
SC-D-19	GS	Roof Insulation DX AC	95 Goals	0.52	0.48	1.00		No
SC-D-19	GSD	Roof Insulation DX AC	95 Goals	0.19	0.18	1.00		No
SC-D-19	GSLD	Roof Insulation DX AC	95 Goals	0.21	0.20	1.00		No
SC-D-20	GSD	Wall Insulation - Chiller	95 Goals	0.05	0.05	1.00		No
SC-D-20	GSLD	Wall Insulation - Chiller	95 Goals	0.06	0.06	1.00		No
SC-D-21	GS	Wall Insulation - DX AC	95 Goals	0.12	0.12	1.00		No
SC-D-21	GSD	Wall Insulation - DX AC	95 Goals	0.11	0.11	1.00		No
SC-D-21	GSLD	Wall Insulation - DX AC	95 Goals	0.14	0.13	1.00		No
SC-D-22	GSD	Window Film Chiller	95 Goals	0.67	0.57	1.00		No
SC-D-22	GSLD	Window Film Chiller	95 Goals	0.78	0.65	1.00		No
SC-D-23	GS	Window Film DX AC	95 Goals	1.33	0.79	1.05		Yes
SC-D-23	GSD	Window Film DX AC	95 Goals	0.94	0.75	1.00		Yes
SC-D-23	GSLD	Window Film DX AC	95 Goals	0.97	0.78	1.00		Yes
SC-D-24	GSD	Spectrally Selective Glass Chiller	95 Goals	0.46	0.41	1.00		No
SC-D-24	GSLD	Spectrally Selective Glass Chiller	95 Goals	0.47	0.42	1.00		No
SC-D-25	GS	Spectrally Selective Glass DX AC	95 Goals	0.96	0.64	1.00		Yes
SC-D-25	GSD	Spectrally Selective Glass DX AC	95 Goals	0.64	0.55	1.00		No
SC-D-25	GSLD	Spectrally Selective Glass DX AC	95 Goals	0.56	0.50	1.00		No
L-D-3	GS	4' 34W Flour Lamp. Electronic Ballast #1	95 Goals	0.32	0.40	5.12	$0 incentives	No
L-D-3	GSD	4' 34W Flour Lamp. Electronic Ballast #1	95 Goals	0.49	0.76	9.54	$0 incentives	No
L-D-3	GSLD	4' 34W Flour Lamp. Electronic Ballast #1	95 Goals	0.53	0.87	10.66	$0 incentives	No
R-D-1	GS	Multiplex: Air-Cooled/No Subcooling	95 Goals	0.60	1.28	4.20	$0 incentives	No
R-D-1	GSD	Multiplex: Air-Cooled/No Subcooling	95 Goals	0.96	2.01	2.94	$0 incentives	Yes
R-D-1	GSLD	Multiplex: Air-Cooled/No Subcooling	95 Goals	1.03	2.33	2.99	$0 incentives	Yes
R-D-2	GS	Multiplex: Air-Cooled/Ambient Subcooling	95 Goals	0.59	1.19	3.63	$0 incentives	No
R-D-2	GSD	Multiplex: Air-Cooled/Ambient Subcooling	95 Goals	0.96	1.75	2.52	$0 incentives	Yes
R-D-2	GSLD	Multiplex: Air-Cooled/Ambient Subcooling	95 Goals	1.03	1.93	2.56	$0 incentives	Yes
RD-3	GS	Multiplex: Air-Cooled/Mechanical Subcooling	95 Goals	0.58	0.80	2.05	$0 incentives	No
RD-3	GSD	Multiplex: Air-Cooled/Mechanical Subcooling	95 Goals	0.96	0.97	1.37	$0 incentives	Yes
RD-3	GSLD	Multiplex: Air-Cooled/Mechanical Subcooling	95 Goals	1.03	1.05	1.38	$0 incentives	Yes
R-D-4	GS	Multiplex: Air-Cooled/Ambient & Mech. Subcooling	95 Goals	0.58	0.83	2.15	$0 incentives	No
R-D-4	GSD	Multiplex: Air-Cooled/Ambient & Mech. Subcooling	95 Goals	0.96	1.01	1.41	$0 incentives	Yes
R-D-4	GSLD	Multiplex: Air-Cooled/Ambient & Mech. Subcooling	95 Goals	1.03	1.09	1.60	$0 incentives	Yes
R-D-5	GS	Multiplex: Air-Cooled/External Liquid Suction HX	95 Goals	0.74	1.26	2.64	$0 incentives	No
R-D-5	GSD	Multiplex: Air-Cooled/External Liquid Suction HX	95 Goals	1.05	1.49	1.93	$0 incentives	Yes
R-D-5	GSLD	Multiplex: Air-Cooled/External Liquid Suction HX	95 Goals	1.10	1.59	1.97	$0 incentives	Yes
R-D-6	GS	Open - Drive Refrigeration System (ASD)	95 Goals	0.50	0.56	1.57	$0 incentives	No
R-D-6	GSD	Open - Drive Refrigeration System (ASD)	95 Goals	0.91	0.72	1.07	$0 incentives	Yes
R-D-6	GSLD	Open - Drive Refrigeration System (ASD)	95 Goals	0.78	0.62	1.00		No
R-D-7	GS	Anti - Condensate Heater Controls	95 Goals	0.21	0.20	1.00		No
R-D-7	GSD	Anti - Condensate Heater Controls	95 Goals	0.20	0.19	1.00		No
R-D-7	GSLD	Anti - Condensate Heater Controls	95 Goals	0.20	0.19	1.00		No
R-D-8	GS	High R-Value Glass Doors	95 Goals	0.79	1.21	2.19	$0 incentives	No
R-D-8	GSD	High R-Value Glass Doors	95 Goals	1.04	1.21	1.58	$0 incentives	Yes
R-D-8	GSLD	High R-Value Glass Doors	95 Goals	1.10	1.25	1.53	$0 incentives	Yes
R-D-9	GS	Refrigeration Energy Mgt System	95 Goals	0.59	0.58	1.31	$0 incentives	No
R-D-9	GSD	Refrigeration Energy Mgt System	95 Goals	0.76	0.60	1.00		No
R-D-9	GSLD	Refrigeration Energy Mgt System	95 Goals	0.78	0.61	1.00		No

Document No. 14

Cost Effectiveness of CUE Measures - Final Measures

Residential New Construction

Measure		Description	RIM	TRC	Part	Incentive / Participant	Payback
RSC-9A		Ceiling Insulation	0.50	0.43	1.01	$ 181	6.72
PP-2		Big Pipe / Little Pump	1.10	3.01	5.53	$ -	0.80

Commercial/Industrial New Construction

Measure	Rate Class	Description	RIM	TRC	Part	Incentive / Participant	Payback
SC-D-8	GSD	3 Speed Motor for Cooling Tower	0.06	0.35	22.49	$ -	0.16
SC-D-8	GSLD	3 Speed Motor for Cooling Tower	0.06	0.35	22.41	$ -	0.16
SC-D-9	GSD	Speed Control for Cooling Tower	0.06	0.35	22.41	$ -	0.16
SC-D-9	GSLD	Speed Control for Cooling Tower	0.06	0.35	22.41	$ -	0.16
SC-D-23	GS	Window Film DX AC	1.01	0.99	1.24	$ 235	2.97
SC-D-23	GSD	Window Film DX AC	1.01	1.20	1.44	$ 67	2.81
SC-D-23	GSLD	Window Film DX AC	1.01	1.21	1.44	$ 199	2.58
SC-D-25	GS	Spectrally Selective Glass DX AC	0.39	0.36	1.01	$ 2,907	2.72
R-D-1	GSD	Multiplex: Air-Cooled/No Subcooling	0.86	1.20	1.84	$ -	2.42
R-D-1	GSLD	Multiplex: Air-Cooled/No Subcooling	0.88	1.25	1.87	$ -	2.41
R-D-2	GSD	Multiplex: Air-Cooled/Ambient Subcooling	0.84	1.05	1.64	$ -	2.72
R-D-2	GSLD	Multiplex: Air-Cooled/Ambient Subcooling	0.88	1.05	1.55	$ -	2.90
RD-3	GSD	Multiplex: Air-Cooled/Mechanical Subcooling	0.83	1.00	1.57	$ -	2.84
RD-3	GSLD	Multiplex: Air-Cooled/Mechanical Subcooling	0.87	1.00	1.49	$ -	3.03
R-D-4	GSD	Multiplex: Air-Cooled/Ambient & Mech. Subcooling	0.82	0.88	1.40	$ -	3.18
R-D-4	GSLD	Multiplex: Air-Cooled/Ambient & Mech. Subcooling	0.87	0.88	1.33	$ -	3.40
R-D-5	GSD	Multiplex: Air-Cooled/External Liquid Suction HX	0.96	1.22	1.65	$ -	2.66
R-D-5	GSLD	Multiplex: Air-Cooled/External Liquid Suction HX	1.00	1.22	1.57	$ -	2.82
R-D-6	GSD	Open - Drive Refrigeration System (ASD)	0.81	0.39	0.64	$ -	7.11
R-D-8	GSD	High R-Value Glass Doors	0.88	3.08	5.57	$ -	0.79
R-D-8	GSLD	High R-Value Glass Doors	0.92	3.08	5.28	$ -	0.84

Document No. 15

Cost Effectiveness of CUE Measures - Cost Effectiveness Models Inputs & Sources

Residential New Construction

									Data Sources		
Measure		Description	Participant	Summer kw	Winter kw	kwh	Admin $/Part	Participant Cost	kw & kwh	Participant Cost	Admin Cost
RSC-9A		Ceiling Insulation	Participant	0.06	0.09	170	$ 12	$ 277	Quantum/FSEC/FPL	SRC/FPL/FSEC	Res Build Env Pgm
PP-2		Big Pipe / Little Pump	Participant	0.21	0.06	847	$ 21	$ 57	SRC Study	SRC Study	Res HVAC Pgm

Commercial/Industrial New Construction

									Data Sources		
Measure	Rate Class	Description	Participant	Summer kw	Winter kw	kwh	Admin $/Part	Participant Cost	kw & kwh	Participant Cost	Admin Cost
SC-D-8	GSD	3 Speed Motor for Cooling Tower	Motor	-	-	231	$ 61	$ 21	SRC Study	SRC Study	C/I Motors Pgm
SC-D-8	GSLD	3 Speed Motor for Cooling Tower	Motor	-	-	231	$ 61	$ 21	SRC Study	SRC Study	C/I Motors Pgm
SC-D-9	GSD	Speed Control for Cooling Tower	Motor	-	-	231	$ 61	$ 21	SRC Study	SRC Study	C/I Motors Pgm
SC-D-9	GSLD	Speed Control for Cooling Tower	Motor	-	-	231	$ 61	$ 21	SRC Study	SRC Study	C/I Motors Pgm
SC-D-23	GS	Window Film DX AC	1 Summer kw	1.00	0.04	2,477	$ 75	$ 880	C/I Bldg Env Pgm	C/I Bldg Env Pgm	C/I Bldg Env Pgm
SC-D-23	GSD	Window Film DX AC	1 Summer kw	1.00	0.04	3,347	$ 75	$ 823	C/I Bldg Env Pgm	C/I Bldg Env Pgm	C/I Bldg Env Pgm
SC-D-23	GSLD	Window Film DX AC	1 Summer kw	1.00	0.04	3,347	$ 75	$ 813	C/I Bldg Env Pgm	C/I Bldg Env Pgm	C/I Bldg Env Pgm
SC-D-25	GS	Spectrally Selective Glass DX AC	1 Summer kw	1.00	0.11	2,154	$ 75	$ 3,421	SRC Study	SRC Study	C/I Bldg Env Pgm
R-D-1	GSD	Multiplex: Air-Cooled/No Subcooling	1 Summer kw	1.00	0.89	10,556	$ 83	$ 1,504	SRC Study	SRC Study	C/I HVAC Pgm
R-D-1	GSLD	Multiplex: Air-Cooled/No Subcooling	1 Summer kw	1.00	0.92	11,441	$ 83	$ 1,504	SRC Study	SRC Study	C/I HVAC Pgm
R-D-2	GSD	Multiplex: Air-Cooled/Ambient Subcooling	1 Summer kw	1.00	0.88	11,134	$ 83	$ 1,770	SRC Study	SRC Study	C/I HVAC Pgm
R-D-2	GSLD	Multiplex: Air-Cooled/Ambient Subcooling	1 Summer kw	1.00	0.88	11,134	$ 83	$ 1,770	SRC Study	SRC Study	C/I HVAC Pgm
RD-3	GSD	Multiplex: Air-Cooled/Mechanical Subcooling	1 Summer kw	1.00	0.88	11,566	$ 83	$ 1,907	SRC Study	SRC Study	C/I HVAC Pgm
RD-3	GSLD	Multiplex: Air-Cooled/Mechanical Subcooling	1 Summer kw	1.00	0.88	11,566	$ 83	$ 1,907	SRC Study	SRC Study	C/I HVAC Pgm
R-D-4	GSD	Multiplex: Air-Cooled/Ambient & Mech. Subcooling	1 Summer kw	1.00	0.89	12,377	$ 83	$ 2,268	SRC Study	SRC Study	C/I HVAC Pgm
R-D-4	GSLD	Multiplex: Air-Cooled/Ambient & Mech. Subcooling	1 Summer kw	1.00	0.89	12,377	$ 83	$ 2,268	SRC Study	SRC Study	C/I HVAC Pgm
R-D-5	GSD	Multiplex: Air-Cooled/External Liquid Suction HX	1 Summer kw	1.00	0.88	7,685	$ 83	$ 1,279	SRC Study	SRC Study	C/I HVAC Pgm
R-D-5	GSLD	Multiplex: Air-Cooled/External Liquid Suction HX	1 Summer kw	1.00	0.88	7,685	$ 83	$ 1,279	SRC Study	SRC Study	C/I HVAC Pgm
R-D-6	GSD	Open - Drive Refrigeration System (ASD)	1 Summer kw	1.00	3.58	31,978	$ 83	$ 11,949	SRC Study	SRC Study	C/I HVAC Pgm
R-D-8	GSD	High R-Value Glass Doors	1 Summer kw	1.00	0.89	8,225	$ 147	$ 410	SRC Study	SRC Study	C/I Bldg Env Pgm
R-D-8	GSLD	High R-Value Glass Doors	1 Summer kw	1.00	0.89	8,225	$ 147	$ 410	SRC Study	SRC Study	C/I Bldg Env Pgm

Document No. 1

Overview of FPL's IRP Process
(from the 1998 Ten Year Site Plan)

FLORIDA PUBLIC SERVICE COMMISSION
DOCKET
NO. 971004-EG / 990001-EI EXHIBIT NO. 2
COMPANY/
WITNESS: Florida Power & Light
DATE: 8-17-99

III. Projection of Incremental Resource Additions

III.A. FPL's Resource Planning:

FPL has developed an integrated resource planning (IRP) process in order to determine when new resources are needed, what the magnitude of the needed resources are, and what type of resources should be added. The timing and type of potential new power plants, the primary subject of this document, is determined as part of this work. This section discusses how FPL applied this process in its 1997 planning work.

Four Fundamental Steps of FPL's Resource Planning:

There are 4 basic "steps" which are fundamental to FPL's resource planning. These steps can be described as follows:

Step 1: Determine the magnitude and timing of FPL's resource needs,

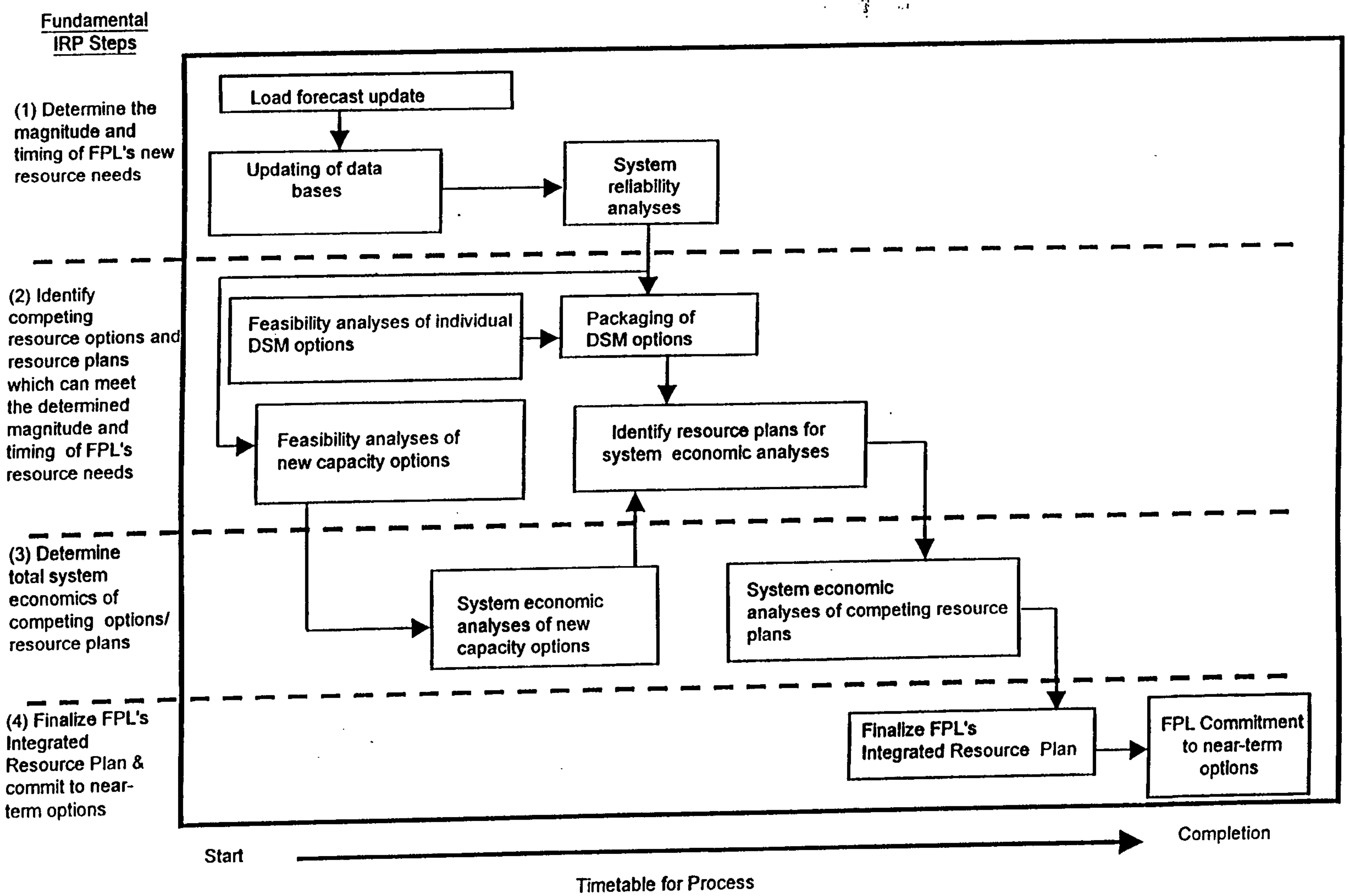
Step 2: Identify which resource options and resource plans can meet the determined magnitude and timing of FPL's resource needs (i.e.; identify competing options and resource plans,

Step 3: Determine the economics for the total utility system with each of the competing options and resource plans), and,

Step 4: Select a resource plan and commit, as needed, to near-term options.

Figure III.A.1 graphically outlines these 4 steps.

Overview of FPL's IRP Process



(Normal time period: approx. 6-7 months).

Figure III.A.1

Florida Power and Light Co.
Docket No. 971004-EG
Testimony of Steve Sim
Exhibit No. ___
Document No. 1
Page 2 of 6

Step 1: Determine the Magnitude and Timing of FPL's Resource Needs:

The first of these four resource planning steps – determining the magnitude and timing of FPL resource needs – is essentially a determination of how many megawatts (MW) of load reduction, new capacity, or a combination of both load reduction and new capacity options are needed. Also determined in this step is when the MW are needed to meet FPL's planning criteria. This step is often referred to as a reliability analysis for the utility system.

Step 1 starts with an updated load forecast. Several databases are also updated in this first fundamental step, not only with the new information regarding load forecasts, but also with other information as well. This information is used in many of the fundamental steps in resource planning. Examples of this new information include delivered fuel price projections and current financial and economic assumptions. In 1997, FPL's DSM MW goals were added to the reliability analysis database as an "already-committed-to" resource.[1] Therefore, the 1997 reliability analyses were primarily concerned with identifying the timing and magnitude of needed new capacity options.

The first place much of this updated information is used is in the analyses which provide the desired result of the 1st fundamental step: the determination of the magnitude and the timing of FPL's resource needs. This determination is accomplished by system reliability analyses which are typically based on a dual planning criteria of a minimum Summer reserve margin of 15% and a maximum loss-of-load probability (LOLP) of 0.1 days/year. These criteria are commonly used throughout the utility industry. In addition to these two reliability criteria which FPL has traditionally utilized, FPL also used a third reliability criterion in 1997: a 15% Winter reserve margin criterion. This third criterion was used in FPL's 1997 planning work due to concern regarding reserves available during extreme Winter peak loads.[2]

Historically, two types of methodologies, deterministic and probabilistic, have been employed in system reliability analyses. The calculation of excess firm capacity around the annual system peak (reserve margin) is the most common deterministic method and this relatively simple calculation can be performed on a spreadsheet. It provides an indication of how well a generating system can meet its native load during peak periods. However, deterministic

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[1] This represents a modification to FPL's basic IRP process. However, FPL's DSM Goals for the years 1994 through 2000 were directly derived from the application of FPL's basic IRP process in late 1993/early 1994.

[2] FPL will continue to monitor this concern and make appropriate adjustments as needed to provide reliable service.

methods do not take into account probabilistic events such as: unit availability, unit size (i.e., two 50 MW units with a 90% availability are more valuable in regard to utility system reliability than is one 100 MW unit with a 90% availability), and the value of being part of an interconnected system.

Therefore, probabilistic methodologies have been used to provide additional information on the reliability of a generating system. There are a number of probabilistic methods that are being used to perform system reliability analyses. Of these, the most widely used is loss-of-load probability or LOLP. Simply stated, LOLP is an index of how well a generating system will be able to meet its demand (i.e., a measure of how often load will exceed available resources). In contrast to reserve margin, the calculation of LOLP looks at the daily peak demands for each year, while taking into consideration such probabilistic events as the unavailability of individual generators due to scheduled maintenance or forced outages.

LOLP is expressed in units of "number of times per year" that the system demand could not be served. The standard for LOLP accepted throughout the industry is a maximum of 0.1 day per year. This analysis requires a more complicated calculation methodology than does reserve margin analysis.

The end result of the first fundamental step of resource planning is a projection of how many MW are needed to maintain system reliability and of when the MW are needed. This information is used in the second fundamental step: identifying resource options and resource plans which can meet the determined magnitude and timing of FPL's resource needs.

Step 2: Identify Resource Options and Plans Which Can Meet the Determined Magnitude and Timing of FPL's Resource Needs:

The initial activities associated with this second fundamental step of resource planning generally proceed concurrently with the activities associated with Step 1. FPL's Power Generation Business Unit initially analyzes new capacity options. During this step, feasibility analyses of new capacity options are carried out to determine which new capacity options appear to be the most competitive on FPL's system. These analyses also establish capacity size (MW) values, projected construction / permitting schedules, and operating parameters and costs. The individual new capacity options are then "packaged" into different resource plans which are designed to meet the system reliability criteria. In other words, resource plans are created by combining individual capacity options so that the timing and magnitude of

FPL's new resource needs are met. The creation of these competing resource plans is typically carried out using dynamic programming techniques.

Therefore, at the conclusion of the second fundamental resource planning step in 1997, a number of different combinations (i.e., resource plans) of new capacity options of a magnitude and timing necessary to meet FPL's resource needs (which would be needed after the DSM MW goals were assumed to be met) were identified. These resource plans were then compared on an economic basis.

Step 3: Determining the Total System Economics:

At the completion of the fundamental steps 1 & 2, the most viable new capacity options have been identified, and these capacity options have been combined into a number of resource plans. The stage is set for comparing the system economics of these resource plans. FPL combines the new capacity options into resource plans and performs the economic analyses of those plans using the EGEAS (Electric Generation Expansion Analysis System) computer model from Stone & Webster Management Consultants, Inc.

The economic analyses of the competing resource plans focus on total system economics. The standard basis for comparing the economics of the competing resource plans is the competing resource plans' impact on FPL's electricity rate levels with the intent of minimizing FPL's levelized system average rate (i.e., a Rate Impact Measure or RIM methodology). However, since in 1997 the DSM goals through the year 2003 were taken as "a given", the economic analyses were comparisons of competing capacity options. Since a utility's total kwh sales do not vary when comparing new capacity options, the capacity options which yield the lowest cost also yield the lowest rates. Therefore, for the 1997 resource planning work, these resource plans were compared on the basis of lowest cost (i.e., cumulative present value of revenue requirements.)

At the conclusion of the analyses carried out in Step 3, a determination of FPL's preferred resource plan was made.

Step 4: Finalizing FPL's 1997 Resource Plan:

The results of the previous three fundamental steps' activities were evaluated by FPL management and a decision was made as to what FPL's 1997 resource plan would be. This plan is presented in the following section.

Document No.2

Peak Load & Net Energy for Load (NEL) Projection: 2001 - 2009

Florida Power and Light Co.
Docket No. 971004-EG
Testimony of Steve Sim
Exhibit No. ______
Document No. 2
Page 1 of 1

Peak Load & Net Energy for Load (NEL) Projection: 2001 - 2009

	Peak Load		
Year	Summer MW	Winter MW	NEL GWH
2001	17,865	18,615	94,812
2002	18,129	19,025	96,822
2003	18,469	19,426	98,696
2004	18,818	19,816	100,633
2005	19,170	20,204	102,467
2006	19,532	20,579	104,325
2007	19,901	20,953	106,210
2008	20,245	21,328	108,171
2009	20,579	21,715	110,355

Document No. 3

1998 Fuel Cost Forecast

FPL 1998-2027 LONG TERM BASE CASE FOSSIL FUEL PRICE AND NATURAL GAS AVAILABILITY FORECAST
NATURAL GAS AVAILABILITY IN MILLIONS OF CUBIC FEET PER DAY

		******FIRM TRANSPORTATION SERVICE******					
				PHASE III FIRM GAS	PHASE II	PHASE III	TOTAL
MONTH	NON-FIRM TRANSPORT SERVICE	PHASE II FIRM GAS SUPPLY TAKE OR PAY MINIMUM	GAS SUPPLY (SEE NOTE 1) MAXIMUM	SUPPLY (TAKE OR PAY) (SEE NOTE 2) FIXED	NON-FIRM GAS SUPPLY (SEE NOTE 1) MAXIMUM	NON-FIRM GAS SUPPLY (SEE NOTE 2) MAXIMUM	(MAXIMUM) NATURAL GAS AVAILABILITY
APRIL 1998	245	32	200	100	80	100	725
MAY	90	126	330	100	100	100	720
JUNE	90	126	330	100	100	100	720
JULY	90	126	330	100	100	100	720
AUGUST	90	126	330	100	100	100	720
SEPTEMBER	90	126	330	100	100	100	720
OCTOBER	245	32	200	100	80	100	725
NOVEMBER	245	32	200	100	55	100	700
DECEMBER	245	32	200	100	55	100	700
JANUARY 1999	235	32	200	100	55	100	690
FEBRUARY	235	32	200	100	55	100	690
MARCH	235	32	200	100	55	100	690
APRIL	235	32	200	100	80	100	715
MAY	80	126	330	100	100	100	710
JUNE	80	126	330	100	100	100	710
JULY	80	126	126	100	304	100	710
AUGUST	80	126	126	100	304	100	710
SEPTEMBER	80	126	126	100	304	100	710
OCTOBER	235	32	32	100	248	100	715
NOVEMBER	235	32	32	100	223	100	690
DECEMBER	235	32	32	100	223	100	690
JANUARY 2000	225	32	32	100	223	100	680
FEBRUARY	225	32	32	100	223	100	680
MARCH	225	32	32	100	223	100	680
APRIL	225	32	32	100	248	100	705
MAY	70	126	126	100	304	100	700
JUNE	70	126	126	100	304	100	700
JULY	70	126	126	100	304	100	700
AUGUST	70	126	126	100	304	100	700
SEPTEMBER	70	126	126	100	304	100	700
OCTOBER	225	32	32	100	248	100	705
NOVEMBER	225	32	32	100	223	100	680
DECEMBER	225	32	32	100	223	100	680
1995							638
1996							594
1997							624
1998							656
1999	170	71	161	100	171	100	703
2000	160	71	71	100	261	100	693

		******FIRM TRANSPORTATION SERVICE******					
				PHASE III FIRM GAS	PHASE II	PHASE III	TOTAL
MONTH	NON-FIRM TRANSPORT SERVICE	PHASE II FIRM GAS SUPPLY TAKE OR PAY MINIMUM	GAS SUPPLY (SEE NOTE 1) MAXIMUM	SUPPLY (TAKE OR PAY) (SEE NOTE 2) FIXED	NON-FIRM GAS SUPPLY (SEE NOTE 1) MAXIMUM	NON-FIRM GAS SUPPLY (SEE NOTE 2) MAXIMUM	(MAXIMUM) NATURAL GAS AVAILABILITY
JANUARY 2001	215	32	32	100	223	100	670
FEBRUARY	215	32	32	100	223	100	670
MARCH	215	32	32	100	223	100	670
APRIL	215	32	32	100	248	100	695
MAY	60	126	126	100	304	100	690
JUNE	60	126	126	100	304	100	690
JULY	60	126	126	100	304	100	690
AUGUST	60	126	126	100	304	100	690
SEPTEMBER	60	126	126	100	304	100	690
OCTOBER	215	32	32	100	248	100	695
NOVEMBER	215	32	32	100	223	100	670
DECEMBER	215	32	32	100	223	100	670
JANUARY 2002	225	32	32	100	223	180	760
FEBRUARY	225	32	32	100	223	180	760
MARCH	225	32	32	100	223	180	760
APRIL	225	32	32	100	248	180	785
MAY	70	126	126	100	304	180	780
JUNE	70	126	126	100	304	180	780
JULY	70	126	126	100	304	180	780
AUGUST	70	126	126	100	304	180	780
SEPTEMBER	70	126	126	100	304	180	780
OCTOBER	225	32	32	100	248	180	785
NOVEMBER	225	32	32	100	223	180	760
DECEMBER	225	32	32	100	223	180	760
JANUARY 2003	215	32	32	100	223	180	750
FEBRUARY	215	32	32	100	223	180	750
MARCH	215	32	32	100	223	180	750
APRIL	215	32	32	100	248	180	775
MAY	70	126	126	100	304	180	780
JUNE	70	126	126	100	304	180	780
JULY	70	126	126	100	304	180	780
AUGUST	70	126	126	100	304	180	780
SEPTEMBER	70	126	126	100	304	180	780
OCTOBER	215	32	32	100	248	180	775
NOVEMBER	215	32	32	100	223	180	750
DECEMBER	215	32	32	100	223	180	750
2001	150	71	71	100	261	100	683
2002	160	71	71	100	261	180	773
2003	155	71	71	100	261	180	767

NOTE 1: FOR PURPOSES OF ANALYSIS, FROM MARCH, 1995 THROUGH JULY, 2005, ASSUME THAT UP TO 332 MILLION CUBIC FEET PER DAY OF THE PHASE II TRANSPORTATION CAPACITY WILL BE AVAILABLE TO FPL. FOR THESE VOLUMES, ASSUME THE TRANSPORTATION DEMAND CHARGE IS A SUNK COST. FROM AUGUST, 2005 FORWARD, ASSUME THAT THESE PHASE II VOLUMES ARE STILL AVAILABLE, HOWEVER, 100% OF THE DELIVERED NATURAL GAS PRICE IS VARIABLE. (I.e. THE TRANSPORTATION DEMAND CHARGE IS NOT TAKE OR PAY) UNTIL A DECISION IS MADE ON THE VOLUME OF PHASE II TRANSPORTATION SERVICE FPL WILL COMMIT TO AFTER JULY, 2005. THEREAFTER, THE NEW FIRM TRANSPORTATION DEMAND CHARGE WILL BECOME A SUNK COST.

NOTE 2: FOR PURPOSES OF ANALYSIS, FROM MARCH, 1995 THROUGH FEBRUARY, 2010, ASSUME THAT UP TO 200 MILLION CUBIC FEET PER DAY OF THE PHASE III TRANSPORTATION CAPACITY WILL BE AVAILABLE TO FPL. FOR THESE VOLUMES, ASSUME THE TRANSPORTATION DEMAND CHARGE IS A SUNK COST. FROM MARCH, 2010 FORWARD, ASSUME THAT THESE PHASE III VOLUMES ARE STILL AVAILABLE, HOWEVER, 100% OF THE DELIVERED NATURAL GAS PRICE IS VARIABLE. (I.e. THE TRANSPORTATION DEMAND CHARGE IS NOT TAKE OR PAY) UNTIL A DECISION IS MADE ON THE VOLUME OF PHASE III FIRM TRANSPORTATION SERVICE AND FIRM NATURAL GAS SUPPLY FPL WILL COMMIT TO AFTER FEBRUARY, 2010. THEREAFTER, THE NEW FIRM TRANSPORTATION DEMAND CHARGE WILL BECOME A SUNK COST.

ENERGY MARKETING AND TRADING DIVISION
APRIL, 1998 - EUGENE UNGAR

FPL 1998-2027 LONG-TERM BASE CASE FOSSIL FUEL PRICE AND NATURAL GAS AVAILABILITY FORECAST
NATURAL GAS AVAILABILITY IN MILLIONS OF CUBIC FEET PER DAY

		FIRM TRANSPORTATION SERVICE					
MONTH	NON-FIRM TRANSPORT SERVICE	PHASE II FIRM GAS SUPPLY GAS SUPPLY TAKE OR PAY MINIMUM	PHASE II FIRM GAS SUPPLY (SEE NOTE 1) MAXIMUM	PHASE III FIRM GAS SUPPLY (TAKE OR PAY) (SEE NOTE 2) FIXED	PHASE II NON-FIRM GAS SUPPLY (SEE NOTE 1) MAXIMUM	PHASE III NON-FIRM GAS SUPPLY (SEE NOTE 2) MAXIMUM	TOTAL (MAXIMUM) NATURAL GAS AVAILABILITY
JANUARY 2004	210	32	32	100	223	180	745
FEBRUARY	210	32	32	100	223	180	745
MARCH	210	32	32	100	223	180	745
APRIL	210	32	32	100	248	180	770
MAY	65	126	126	100	304	180	775
JUNE	65	126	126	100	304	180	775
JULY	65	126	126	100	304	180	775
AUGUST	65	126	126	100	304	180	775
SEPTEMBER	65	126	126	100	304	180	775
OCTOBER	210	32	32	100	248	180	770
NOVEMBER	210	32	32	100	223	180	745
DECEMBER	210	32	32	100	223	180	745
JANUARY 2005	205	32	32	100	223	180	740
FEBRUARY	205	32	32	100	223	180	740
MARCH	205	32	32	100	223	180	740
APRIL	205	32	32	100	248	180	765
MAY	60	126	126	100	304	180	770
JUNE	60	126	126	100	304	180	770
JULY	60	126	126	100	304	180	770
AUGUST	60	100	100	100	330	180	770
SEPTEMBER	60	100	100	100	330	180	770
OCTOBER	205	32	32	100	248	180	765
NOVEMBER	205	32	32	100	223	180	740
DECEMBER	205	32	32	100	223	180	740
JANUARY 2006	200	32	32	100	223	180	735
FEBRUARY	200	32	32	100	223	180	735
MARCH	200	32	32	100	223	180	735
APRIL	200	32	32	100	248	180	760
MAY	55	100	100	100	330	180	765
JUNE	55	100	100	100	330	180	765
JULY	55	100	100	100	330	180	765
AUGUST	55	100	100	100	330	180	765
SEPTEMBER	55	100	100	100	330	180	765
OCTOBER	200	32	32	100	248	180	760
NOVEMBER	200	32	32	100	223	180	735
DECEMBER	200	32	32	100	223	180	735
2004	150	71	71	100	261	180	762
2005	145	67	67	100	265	180	757
2006	140	60	60	100	272	180	752
JANUARY 2007	195	32	32	100	223	180	730
FEBRUARY	195	32	32	100	223	180	730
MARCH	195	32	32	100	223	180	730
APRIL	195	32	32	100	248	180	755
MAY	50	100	100	100	330	180	760
JUNE	50	100	100	100	330	180	760
JULY	50	100	100	100	330	180	760
AUGUST	50	100	100	100	330	180	760
SEPTEMBER	50	100	100	100	330	180	760
OCTOBER	195	32	32	100	248	180	755
NOVEMBER	195	32	32	100	223	180	730
DECEMBER	195	32	32	100	223	180	730
JANUARY 2008	190	32	32	100	223	180	725
FEBRUARY	190	32	32	100	223	180	725
MARCH	190	32	32	100	223	180	725
APRIL	190	32	32	100	248	180	750
MAY	45	100	100	100	330	180	755
JUNE	45	100	100	100	330	180	755
JULY	45	100	100	100	330	180	755
AUGUST	45	100	100	100	330	180	755
SEPTEMBER	45	100	100	100	330	180	755
OCTOBER	190	32	32	100	248	180	750
NOVEMBER	190	32	32	100	223	180	725
DECEMBER	190	32	32	100	223	180	725
JANUARY 2009	185	32	32	100	223	180	720
FEBRUARY	185	32	32	100	223	180	720
MARCH	185	32	32	100	223	180	720
APRIL	185	32	32	100	248	180	745
MAY	40	100	100	100	330	180	750
JUNE	40	100	100	100	330	180	750
JULY	40	100	100	100	330	180	750
AUGUST	40	100	100	100	330	180	750
SEPTEMBER	40	100	100	100	330	180	750
OCTOBER	185	32	32	100	248	180	745
NOVEMBER	185	32	32	100	223	180	720
DECEMBER	185	32	32	100	223	180	720
2007	135	60	60	100	272	180	747
2008	130	60	60	100	272	180	742
2009	125	60	60	100	272	180	737

NOTE 1: FOR PURPOSES OF ANALYSIS, FROM MARCH, 1995 THROUGH JULY, 2005, ASSUME THAT UP TO 332 MILLION CUBIC FEET PER DAY OF THE PHASE II TRANSPORTATION CAPACITY WILL BE AVAILABLE TO FPL. FOR THESE VOLUMES, ASSUME THE TRANSPORTATION DEMAND CHARGE IS A SUNK COST. FROM AUGUST, 2005 FORWARD, ASSUME THAT THESE PHASE II VOLUMES ARE STILL AVAILABLE, HOWEVER, 100% OF THE DELIVERED NATURAL GAS PRICE IS VARIABLE. (I.e. THE TRANSPORTATION DEMAND CHARGE IS NOT TAKE OR PAY) UNTIL A DECISION IS MADE ON THE VOLUME OF PHASE II TRANSPORTATION SERVICE FPL WILL COMMIT TO AFTER JULY, 2005. THEREAFTER, THE NEW FIRM TRANSPORTATION DEMAND CHARGE WILL BECOME A SUNK COST.

NOTE 2: FOR PURPOSES OF ANALYSIS, FROM MARCH, 1995 THROUGH FEBRUARY, 2010, ASSUME THAT UP TO 200 MILLION CUBIC FEET PER DAY OF THE PHASE III TRANSPORTATION CAPACITY WILL BE AVAILABLE TO FPL. FOR THESE VOLUMES, ASSUME THE TRANSPORTATION DEMAND CHARGE IS A SUNK COST. FROM MARCH, 2010 FORWARD, ASSUME THAT THESE PHASE III VOLUMES ARE STILL AVAILABLE, HOWEVER, 100% OF THE DELIVERED NATURAL GAS PRICE IS VARIABLE. (I.e. THE TRANSPORTATION DEMAND CHARGE IS NOT TAKE OR PAY) UNTIL A DECISION IS MADE ON THE VOLUME OF PHASE III FIRM TRANSPORTATION SERVICE AND FIRM NATURAL GAS SUPPLY FPL WILL COMMIT TO AFTER FEBRUARY, 2010. THEREAFTER, THE NEW FIRM TRANSPORTATION DEMAND CHARGE WILL BECOME A SUNK COST.

ENERGY MARKETING AND TRADING DIVISION
APRIL, 1998 - EUGENE UNGAR

FPL 1998-2027 LONG-TERM BASE CASE FOSSIL FUEL PRICE AND NATURAL GAS AVAILABILITY FORECAST
NATURAL GAS AVAILABILITY IN MILLIONS OF CUBIC FEET PER DAY

MONTH	NON-FIRM TRANSPORT SERVICE	FIRM TRANSPORTATION SERVICE: PHASE II FIRM GAS SUPPLY GAS SUPPLY TAKE OR PAY MINIMUM	PHASE II FIRM GAS SUPPLY (SEE NOTE 1) MAXIMUM	PHASE III FIRM GAS SUPPLY (TAKE OR PAY) (SEE NOTE 2) FIXED	PHASE II NON-FIRM GAS SUPPLY (SEE NOTE 1) MAXIMUM	PHASE III NON-FIRM GAS SUPPLY (SEE NOTE 2) MAXIMUM	TOTAL (MAXIMUM) NATURAL GAS AVAILABILITY
JANUARY 2010	180	32	32	100	223	180	715
FEBRUARY	180	32	32	100	223	180	715
MARCH	180	0	0	0	255	280	715
APRIL	180	0	0	0	280	280	740
MAY	35	0	0	0	430	280	745
JUNE	35	0	0	0	430	280	745
JULY	35	0	0	0	430	280	745
AUGUST	35	0	0	0	430	280	745
SEPTEMBER	35	0	0	0	430	280	745
OCTOBER	180	0	0	0	280	280	740
NOVEMBER	180	0	0	0	255	280	715
DECEMBER	180	0	0	0	255	280	715
JANUARY 2011	175	0	0	0	255	280	710
FEBRUARY	175	0	0	0	255	280	710
MARCH	175	0	0	0	255	280	710
APRIL	175	0	0	0	280	280	735
MAY	30	0	0	0	430	280	740
JUNE	30	0	0	0	430	280	740
JULY	30	0	0	0	430	280	740
AUGUST	30	0	0	0	430	280	740
SEPTEMBER	30	0	0	0	430	280	740
OCTOBER	175	0	0	0	280	280	735
NOVEMBER	175	0	0	0	255	280	710
DECEMBER	175	0	0	0	255	280	710
JANUARY 2012	170	0	0	0	255	280	705
FEBRUARY	170	0	0	0	255	280	705
MARCH	170	0	0	0	255	280	705
APRIL	170	0	0	0	280	280	730
MAY	25	0	0	0	430	280	735
JUNE	25	0	0	0	430	280	735
JULY	25	0	0	0	430	280	735
AUGUST	25	0	0	0	430	280	735
SEPTEMBER	25	0	0	0	430	280	735
OCTOBER	170	0	0	0	280	280	730
NOVEMBER	170	0	0	0	255	280	705
DECEMBER	170	0	0	0	255	280	705
2010	120	5	5	17	327	263	732
2011	115	0	0	0	332	280	727
2012	110	0	0	0	332	280	722

MONTH	NON-FIRM TRANSPORT SERVICE	FIRM TRANSPORTATION SERVICE: PHASE II FIRM GAS SUPPLY GAS SUPPLY TAKE OR PAY MINIMUM	PHASE II FIRM GAS SUPPLY (SEE NOTE 1) MAXIMUM	PHASE III FIRM GAS SUPPLY (TAKE OR PAY) (SEE NOTE 2) FIXED	PHASE II NON-FIRM GAS SUPPLY (SEE NOTE 1) MAXIMUM	PHASE III NON-FIRM GAS SUPPLY (SEE NOTE 2) MAXIMUM	TOTAL (MAXIMUM) NATURAL GAS AVAILABILITY
JANUARY 2013	165	0	0	0	255	280	700
FEBRUARY	165	0	0	0	255	280	700
MARCH	165	0	0	0	255	280	700
APRIL	165	0	0	0	280	280	725
MAY	20	0	0	0	430	280	730
JUNE	20	0	0	0	430	280	730
JULY	20	0	0	0	430	280	730
AUGUST	20	0	0	0	430	280	730
SEPTEMBER	20	0	0	0	430	280	730
OCTOBER	165	0	0	0	280	280	725
NOVEMBER	165	0	0	0	255	280	700
DECEMBER	165	0	0	0	255	280	700
JANUARY 2014	160	0	0	0	255	280	695
FEBRUARY	160	0	0	0	255	280	695
MARCH	160	0	0	0	255	280	695
APRIL	160	0	0	0	280	280	720
MAY	15	0	0	0	430	280	725
JUNE	15	0	0	0	430	280	725
JULY	15	0	0	0	430	280	725
AUGUST	15	0	0	0	430	280	725
SEPTEMBER	15	0	0	0	430	280	725
OCTOBER	160	0	0	0	280	280	720
NOVEMBER	160	0	0	0	255	280	695
DECEMBER	160	0	0	0	255	280	695
JANUARY 2015	155	0	0	0	255	280	690
FEBRUARY	155	0	0	0	255	280	690
MARCH	155	0	0	0	255	280	690
APRIL	155	0	0	0	280	280	715
MAY	10	0	0	0	430	280	720
JUNE	10	0	0	0	430	280	720
JULY	10	0	0	0	430	280	720
AUGUST	10	0	0	0	430	280	720
SEPTEMBER	10	0	0	0	430	280	720
OCTOBER	155	0	0	0	280	280	715
NOVEMBER	155	0	0	0	255	280	690
DECEMBER	155	0	0	0	255	280	690
2013	105	0	0	0	332	280	717
2014	100	0	0	0	332	280	712
2015	95	0	0	0	332	280	707

NOTE 1: FOR PURPOSES OF ANALYSIS, FROM MARCH, 1995 THROUGH JULY, 2005, ASSUME THAT UP TO 332 MILLION CUBIC FEET PER DAY OF THE PHASE II TRANSPORTATION CAPACITY WILL BE AVAILABLE TO FPL. FOR THESE VOLUMES, ASSUME THE TRANSPORTATION DEMAND CHARGE IS A SUNK COST. FROM AUGUST, 2005 FORWARD, ASSUME THAT THESE PHASE II VOLUMES ARE STILL AVAILABLE, HOWEVER, 100% OF THE DELIVERED NATURAL GAS PRICE IS VARIABLE. (I.e. THE TRANSPORTATION DEMAND CHARGE IS NOT TAKE OR PAY) UNTIL A DECISION IS MADE ON THE VOLUME OF PHASE II TRANSPORTATION SERVICE FPL WILL COMMIT TO AFTER JULY, 2005. THEREAFTER, THE NEW FIRM TRANSPORTATION DEMAND CHARGE WILL BECOME A SUNK COST.

NOTE 2: FOR PURPOSES OF ANALYSIS, FROM MARCH, 1995 THROUGH FEBRUARY, 2010, ASSUME THAT UP TO 200 MILLION CUBIC FEET PER DAY OF THE PHASE III TRANSPORTATION CAPACITY WILL BE AVAILABLE TO FPL. FOR THESE VOLUMES, ASSUME THE TRANSPORTATION DEMAND CHARGE IS A SUNK COST. FROM MARCH, 2010 FORWARD, ASSUME THAT THESE PHASE III VOLUMES ARE STILL AVAILABLE, HOWEVER, 100% OF THE DELIVERED NATURAL GAS PRICE IS VARIABLE. (I.e. THE TRANSPORTATION DEMAND CHARGE IS NOT TAKE OR PAY) UNTIL A DECISION IS MADE ON THE VOLUME OF PHASE III FIRM TRANSPORTATION SERVICE AND FIRM NATURAL GAS SUPPLY FPL WILL COMMIT TO AFTER FEBRUARY, 2010. THEREAFTER, THE NEW FIRM TRANSPORTATION DEMAND CHARGE WILL BECOME A SUNK COST.

ENERGY MARKETING AND TRADING DIVISION
APRIL, 1998 - EUGENE UNGAR

FPL 1998-2027 LONG-TERM BASE CASE FOSSIL FUEL PRICE AND NATURAL GAS AVAILABILITY FORECAST
NATURAL GAS AVAILABILITY IN MILLIONS OF CUBIC FEET PER DAY (SEE NOTE 3)

	****FIRM TRANSPORTATION SERVICE****						
MONTH	NON-FIRM TRANSPORT SERVICE	PHASE II FIRM GAS SUPPLY TAKE OR PAY MINIMUM	GAS SUPPLY (SEE NOTE 1) MAXIMUM	PHASE III FIRM GAS SUPPLY (TAKE OR PAY) (SEE NOTE 2) FIXED	PHASE II NON-FIRM GAS SUPPLY (SEE NOTE 1) MAXIMUM	PHASE III NON-FIRM GAS SUPPLY (SEE NOTE 2) MAXIMUM	TOTAL (MAXIMUM) NATURAL GAS AVAILABILITY
JANUARY 2016	150	0	0	0	255	280	685
FEBRUARY	150	0	0	0	255	280	685
MARCH	150	0	0	0	255	280	685
APRIL	150	0	0	0	280	280	710
MAY	5	0	0	0	430	280	715
JUNE	5	0	0	0	430	280	715
JULY	5	0	0	0	430	280	715
AUGUST	5	0	0	0	430	280	715
SEPTEMBER	5	0	0	0	430	280	715
OCTOBER	150	0	0	0	280	280	710
NOVEMBER	150	0	0	0	255	280	685
DECEMBER	150	0	0	0	255	280	685
JANUARY 2017	145	0	0	0	255	280	680
FEBRUARY	145	0	0	0	255	280	680
MARCH	145	0	0	0	255	280	680
APRIL	145	0	0	0	280	280	705
MAY	0	0	0	0	430	280	710
JUNE	0	0	0	0	430	280	710
JULY	0	0	0	0	430	280	710
AUGUST	0	0	0	0	430	280	710
SEPTEMBER	0	0	0	0	430	280	710
OCTOBER	145	0	0	0	280	280	705
NOVEMBER	145	0	0	0	255	280	680
DECEMBER	145	0	0	0	255	280	680
JANUARY 2018	140	0	0	0	255	280	675
FEBRUARY	140	0	0	0	255	280	675
MARCH	140	0	0	0	255	280	675
APRIL	140	0	0	0	280	280	700
MAY	0	0	0	0	430	280	710
JUNE	0	0	0	0	430	280	710
JULY	0	0	0	0	430	280	710
AUGUST	0	0	0	0	430	280	710
SEPTEMBER	0	0	0	0	430	280	710
OCTOBER	140	0	0	0	280	280	700
NOVEMBER	140	0	0	0	255	280	675
DECEMBER	140	0	0	0	255	280	675
2016	90	0	0	0	332	280	702
2017	85	0	0	0	332	280	697
2018	82	0	0	0	332	280	694

	****FIRM TRANSPORTATION SERVICE****						
MONTH	NON-FIRM TRANSPORT SERVICE	PHASE II FIRM GAS SUPPLY TAKE OR PAY MINIMUM	GAS SUPPLY (SEE NOTE 1) MAXIMUM	PHASE III FIRM GAS SUPPLY (TAKE OR PAY) (SEE NOTE 2) FIXED	PHASE II NON-FIRM GAS SUPPLY (SEE NOTE 1) MAXIMUM	PHASE III NON-FIRM GAS SUPPLY (SEE NOTE 2) MAXIMUM	TOTAL (MAXIMUM) NATURAL GAS AVAILABILITY
JANUARY 2019	135	0	0	0	255	280	670
FEBRUARY	135	0	0	0	255	280	670
MARCH	135	0	0	0	255	280	670
APRIL	135	0	0	0	280	280	695
MAY	0	0	0	0	430	280	710
JUNE	0	0	0	0	430	280	710
JULY	0	0	0	0	430	280	710
AUGUST	0	0	0	0	430	280	710
SEPTEMBER	0	0	0	0	430	280	710
OCTOBER	135	0	0	0	280	280	695
NOVEMBER	135	0	0	0	255	280	670
DECEMBER	135	0	0	0	255	280	670
JANUARY 2020	130	0	0	0	255	280	665
FEBRUARY	130	0	0	0	255	280	665
MARCH	130	0	0	0	255	280	665
APRIL	130	0	0	0	280	280	690
MAY	0	0	0	0	430	280	710
JUNE	0	0	0	0	430	280	710
JULY	0	0	0	0	430	280	710
AUGUST	0	0	0	0	430	280	710
SEPTEMBER	0	0	0	0	430	280	710
OCTOBER	130	0	0	0	280	280	690
NOVEMBER	130	0	0	0	255	280	665
DECEMBER	130	0	0	0	255	280	665
JANUARY 2021	125	0	0	0	255	280	660
FEBRUARY	125	0	0	0	255	280	660
MARCH	125	0	0	0	255	280	660
APRIL	125	0	0	0	280	280	685
MAY	0	0	0	0	430	280	710
JUNE	0	0	0	0	430	280	710
JULY	0	0	0	0	430	280	710
AUGUST	0	0	0	0	430	280	710
SEPTEMBER	0	0	0	0	430	280	710
OCTOBER	125	0	0	0	280	280	685
NOVEMBER	125	0	0	0	255	280	660
DECEMBER	125	0	0	0	255	280	660
2019	79	0	0	0	332	280	691
2020	76	0	0	0	332	280	688
2021	73	0	0	0	332	280	685

NOTE 1: FOR PURPOSES OF ANALYSIS, FROM MARCH, 1995 THROUGH JULY, 2005, ASSUME THAT UP TO 332 MILLION CUBIC FEET PER DAY OF THE PHASE II TRANSPORTATION CAPACITY WILL BE AVAILABLE TO FPL. FOR THESE VOLUMES, ASSUME THE TRANSPORTATION DEMAND CHARGE IS A SUNK COST. FROM AUGUST, 2005 FORWARD, ASSUME THAT THESE PHASE II VOLUMES ARE STILL AVAILABLE, HOWEVER, 100% OF THE DELIVERED NATURAL GAS PRICE IS VARIABLE. (I.e. THE TRANSPORTATION DEMAND CHARGE IS NOT TAKE OR PAY) UNTIL A DECISION IS MADE ON THE VOLUME OF PHASE II TRANSPORTATION SERVICE FPL WILL COMMIT TO AFTER JULY, 2005. THEREAFTER, THE NEW FIRM TRANSPORTATION DEMAND CHARGE WILL BECOME A SUNK COST.

NOTE 2: FOR PURPOSES OF ANALYSIS, FROM MARCH, 1995 THROUGH FEBRUARY, 2010, ASSUME THAT UP TO 200 MILLION CUBIC FEET PER DAY OF THE PHASE III TRANSPORTATION CAPACITY WILL BE AVAILABLE TO FPL. FOR THESE VOLUMES, ASSUME THE TRANSPORTATION DEMAND CHARGE IS A SUNK COST. FROM MARCH, 2010 FORWARD, ASSUME THAT THESE PHASE III VOLUMES ARE STILL AVAILABLE, HOWEVER, 100% OF THE DELIVERED NATURAL GAS PRICE IS VARIABLE. (I.e. THE TRANSPORTATION DEMAND CHARGE IS NOT TAKE OR PAY) UNTIL A DECISION IS MADE ON THE VOLUME OF PHASE III FIRM TRANSPORTATION SERVICE AND FIRM NATURAL GAS SUPPLY FPL WILL COMMIT TO AFTER FEBRUARY, 2010. THEREAFTER, THE NEW FIRM TRANSPORTATION DEMAND CHARGE WILL BECOME A SUNK COST.

NOTE 3: FOR 2022 THROUGH 2027, ASSUME THE SAME MONTHLY AVAILABILITY AS IN 2021.

ENERGY MARKETING AND TRADING DIVISION
APRIL, 1998 - EUGENE UNGAR

FPL 1998-2027 LONG-TERM BASE CASE FOSSIL FUEL PRICE AND NATURAL GAS AVAILABILITY FORECAST

DELIVERED NOMINAL DOLLAR NATURAL GAS PRICES

APRIL, 1998

YEAR	THREE DAY AVERAGE NYMEX SETTLEMENT $/MMBTU	AVERAGE OF ZONES 1, 2 & 3 FGT BASIS $/MMBTU	AVERAGE OF ZONES 1, 2 & 3 DELIVERED INTO FGT $/MMBTU	YEAR	A=B+E SYSTEM WEIGHTED AVERAGE TOTAL (NON-FIRM & FIRM) NATURAL GAS PRICE $/MMBTU	MM$	B VARIABLE (DISPATCH) COST FOR GAS MOVING UNDER NON-FIRM TRANSPORATION $/MMBTU	MM$	C VARIABLE (DISPATCH) COST FOR GAS MOVING UNDER FIRM TRANSPORATION $/MMBTU	MM$	D DEMAND (SUNK) COST FOR GAS MOVING UNDER FIRM TRANSPORATION $/MMBTU	MM$	E=C+D TOTAL COST FOR GAS MOVING UNDER FIRM TRANSPORATION $/MMBTU	MM$	AVERAGE VARIABLE (DISPATCH) COST FOR GAS MOVING UNDER FIRM & NON-FIRM TRANSPORATION $/MMBTU	MM$	COST OF NATURAL GAS MOVING UNDER FIRM PHASE IV TRANSPORTATION: DELIVERED PRICE $/MMBTU	VARIABLE DISPATCH PRICE $/MMBTU	DEMAND (SUNK) COST $/MMBTU
1997				1997															
1998	$2.45	($0.04)	$2.41	1998	$3.10	$559.88	$2.84	$96.99	$2.54	$372.07	$0.62	$90.81	$3.16	$462.88	$2.60	$469.06	$3.30	$2.53	$0.77
1999	$2.50	($0.04)	$2.47	1999	$3.12	$800.63	$2.91	$180.76	$2.60	$504.75	$0.59	$115.11	$3.19	$619.86	$2.67	$685.51	$3.35	$2.58	$0.77
2000	$2.55	($0.03)	$2.52	2000	$3.16	$801.83	$2.97	$174.49	$2.66	$517.15	$0.57	$110.19	$3.22	$627.34	$2.73	$691.64	$3.41	$2.64	$0.78
2001	$2.65	($0.03)	$2.63	2001	$3.27	$815.44	$3.09	$169.61	$2.76	$536.81	$0.56	$109.02	$3.33	$645.83	$2.84	$706.42	$3.52	$2.74	$0.78
2002	$2.80	($0.02)	$2.78	2002	$3.46	$974.99	$3.26	$190.78	$2.92	$652.44	$0.59	$131.76	$3.51	$784.21	$2.99	$843.23	$3.68	$2.90	$0.79
2003	$3.00	($0.02)	$2.99	2003	$3.67	$1,028.17	$3.48	$196.34	$3.13	$699.46	$0.59	$132.36	$3.72	$831.82	$3.20	$895.80	$3.90	$3.10	$0.79
2004	$3.15	($0.01)	$3.14	2004	$3.83	$1,069.51	$3.65	$200.39	$3.29	$737.04	$0.59	$132.09	$3.88	$869.13	$3.36	$937.43	$4.06	$3.26	$0.80
2005	$3.25	($0.01)	$3.25	2005	$3.95	$1,091.01	$3.77	$199.47	$3.49	$778.95	$0.50	$112.59	$3.99	$891.54	$3.54	$978.43	$4.18	$3.37	$0.80
2006	$3.30	$0.00	$3.30	2006	$4.01	$1,100.55	$3.84	$196.02	$3.66	$818.73	$0.38	$85.79	$4.05	$904.53	$3.70	$1,014.76	$4.24	$3.43	$0.81
2007	$3.35	$0.00	$3.35	2007	$4.06	$1,108.43	$3.90	$192.08	$3.72	$830.53	$0.38	$85.82	$4.10	$916.35	$3.75	$1,022.61	$4.30	$3.49	$0.82
2008	$3.40	$0.00	$3.40	2008	$4.12	$1,117.76	$3.96	$188.45	$3.76	$843.20	$0.38	$86.11	$4.15	$929.31	$3.80	$1,031.65	$4.34	$3.52	$0.82
2009	$3.45	$0.00	$3.45	2009	$4.17	$1,121.48	$4.02	$183.58	$3.81	$852.24	$0.38	$85.66	$4.20	$937.90	$3.85	$1,035.82	$4.39	$3.56	$0.83
2010	$3.50	$0.00	$3.50	2010	$4.21	$1,125.96	$4.09	$179.02	$4.16	$928.65	$0.08	$18.29	$4.24	$946.94	$4.15	$1,107.67	$4.44	$4.30	$0.83
2011	$3.55	$0.00	$3.55	2011	$4.27	$1,132.72	$4.15	$174.23	$4.29	$958.49	$0.00	$0.00	$4.29	$958.49	$4.27	$1,132.72	$4.49	$4.49	$0.83
2012	$3.65	$0.00	$3.65	2012	$4.37	$1,155.93	$4.27	$171.77	$4.39	$984.16	$0.00	$0.00	$4.39	$984.16	$4.37	$1,155.93	$4.59	$4.59	$0.83
2013	$3.81	$0.00	$3.81	2013	$4.54	$1,187.44	$4.44	$170.21	$4.55	$1,017.23	$0.00	$0.00	$4.55	$1,017.23	$4.54	$1,187.44	$4.75	$4.75	$0.83
2014	$3.96	$0.00	$3.96	2014	$4.70	$1,220.66	$4.61	$168.40	$4.71	$1,052.26	$0.00	$0.00	$4.71	$1,052.26	$4.70	$1,220.66	$4.90	$4.90	$0.83
2015	$4.04	$0.00	$4.04	2015	$4.78	$1,233.01	$4.71	$163.19	$4.79	$1,069.82	$0.00	$0.00	$4.79	$1,069.82	$4.78	$1,233.01	$4.97	$4.97	$0.83
2016	$4.14	$0.00	$4.14	2016	$4.89	$1,256.38	$4.83	$159.03	$4.90	$1,097.36	$0.00	$0.00	$4.90	$1,097.36	$4.89	$1,256.38	$5.08	$5.08	$0.83
2017	$4.25	$0.00	$4.25	2017	$5.01	$1,273.61	$4.95	$153.65	$5.01	$1,119.95	$0.00	$0.00	$5.01	$1,119.95	$5.01	$1,273.61	$5.20	$5.20	$0.83
2018	$4.36	$0.00	$4.36	2018	$5.12	$1,294.03	$5.08	$148.36	$5.13	$1,145.67	$0.00	$0.00	$5.13	$1,145.67	$5.12	$1,294.03	$5.32	$5.32	$0.83
2019	$4.47	$0.00	$4.47	2019	$5.24	$1,314.73	$5.21	$142.69	$5.25	$1,172.04	$0.00	$0.00	$5.25	$1,172.04	$5.24	$1,314.73	$5.43	$5.43	$0.83
2020	$4.59	$0.00	$4.59	2020	$5.36	$1,336.87	$5.35	$137.01	$5.36	$1,199.86	$0.00	$0.00	$5.36	$1,199.86	$5.36	$1,336.87	$5.53	$5.53	$0.83
2021	$4.70	$0.00	$4.70	2021	$5.48	$1,353.51	$5.49	$130.17	$5.48	$1,223.35	$0.00	$0.00	$5.48	$1,223.35	$5.48	$1,353.51	$5.64	$5.64	$0.83
2022	$4.83	$0.00	$4.83	2022	$5.60	$1,374.56	$5.63	$123.28	$5.60	$1,251.28	$0.00	$0.00	$5.60	$1,251.28	$5.60	$1,374.56	$5.77	$5.77	$0.83
2023	$4.95	$0.00	$4.95	2023	$5.73	$1,396.20	$5.78	$115.94	$5.73	$1,280.26	$0.00	$0.00	$5.73	$1,280.26	$5.73	$1,396.20	$5.89	$5.89	$0.83
2024	$5.08	$0.00	$5.08	2024	$5.87	$1,421.79	$5.93	$108.44	$5.86	$1,313.35	$0.00	$0.00	$5.86	$1,313.35	$5.87	$1,421.79	$6.02	$6.02	$0.83
2025	$5.21	$0.00	$5.21	2025	$6.00	$1,450.90	$6.08	$110.96	$6.00	$1,339.94	$0.00	$0.00	$6.00	$1,339.94	$6.00	$1,450.90	$6.15	$6.15	$0.83
2026	$5.35	$0.00	$5.35	2026	$6.14	$1,484.57	$6.24	$113.85	$6.14	$1,370.73	$0.00	$0.00	$6.14	$1,370.73	$6.14	$1,484.57	$6.28	$6.28	$0.83
2027	$5.48	$0.00	$5.48	2027	$6.29	$1,519.41	$6.40	$116.81	$6.28	$1,402.59	$0.00	$0.00	$6.28	$1,402.59	$6.29	$1,519.41	$6.42	$6.42	$0.83

ENERGY MARKETING AND TRADING DIVISION
APRIL, 1998 - EUGENE UNGAR

Florida Power and Light Co.
Docket No. 971004-EG
Testimony of Steve Sim
Exhibit No. ____
Document No. 3
Page 5 of 9

FPL 1998-2027 LONG-TERM BASE CASE FOSSIL FUEL PRICE AND NATURAL GAS AVAILABILITY FORECAST

DELIVERED NOMINAL DOLLAR RESIDUAL (NO. 6) FUEL OIL PRICES BY SULFUR GRADE

APRIL, 1998

	****0.7% SULFUR***** **RESIDUAL FUEL OIL* DELIVERED NOMINAL		****1.0% SULFUR***** **RESIDUAL FUEL OIL* DELIVERED NOMINAL		****1.5% SULFUR***** **RESIDUAL FUEL OIL* DELIVERED NOMINAL		****2.0% SULFUR***** **RESIDUAL FUEL OIL* DELIVERED NOMINAL		****2.5% SULFUR***** **RESIDUAL FUEL OIL* DELIVERED NOMINAL		****3.0% SULFUR***** **RESIDUAL FUEL OIL* DELIVERED NOMINAL	
YEAR	$/BBL	$/MMBTU	$/BBL	$/MMBTU	$/BBL	$/MMBTU	$/BBL	$/MMBTU	$/BBL	$/MMBTU	$/BBL	$/MMBTU
1997												
1998	$14.48	$2.26	$13.89	$2.17	$13.33	$2.08	$12.83	$2.00	$12.33	$1.93	$11.83	$1.85
1999	$16.64	$2.60	$15.79	$2.47	$15.24	$2.38	$14.67	$2.29	$15.31	$2.39	$13.59	$2.12
2000	$18.50	$2.89	$17.41	$2.72	$16.86	$2.63	$16.21	$2.53	$16.86	$2.63	$15.05	$2.35
2001	$20.26	$3.17	$18.95	$2.96	$18.37	$2.87	$17.66	$2.76	$18.31	$2.86	$16.42	$2.57
2002	$21.63	$3.38	$20.08	$3.14	$19.48	$3.04	$18.68	$2.92	$19.34	$3.02	$17.37	$2.71
2003	$22.81	$3.56	$21.05	$3.29	$20.42	$3.19	$19.55	$3.06	$20.23	$3.16	$18.18	$2.84
2004	$24.37	$3.81	$22.47	$3.51	$21.62	$3.38	$20.77	$3.24	$21.25	$3.32	$19.06	$2.98
2005	$26.00	$4.06	$23.85	$3.73	$22.90	$3.58	$21.95	$3.43	$22.37	$3.49	$20.04	$3.13
2006	$27.72	$4.33	$25.32	$3.96	$24.27	$3.79	$23.22	$3.63	$23.57	$3.68	$21.11	$3.30
2007	$29.54	$4.62	$26.89	$4.20	$25.73	$4.02	$24.58	$3.84	$24.87	$3.89	$22.28	$3.48
2008	$31.46	$4.92	$28.55	$4.46	$27.30	$4.27	$26.05	$4.07	$26.27	$4.10	$23.54	$3.68
2009	$33.20	$5.19	$30.04	$4.69	$28.68	$4.48	$27.33	$4.27	$27.49	$4.30	$24.62	$3.85
2010	$34.84	$5.44	$31.43	$4.91	$29.98	$4.68	$28.52	$4.46	$28.62	$4.47	$25.61	$4.00
2011	$36.49	$5.70	$32.83	$5.13	$31.27	$4.89	$29.72	$4.64	$29.76	$4.65	$26.61	$4.16
2012	$38.05	$5.95	$34.14	$5.33	$32.48	$5.08	$30.82	$4.82	$30.81	$4.81	$27.51	$4.30
2013	$39.42	$6.16	$35.25	$5.51	$33.50	$5.23	$31.74	$4.96	$31.67	$4.95	$28.23	$4.41
2014	$41.05	$6.41	$36.63	$5.72	$34.77	$5.43	$32.91	$5.14	$32.78	$5.12	$29.20	$4.56
2015	$42.26	$6.60	$37.59	$5.87	$35.63	$5.57	$33.67	$5.26	$33.49	$5.23	$29.76	$4.65
2016	$43.50	$6.80	$38.58	$6.03	$36.52	$5.71	$34.46	$5.38	$34.23	$5.35	$30.35	$4.74
2017	$44.77	$7.00	$39.59	$6.19	$37.43	$5.85	$35.27	$5.51	$34.99	$5.47	$30.96	$4.84
2018	$46.06	$7.20	$40.63	$6.35	$38.37	$6.00	$36.11	$5.64	$35.77	$5.59	$31.59	$4.94
2019	$47.38	$7.40	$41.69	$6.51	$39.33	$6.15	$36.97	$5.78	$36.59	$5.72	$32.25	$5.04
2020	$48.72	$7.61	$42.78	$6.68	$40.32	$6.30	$37.86	$5.92	$37.43	$5.85	$32.94	$5.15
2021	$50.09	$7.83	$43.90	$6.86	$41.34	$6.46	$38.78	$6.06	$38.30	$5.98	$33.65	$5.26
2022	$51.48	$8.04	$45.04	$7.04	$42.38	$6.62	$39.72	$6.21	$39.20	$6.12	$34.39	$5.37
2023	$52.90	$8.27	$46.21	$7.22	$43.45	$6.79	$40.69	$6.36	$40.12	$6.27	$35.16	$5.49
2024	$54.36	$8.49	$47.41	$7.41	$44.55	$6.96	$41.69	$6.51	$41.08	$6.42	$35.96	$5.62
2025	$55.84	$8.72	$48.64	$7.60	$45.68	$7.14	$42.71	$6.67	$42.07	$6.57	$36.79	$5.75
2026	$57.35	$8.96	$49.90	$7.80	$46.84	$7.32	$43.77	$6.84	$43.09	$6.73	$37.64	$5.88
2027	$58.89	$9.20	$51.19	$8.00	$48.03	$7.50	$44.86	$7.01	$44.14	$6.90	$38.53	$6.02

NOTE: RESIDUAL FUEL OIL PRICES ARE DELIVERED PRICES TO ALL FPL PLANT SITES.

Florida Power and Light Co.
Docket No. 971004-EG
Testimony of Steve Sim
Exhibit No. ___
Document No. 3

FPL 1998-2027 LONG-TERM BASE CASE FOSSIL FUEL PRICE AND NATURAL GAS AVAILABILITY FORECAST

DELIVERED NOMINAL DOLLAR COAL TO SJRPP, ORIMULSION TO MANATEE & MARTIN

APRIL, 1998

DELIVERED ST. JOHNS RIVER POWER PARK FUEL PRICES (INCLUDES VARIABLE O & M COSTS)

YEAR	CONTRACT COAL PRICE NOMINAL $/TON	CONTRACT COAL PRICE NOMINAL $/MMBTU	SPOT COAL PRICE NOMINAL $/TON	SPOT COAL PRICE NOMINAL $/MMBTU	WEIGHTED AVERAGE COAL PRICE NOMINAL $/TON	WEIGHTED AVERAGE COAL PRICE NOMINAL $/MMBTU	PETROLEUM COKE NOMINAL $/TON	PETROLEUM COKE NOMINAL $/MMBTU	WEIGHTED AVERAGE FUEL PRICE NOMINAL $/TON	WEIGHTED AVERAGE FUEL PRICE NOMINAL $/MMBTU	DISPATCH PRICE OF FUEL AT SJRPP (80% SPOT COAL; 20% PETROLEUM COKE $/TON	DISPATCH PRICE OF FUEL AT SJRPP (80% SPOT COAL; 20% PETROLEUM COKE $/MMBTU
1998	$39.77	$1.62	$41.38	$1.64	$39.94	$1.62	$15.63	$0.56	$35.36	$1.42	$36.23	$1.42
1999	$40.44	$1.64	$41.84	$1.66	$40.69	$1.65	$15.88	$0.57	$36.23	$1.45	$36.65	$1.44
2000	$41.28	$1.67	$42.66	$1.70	$41.52	$1.68	$16.19	$0.58	$36.96	$1.48	$37.37	$1.47
2001	$38.72	$1.62	$43.48	$1.73	$40.67	$1.66	$16.50	$0.59	$36.32	$1.47	$38.08	$1.50
2002	$39.41	$1.65	$44.31	$1.76	$41.41	$1.69	$16.81	$0.60	$36.99	$1.50	$38.81	$1.53
2003	$39.12	$1.66	$45.21	$1.80	$42.47	$1.74	$17.16	$0.61	$38.24	$1.54	$39.60	$1.56
2004	$39.16	$1.66	$46.16	$1.84	$42.66	$1.75	$17.55	$0.63	$37.64	$1.52	$40.44	$1.59
2005	$39.20	$1.66	$47.08	$1.87	$42.75	$1.76	$17.92	$0.64	$37.78	$1.53	$41.25	$1.63
2006	$37.92	$1.61	$47.97	$1.91	$41.94	$1.73	$18.29	$0.65	$37.21	$1.51	$42.03	$1.66
2007	$38.85	$1.65	$48.86	$1.94	$42.36	$1.75	$18.80	$0.67	$37.64	$1.54	$42.85	$1.69
2008	$42.64	$1.81	$49.79	$1.98	$44.79	$1.86	$19.35	$0.69	$39.70	$1.63	$43.70	$1.72
2009	$43.66	$1.85	$50.75	$2.02	$45.79	$1.90	$19.89	$0.71	$40.61	$1.66	$44.57	$1.76
2010	$44.71	$1.90	$51.74	$2.06	$46.82	$1.95	$20.43	$0.73	$41.54	$1.70	$45.47	$1.79
2011	$45.82	$1.94	$52.73	$2.10	$47.89	$1.99	$20.98	$0.75	$42.51	$1.74	$46.38	$1.83
2012	$46.96	$1.99	$53.78	$2.14	$49.00	$2.04	$21.56	$0.77	$43.51	$1.78	$47.33	$1.87
2013	$48.51	$2.06	$54.85	$2.18	$50.41	$2.10	$22.15	$0.79	$44.76	$1.83	$48.31	$1.90
2014	$49.71	$2.11	$55.95	$2.23	$51.58	$2.14	$22.77	$0.81	$45.82	$1.88	$49.31	$1.94
2015	$51.01	$2.16	$57.08	$2.27	$52.83	$2.20	$23.41	$0.84	$46.95	$1.92	$50.35	$1.98
2016	$52.34	$2.22	$58.24	$2.32	$54.11	$2.25	$24.08	$0.86	$48.10	$1.97	$51.41	$2.03
2017	$53.59	$2.27	$59.41	$2.36	$55.33	$2.30	$24.78	$0.88	$49.22	$2.02	$52.48	$2.07
2018	$55.29	$2.35	$60.62	$2.41	$56.89	$2.37	$25.45	$0.91	$50.60	$2.07	$53.58	$2.11
2019	$56.56	$2.40	$61.85	$2.46	$58.15	$2.42	$26.11	$0.93	$51.74	$2.12	$54.70	$2.15
2020	$57.87	$2.46	$63.11	$2.51	$59.44	$2.47	$26.78	$0.96	$52.91	$2.17	$55.85	$2.20
2021	$59.21	$2.51	$64.40	$2.56	$60.77	$2.53	$27.47	$0.98	$54.11	$2.22	$57.02	$2.25
2022	$60.58	$2.57	$65.72	$2.61	$62.12	$2.58	$28.17	$1.01	$55.33	$2.27	$58.21	$2.29
2023	$62.44	$2.65	$67.07	$2.67	$63.83	$2.65	$28.89	$1.03	$56.84	$2.33	$59.43	$2.34
2024	$63.88	$2.71	$68.44	$2.72	$65.25	$2.71	$29.63	$1.06	$58.12	$2.38	$60.68	$2.39
2025	$65.35	$2.77	$69.84	$2.76	$66.70	$2.77	$30.38	$1.09	$59.44	$2.44	$61.95	$2.44
2026	$66.83	$2.84	$71.27	$2.83	$68.16	$2.84	$31.16	$1.11	$60.76	$2.49	$63.25	$2.49
2027	$68.33	$2.90	$72.73	$2.89	$69.65	$2.90	$31.93	$1.14	$62.11	$2.55	$64.57	$2.54

DELIVERED NOMINAL ORIMULSION PRICES

EXCESS PRICE INCLUDES VARIABLE O & M EXPENSES

YEAR	MANATEE BASE PRICE $/MMBTU	MANATEE EXCESS PRICE $/MMBTU	MARTIN BASE PRICE $/MMBTU	MARTIN EXCESS PRICE $/MMBTU
1998				
1999				
2000	$1.76	$1.56		
2001	$1.70	$1.59	$1.84	$1.77
2002	$1.73	$1.62	$1.88	$1.81
2003	$1.75	$1.65	$1.89	$1.85
2004	$1.75	$1.69	$1.90	$1.89
2005	$1.76	$1.73	$1.91	$1.92
2006	$1.70	$1.71	$1.86	$1.91
2007	$1.74	$1.76	$1.90	$1.95
2008	$1.90	$1.84	$2.07	$2.04
2009	$1.95	$1.87	$2.12	$2.08
2010	$1.99	$1.91	$2.17	$2.12
2011	$2.04	$1.95	$2.22	$2.16
2012	$2.09	$1.99	$2.28	$2.20
2013	$2.16	$2.03	$2.35	$2.25
2014	$2.21	$2.08	$2.41	$2.29
2015	$2.27	$2.12	$2.47	$2.34
2016	$2.33	$2.17	$2.53	$2.39
2017	$2.38	$2.21	$2.59	$2.44
2018	$2.45	$2.26	$2.67	$2.49
2019	$2.51	$2.31	$2.73	$2.54
2020	$2.51	$2.31	$2.79	$2.59
2021	$2.51	$2.31	$2.79	$2.59
2022	$2.51	$2.31	$2.79	$2.59
2023	$2.51	$2.31	$2.79	$2.59
2024	$2.51	$2.31	$2.79	$2.59
2025	$2.51	$2.31	$2.79	$2.59
2026	$2.51	$2.31	$2.79	$2.59
2027	$2.51	$2.31	$2.79	$2.59

ENERGY MARKETING AND TRADING DIVISION
APRIL, 1998 - EUGENE UNGAR

Florida Power and Light Co.
Docket No. 971004-EG
Testimony of Steve Sim
Exhibit No. ___
Document No. 3
Page 7 of 9

'L 1998-2027 LONG-TERM BASE CASE FOSSIL FUEL PRICE AND NATUI GAS AVAILABILITY FORECAST

NOMINAL DOLLAR CRUDE OIL AND DELIVERED DISTILLATE (NO. 2) FUEL OIL PRICES

APRIL, 1998

	*******NOMINAL CRUDE OIL PRICES********				(SEE NOTE 1)		(SEE NOTE 2)	
	ARABIAN LIGHT		****WEST TEXAS***** ***INTERMEDIATE****		*****0.5% SULFUR****** **DISTILLATE FUEL OIL** DELIVERED NOMINAL		*****0.3% SULFUR****** **DISTILLATE FUEL OIL* DELIVERED NOMINAL	
YEAR	$/BBL	$/MMBTU	$/BBL	$/MMBTU	$/BBL	$/MMBTU	$/BBL	$/MMBTU
1997								
1998	$14.00	$2.40	$16.25	$2.79	$20.04	$3.44	$20.59	$3.53
1999	$16.23	$2.78	$18.44	$3.16	$21.88	$3.75	$22.53	$3.86
2000	$18.21	$3.12	$20.54	$3.52	$23.99	$4.12	$24.68	$4.23
2001	$19.74	$3.39	$22.19	$3.81	$25.85	$4.43	$25.58	$4.39
2002	$20.78	$3.56	$23.36	$4.01	$27.55	$4.73	$28.33	$4.86
2003	$21.62	$3.71	$24.34	$4.17	$29.04	$4.98	$29.86	$5.12
2004	$22.91	$3.93	$25.77	$4.42	$31.40	$5.39	$32.25	$5.53
2005	$24.27	$4.16	$27.29	$4.68	$33.93	$5.82	$34.83	$5.97
2006	$25.71	$4.41	$28.89	$4.96	$36.67	$6.29	$37.61	$6.45
2007	$27.25	$4.67	$30.59	$5.25	$39.62	$6.80	$40.60	$6.96
2008	$28.88	$4.95	$32.39	$5.56	$42.80	$7.34	$43.82	$7.52
2009	$30.31	$5.20	$33.99	$5.83	$45.79	$7.85	$46.85	$8.04
2010	$31.62	$5.42	$35.49	$6.09	$48.71	$8.35	$49.81	$8.54
2011	$32.93	$5.65	$36.99	$6.34	$51.71	$8.87	$52.85	$9.06
2012	$34.13	$5.85	$38.39	$6.58	$54.62	$9.37	$55.80	$9.57
2013	$35.12	$6.02	$39.59	$6.79	$57.29	$9.83	$58.51	$10.04
2014	$36.37	$6.24	$41.05	$7.04	$60.43	$10.37	$61.69	$10.58
2015	$37.19	$6.38	$42.09	$7.22	$62.95	$10.80	$64.25	$11.02
2016	$38.02	$6.52	$43.16	$7.40	$65.54	$11.24	$66.89	$11.47
2017	$38.87	$6.67	$44.26	$7.59	$68.23	$11.70	$69.61	$11.94
2018	$39.73	$6.82	$45.38	$7.78	$70.99	$12.18	$72.42	$12.42
2019	$40.62	$6.97	$46.53	$7.98	$73.85	$12.67	$75.31	$12.92
2020	$41.52	$7.12	$47.70	$8.18	$76.79	$13.17	$78.30	$13.43
2021	$42.44	$7.28	$48.91	$8.39	$79.83	$13.69	$81.38	$13.96
2022	$43.38	$7.44	$50.15	$8.60	$82.96	$14.23	$84.55	$14.50
2023	$44.34	$7.61	$51.42	$8.82	$86.19	$14.78	$87.82	$15.06
2024	$45.32	$7.77	$52.72	$9.04	$89.52	$15.36	$91.19	$15.64
2025	$46.32	$7.95	$54.06	$9.27	$92.96	$15.94	$94.67	$16.24
2026	$47.34	$8.12	$55.42	$9.51	$96.50	$16.55	$98.25	$16.85
2027	$48.39	$8.30	$56.82	$9.75	$100.15	$17.18	$101.94	$17.48

NOTE 1: THE 0.5% SULFUR DISTILLATE FUEL OIL IS FOR THE GAS TURBINES AT FT. MYERS, LAUDERDALE AND PORT EVERGLADES, AND THE COMBINED CYCLE AT PUTNAM.

NOTE 2: THE 0.3% SULFUR DISTILLATE FUEL OIL IS FOR THE COMBINED CYCLE UNITS AT LAUDERDALE AND MARTIN.

ENERGY MARKETING AND TRADING DIVISION

Florida Power and Light Co.
Docket No. 971004-EG
Testimony of Steve Sim
Exhibit No. ___
Document No. 3
Page 8 of 9

FPL 1998-2027 LONG-TERM BASE CASE FOSSIL FUEL PRICE AND NATURAL GAS AVAILABILITY FORECAST

DELIVERED NOMINAL DOLLAR COAL PRICES TO SCHERER UNIT 4 & THE MARTIN SITE,PETROLEUM COKE

APRIL, 1998

FORECAST ASSUMES THAT THE MARTIN COAL PLANT WILL STARTUP IN 2004

	PLANT SCHERER UNIT 4		MARTIN PLANT: LOW SULFUR COAL				MARTIN PLANT: HIGH SULFUR COAL				PETROLEUM COKE DELIVERED TO FLORIDA	
	WEIGHTED AVERAGE	SPOT PRICE	WEIGHTED AVERAGE NOMINAL		SPOT PRICE NOMINAL		WEIGHTED AVERAGE NOMINAL		SPOT PRICE NOMINAL		NOMINAL	
YEAR	$/MMBTU	$/MMBTU	$/TON	$/MMBTU	$/TON	$/MMBTU	$/TON	$/MMBTU	$/TON	$/MMBTU	$/TON	$/MMBTU
1998	$1.73	$1.53	$47.52	$1.95	$47.52	$1.95	$46.14	$2.01	$46.14	$2.01	$15.63	$0.56
1999	$1.72	$1.58	$48.58	$1.99	$48.58	$1.99	$47.16	$2.05	$47.16	$2.05	$15.88	$0.57
2000	$1.71	$1.60	$49.69	$2.04	$49.69	$2.04	$48.24	$2.10	$48.24	$2.10	$16.19	$0.58
2001	$1.75	$1.63	$50.91	$2.09	$50.91	$2.09	$49.43	$2.15	$49.43	$2.15	$16.50	$0.59
2002	$1.82	$1.67	$52.20	$2.14	$52.20	$2.14	$50.68	$2.20	$50.68	$2.20	$16.81	$0.60
2003	$1.89	$1.71	$53.54	$2.19	$53.54	$2.19	$51.99	$2.26	$51.99	$2.26	$17.16	$0.61
2004	$1.97	$1.76	$54.79	$2.25	$54.91	$2.25	$53.19	$2.31	$53.31	$2.32	$17.50	$0.63
2005	$2.04	$1.80	$56.03	$2.30	$56.27	$2.31	$54.40	$2.37	$54.64	$2.38	$17.86	$0.64
2006	$2.08	$1.84	$57.39	$2.35	$57.74	$2.37	$55.71	$2.42	$56.06	$2.44	$18.19	$0.65
2007	$2.13	$1.88	$58.82	$2.41	$59.30	$2.43	$57.10	$2.48	$57.58	$2.50	$18.53	$0.66
2008	$2.18	$1.92	$60.51	$2.48	$60.85	$2.49	$58.71	$2.55	$59.08	$2.57	$18.88	$0.67
2009	$1.96	$1.96	$61.91	$2.54	$62.39	$2.56	$60.07	$2.61	$60.57	$2.63	$19.24	$0.69
2010	$2.00	$2.00	$63.34	$2.60	$63.95	$2.62	$61.46	$2.67	$62.09	$2.70	$19.62	$0.70
2011	$2.04	$2.04	$64.86	$2.66	$65.61	$2.69	$62.93	$2.74	$63.70	$2.77	$20.00	$0.71
2012	$2.08	$2.08	$66.42	$2.72	$67.31	$2.76	$64.44	$2.80	$65.36	$2.84	$20.39	$0.73
2013	$2.12	$2.12	$68.36	$2.80	$69.08	$2.83	$66.29	$2.88	$67.07	$2.92	$20.80	$0.74
2014	$2.17	$2.17	$70.01	$2.87	$70.89	$2.91	$67.90	$2.95	$68.83	$2.99	$21.22	$0.76
2015	$2.22	$2.22	$71.79	$2.94	$72.82	$2.98	$69.62	$3.03	$70.70	$3.07	$21.65	$0.77
2016	$2.27	$2.27	$73.60	$3.02	$74.80	$3.07	$71.37	$3.10	$72.63	$3.16	$22.09	$0.79
2017	$2.31	$2.31	$75.33	$3.09	$76.72	$3.14	$73.05	$3.18	$74.49	$3.24	$22.53	$0.80
2018	$2.36	$2.36	$77.43	$3.17	$78.61	$3.22	$75.06	$3.26	$76.32	$3.32	$22.99	$0.82
2019	$2.41	$2.41	$79.18	$3.25	$80.52	$3.30	$76.75	$3.34	$78.18	$3.40	$23.46	$0.84
2020	$2.46	$2.46	$80.97	$3.32	$82.48	$3.38	$78.49	$3.41	$80.08	$3.48	$23.94	$0.85
2021	$2.51	$2.51	$82.81	$3.39	$84.49	$3.46	$80.27	$3.49	$82.03	$3.57	$24.42	$0.87
2022	$2.56	$2.56	$84.69	$3.47	$86.55	$3.55	$82.09	$3.57	$84.03	$3.65	$24.92	$0.89
2023	$2.61	$2.61	$87.01	$3.57	$88.65	$3.63	$84.30	$3.67	$86.07	$3.74	$25.43	$0.91
2024	$2.66	$2.67	$88.98	$3.65	$90.81	$3.72	$86.22	$3.75	$88.17	$3.83	$25.95	$0.93
2025	$2.72	$2.72	$91.00	$3.73	$93.02	$3.81	$88.17	$3.83	$90.31	$3.93	$26.49	$0.95
2026	$2.77	$2.78	$93.02	$3.81	$95.23	$3.90	$90.13	$3.92	$92.46	$4.02	$27.03	$0.97
2027	$2.83	$2.83	$95.04	$3.90	$97.44	$3.99	$92.09	$4.00	$94.60	$4.11	$27.58	$0.99

ENERGY MARKETING AND TRADING DIVISION
APRIL, 1998 - EUGENE UNGAR

Florida Power and Light Co.
Docket No. 971004-EG
Testimony of Steve Sim
Exhibit No. ___
Document No. 3
Page 9 of 9

Document No. 4

Projected FPL Resource Need (MW): 2001 - 2009

*Projected FPL Resource Needs (MW): 2001 - 2009**

Year	Incremental Annual Need MW	Cumulative Need MW
2001	0	0
2002	0	0
2003	0	0
2004	0	0
2005	350	350
2006	303	653
2007	423	1076
2008	395	1471
2009	434	1905

*** Assumptions include:**

-Resource needs will be met solely by capacity additions.

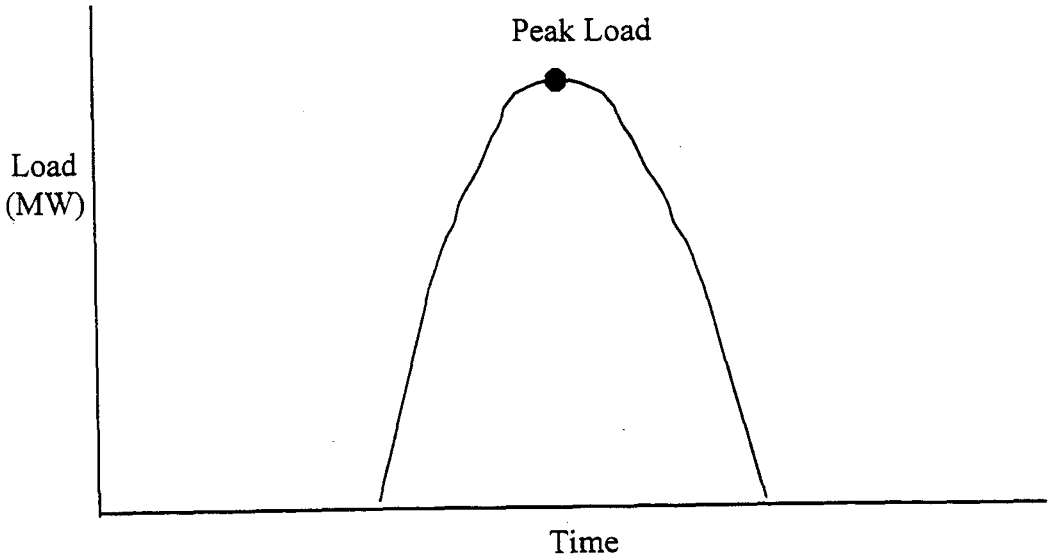
-Repowered Ft. Myers and Sanford units come in-service by January 2002,and January 2003, respectively, with combustion turbine components of the repowering work coming in-service in the year prior to the respective in-service date.

-No additional DSM is added after the year 2000.

Document No. 5

Hypothetical Utility Peak Day Load Shape

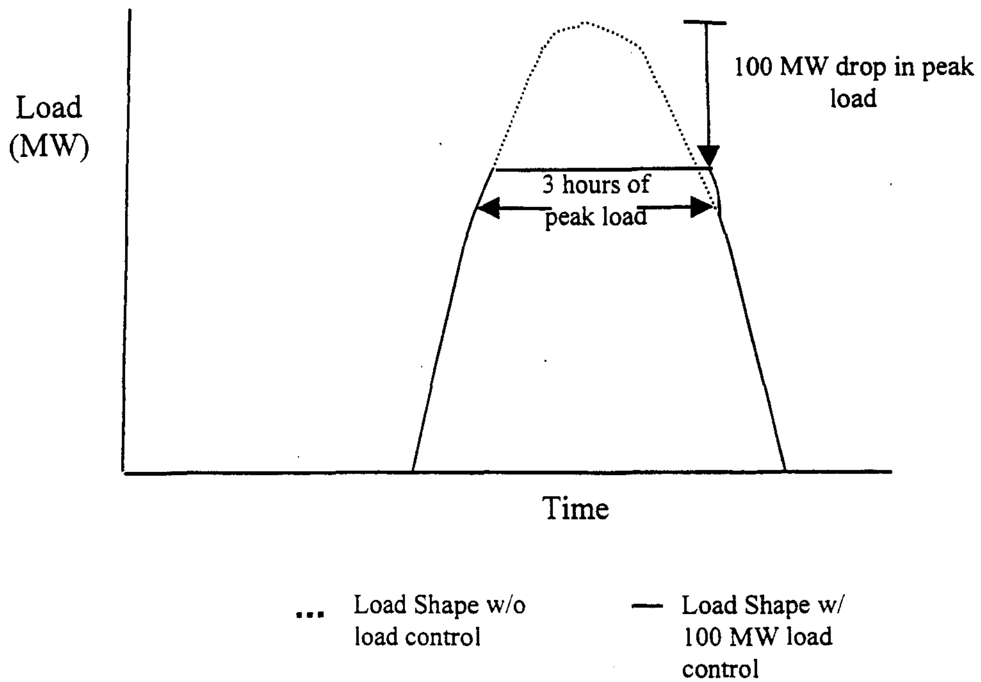
Hypothetical Utility Peak Day Load Shape



Document No. 6

Representative Effect of Implementing 100 MW of Load Control on the Hypothetical Utility Peak Day Load Shape

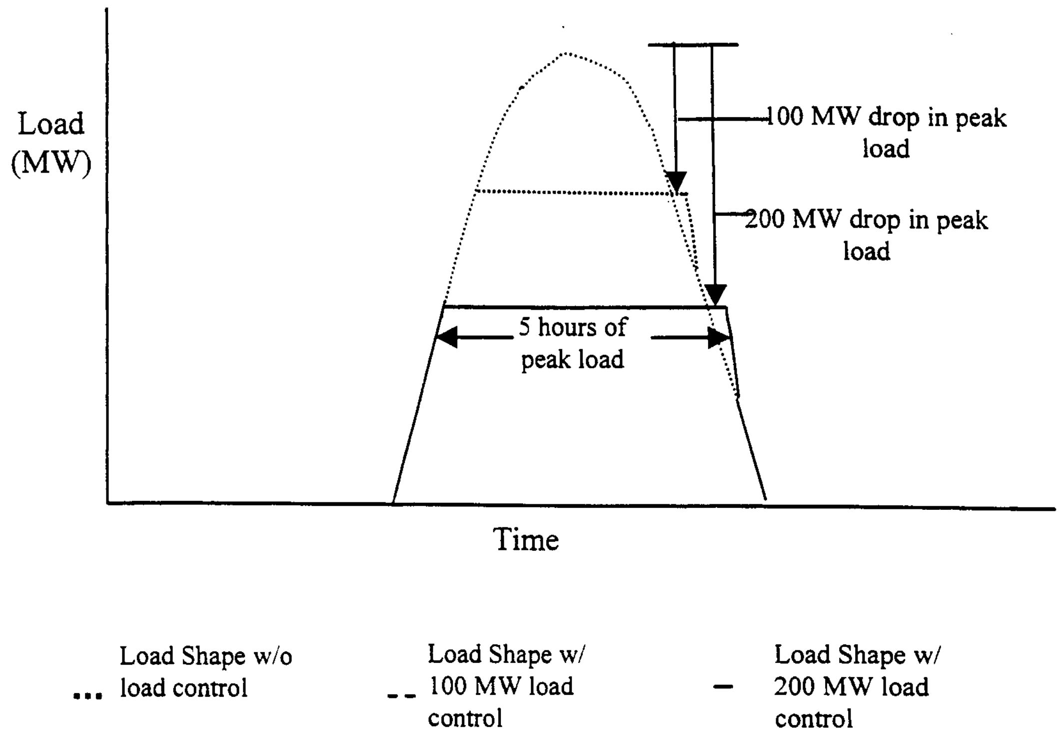
Representative Effect of Implementing 100 MW of Load Control on the Hypothetical Utility Peak Day Load Shape



Document No. 7

Representative Effect of Implementing 200 MW of Load Control on the Hypothetical Utility Peak Day Load Shape

Representative Effect of Implementing 200 MW of Load Control on the Hypothetical Utility Peak Day Load Shape



Document No. 8

Supply Only Resource Plan

Supply Only Resource Plan

Year	New Generation Units Added	New Generation MW Added	New DSM MW Added	Summer Reserve Margin (%)
2001		0	0	16
2002		0	0	19
2003		0	0	21
2004		0	0	19
2005	1 CC	419	0	19
2006	1 CC	419	0	18
2007	1 CC	419	0	18
2008	1 CC	419	0	18
2009	1 CC	419	0	18

Notes:
- CC= Combined Cycle Unit
- MW values shown are incremental Summer MW ratings at the generator.

Document No.9

Calculation of System Average Levelized Rate for the Supply Only Resource Plan

Calculation of Levelized System Average Rate for: **Supply Only Resource Plan**

	Year	Annual Discount Factor 8.98%	Annual Revenue Requirements ($ 000)	Annual Energy Sales (GWh)	Nominal Annual Rate (¢/kWh)	NPV Annual Rate (¢/kWh)	**Nominal Levelized System Average Rate (¢/kWh)**	NPV Levelized System Average Rate (¢/kWh)
1	1998	1.00000	5,882,528	82,307	7.14706	7.14706	**8.3032**	8.303193
2	1999	0.91760	6,078,255	84,668	7.17893	6.58738	**8.3032**	7.619006
3	2000	0.84199	6,245,097	86,513	7.21868	6.07805	**8.3032**	6.991197
4	2001	0.77261	6,469,194	88,332	7.32373	5.65837	**8.3032**	6.415119
5	2002	0.70895	6,597,632	90,195	7.31485	5.18583	**8.3032**	5.886510
6	2003	0.65053	6,973,604	91,930	7.58578	4.93476	**8.3032**	5.401459
7	2004	0.59692	7,207,530	93,729	7.68975	4.59020	**8.3032**	4.956377
8	2005	0.54774	7,508,689	95,439	7.86753	4.30934	**8.3032**	4.547969
9	2006	0.50260	7,800,107	97,171	8.02720	4.03450	**8.3032**	4.173214
10	2007	0.46119	8,066,068	98,929	8.15339	3.76025	**8.3032**	3.829340
11	2008	0.42319	8,340,574	100,758	8.27783	3.50307	**8.3032**	3.513800
12	2009	0.38832	8,622,342	102,794	8.38798	3.25719	**8.3032**	3.224262
13	2010	0.35632	9,298,997	104,647	8.88606	3.16627	**8.3032**	2.958581
14	2011	0.32696	9,758,728	106,523	9.16115	2.99531	**8.3032**	2.714793
15	2012	0.30002	10,094,322	108,366	9.31503	2.79466	**8.3032**	2.491093
16	2013	0.27529	10,455,785	110,255	9.48328	2.61070	**8.3032**	2.285826
17	2014	0.25261	10,828,931	112,091	9.66084	2.44043	**8.3032**	2.097473
18	2015	0.23180	11,188,802	113,942	9.81973	2.27617	**8.3032**	1.924640
19	2016	0.21270	11,533,099	115,436	9.99090	2.12502	**8.3032**	1.766049
20	2017	0.19517	11,808,821	116,782	10.11185	1.97352	**8.3032**	1.620525
21	2018	0.17909	12,081,762	118,159	10.22500	1.83116	**8.3032**	1.486993
22	2019	0.16433	12,354,003	118,729	10.40521	1.70989	**8.3032**	1.364465
23	2020	0.15079	12,545,688	118,729	10.56666	1.59334	**8.3032**	1.252032
24	2021	0.13836	12,787,036	118,729	10.76993	1.49017	**8.3032**	1.148864
25	2022	0.12696	12,982,239	118,729	10.93435	1.38826	**8.3032**	1.054197
26	2023	0.11650	13,206,909	118,729	11.12357	1.29591	**8.3032**	0.967331
27	2024	0.10690	13,455,118	118,729	11.33263	1.21147	**8.3032**	0.887622
28	2025	0.09809	13,715,399	118,729	11.55185	1.13315	**8.3032**	0.814482
29	2026	0.09001	13,959,156	118,729	11.75716	1.05826	**8.3032**	0.747368
30	2027	0.08259	14,229,983	118,729	11.98526	0.98990	**8.3032**	0.685785
						93.12957		93.12957

Levelized System Average Rate (1998-2027, 1998 cents/kwh) = 8.30

Florida Power and Light Co.
Docket No. 971004-EG
Testimony of Steve Sim
Exhibit No. ____
Document No. 9
Page 1 of 1

Document No. 10

Competing Resource Plans

Competing Resource Plans

	Supply Only Resource Plan			*With DSM Resource Plan*		
Year	New Generation MW Added	New DSM MW Added	Summer Reserve Margin (%)	New Generation MW Added	New DSM MW Added	Summer Reserve Margin (%)
2001	0	0	16	0	54	16
2002	0	0	19	0	79	20
2003	0	0	21	0	77	23
2004	0	0	19	0	78	21
2005	419	0	19	0	79	19
2006	419	0	18	419	79	19
2007	419	0	18	419	77	19
2008	419	0	18	419	78	20
2009	419	0	18	0	77	18

Note: MW values shown are incremental Summer MW ratings at the generator.

Document No.11

Comparison of Annual Reserve Margins and LOLP Values for the Supply Only and With DSM Resource Plans

Comparison of Annual Resrve Margins & LOLP Values for the Supply Only and with DSM Resource Plans

	Supply Only Resource Plan					*With DSM Resource Plan*				
	New Generation MW Added	New DSM MW Added	Reserve Margin (%)		Annual LOLP	New Generation MW Added	New DSM MW Added	Reserve Margin (%)		Annual LOLP
Year			Summer	Winter				Summer	Winter	
2001	0	0	16	18	0.089	0	54	16	18	0.076
2002	0	0	19	21	0.009	0	79	20	22	0.006
2003	0	0	21	24	0.004	0	77	23	25	0.002
2004	0	0	19	21	0.024	0	78	21	22	0.011
2005	419	0	19	21	0.006	0	79	19	20	0.007
2006	419	0	18	20	0.011	419	79	19	19	0.012
2007	419	0	18	20	0.006	419	77	19	20	0.005
2008	419	0	18	20	0.005	419	78	20	20	0.003
2009	419	0	18	20	0.004	0	77	18	18	0.007

Note: MW values shown are incremental Summer MW ratings at the generator.

Document No.12

Calculation of System Average Levelized Rate for the With DSM Resource Plan

Florida Power and Light Co.
Docket No. 971004-EG
Testimony of Steve Sim
Exhibit No. ____
Document No. 12
Page 1 of 1

Calculation of Levelized System Average Rate for: **With DSM Resource Plan**

	Year	Annual Discount Factor 8.98%	Annual Revenue Requirements ($ 000)	Annual Energy Sales (GWh)	Nominal Annual Rate (¢/kWh)	NPV Annual Rate (¢/kWh)	**Nominal Levelized System Average Rate (¢/kWh)**	NPV Levelized System Average Rate (¢/kWh)
1	1998	1.00000	5,882,528	82,307	7.14706	7.14706	**8.2875**	8.287540
2	1999	0.91760	6,078,255	84,668	7.17893	6.58738	**8.2875**	7.604643
3	2000	0.84199	6,245,097	86,513	7.21868	6.07805	**8.2875**	6.978017
4	2001	0.77261	6,489,887	88,272	7.35215	5.68033	**8.2875**	6.403025
5	2002	0.70895	6,612,496	90,016	7.34591	5.20785	**8.2875**	5.875413
6	2003	0.65053	6,983,598	91,627	7.62177	4.95817	**8.2875**	5.391277
7	2004	0.59692	7,210,193	93,300	7.72797	4.61301	**8.2875**	4.947033
8	2005	0.54774	7,461,650	94,879	7.86439	4.30762	**8.2875**	4.539395
9	2006	0.50260	7,746,515	96,477	8.02939	4.03560	**8.2875**	4.165347
10	2007	0.46119	7,995,785	98,100	8.15065	3.75899	**8.2875**	3.822121
11	2008	0.42319	8,264,020	99,793	8.28116	3.50448	**8.2875**	3.507176
12	2009	0.38832	8,495,645	101,693	8.35421	3.24407	**8.2875**	3.218183
13	2010	0.35632	9,097,175	103,477	8.79149	3.13257	**8.2875**	2.953004
14	2011	0.32696	9,562,427	105,354	9.07647	2.96762	**8.2875**	2.709675
15	2012	0.30002	9,896,165	107,196	9.23184	2.76970	**8.2875**	2.486397
16	2013	0.27529	10,255,225	109,086	9.40105	2.58806	**8.2875**	2.281516
17	2014	0.25261	10,625,884	110,921	9.57969	2.41993	**8.2875**	2.093518
18	2015	0.23180	10,984,890	112,773	9.74071	2.25785	**8.2875**	1.921012
19	2016	0.21270	11,333,509	114,267	9.91844	2.10960	**8.2875**	1.762719
20	2017	0.19517	11,611,152	115,612	10.04321	1.96012	**8.2875**	1.617471
21	2018	0.17909	11,884,007	116,989	10.15823	1.81921	**8.2875**	1.484190
22	2019	0.16433	12,160,094	117,559	10.34382	1.69980	**8.2875**	1.361892
23	2020	0.15079	12,349,194	117,559	10.50468	1.58399	**8.2875**	1.249672
24	2021	0.13836	12,595,905	117,559	10.71454	1.48251	**8.2875**	1.146698
25	2022	0.12696	12,791,157	117,559	10.88063	1.38144	**8.2875**	1.052210
26	2023	0.11650	13,012,681	117,559	11.06906	1.28956	**8.2875**	0.965507
27	2024	0.10690	13,259,244	117,559	11.27880	1.20572	**8.2875**	0.885949
28	2025	0.09809	13,505,053	117,559	11.48789	1.12688	**8.2875**	0.812946
29	2026	0.09001	13,743,854	117,559	11.69103	1.05231	**8.2875**	0.745959
30	2027	0.08259	14,013,395	117,559	11.92031	0.98453	**8.2875**	0.684492
						92.95400		92.95400

Levelized System Average Rate (1998-2027, 1998 cents/kwh) = 8.29

Document No.13

Comparison of 1994 & 1998 Projections for a CC Unit: Selected Cost & Performance Values

Florida Power and Light Co.
Docket No. 971004-EG
Testimony of Steve Sim
Exhibit No. _____
Document No. 13

Comparison of 1994 & 1998 Projections for a CC Unit:
Selected Cost & Performance Values

	1994 Projection	1998 Projection
Net Summer (MW)	423	419
Capital (Year, $/KW)	689	519
Fixed O&M ($/KW-yr)	19.36	13.74
Variable O&M ($/MWh)	0.13	0.67
Heat Rate (Btu/KWh)	7,246	6,081
EQ. Availability (%)	89	96

Notes:
(1) Dollar values shown are 1994 or 1998 projections (as indicated by column heading) in that year's dollars.
(2) Capital cost is overnight construction cost (w/o escalation or AFUDC).
(3) Fixed O&M values include capital replacement costs.

FLORIDA POWER CORPORATION
DOCKET NO. 971005-EG
EXHIBIT NO. ___ (MFJ-1)

EXHIBITS TO THE TESTIMONY OF
MICHAEL F. JACOB

PROPOSED NUMERIC CONSERVATION GOALS

Florida Power Corporation
Docket No. 971005-EG
Witness: M. F. JACOB
Exhibit No. ____, (MFJ-1)
Sheet 1 of 1

FPC's Proposed Numeric Conservation Goals

	Residential Market Segment					
	Winter Peak MW Demand Savings		Summer Peak MW Demand Savings		GWh Energy Savings	
Year	Annual	Cumulative	Annual	Cumulative	Annual	Cumulative
2000	30	30	10	10	15	15
2001	34	64	11	20	17	32
2002	37	102	12	32	18	50
2003	40	142	13	45	19	69
2004	43	185	13	58	19	88
2005	44	229	14	72	20	108
2006	43	271	14	85	20	127
2007	41	312	14	99	20	147
2008	39	352	13	112	19	166
2009	37	389	13	125	19	185

	Commercial/Industrial Market Segment					
	Winter Peak MW Demand Savings		Summer Peak MW Demand Savings		GWh Energy Savings	
Year	Annual	Cumulative	Annual	Cumulative	Annual	Cumulative
2000	4	4	4	4	2	2
2001	4	7	4	8	2	4
2002	4	11	4	11	2	6
2003	4	15	4	15	2	8
2004	4	18	4	19	2	10
2005	4	22	4	23	2	12
2006	4	26	4	26	2	13
2007	4	30	4	30	2	15
2008	4	33	4	34	2	17
2009	4	37	4	38	2	19

ORIGINAL

Florida Power
CORPORATION

JAMES A. MCGEE
SENIOR COUNSEL

February 1, 1999

Ms. Blanca S. Bayó, Director
Division of Records and Reporting
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, Florida 32399-0850

Re: Docket No. 971005-EG

Dear Ms. Bayó:

Because of logistical difficulties, Exhibit MFJ-3 was not included with the testimony of Michael F. Jacob filed in the subject docket on February 1, 1999. Accordingly, I have enclosed for filing herewith an original and fifteen copies of Mr. Jacob's Exhibit MFJ-3.

Please acknowledge your receipt of the above filing on the enclosed copy of this letter and return to the undersigned. Thank you for your assistance in this matter.

Very truly yours,

James A. McGee

JAM/kma
Enclosure
cc: Parties of record

ACK
AFA
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CMU
CTR
EAG Staff
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LIN 5 + org
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DOCUMENT NUMBER-DATE
01293 FEB-2 99
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INPUT DATA

Base Code: SC-D-01

Measure Name: High Efficiency Chiller

Vintage: New

		Year	Cumulative Participation
Incremental Participant Cost:	$61.00	2000	900
Incremental Annual O&M Cost:	$0.00	2001	1,627
Non-Recurring Incentive per Participant:	$20.00	2002	2,373
Utility Non-Recurring Cost per Participant:	$1.00	2003	3,137
Utility Recurring Cost per Participant:	$0.00	2004	3,920
Annual KWH Reduction:	400	2005	4,721
Peak Winter KW Reduction:	0.207	2006	5,468
Peak Summer KW Reduction:	0.240	2007	6,230
Life of Measure (years):	20	2008	7,010
		2009	7,808

MEASURE or PROGRAM: SCD-1N

PARTICIPANT TEST

YEAR	(1) SAVINGS IN PARTICIPANT'S BILL $(000)	(2) INCENTIVE PAYMENTS $(000)	(3) OTHER PARTICIPANT BENEFITS $(000)	(4) TOTAL BENEFITS $(000)	(5) PARTICIPANT'S COSTS $(000)	(6) PARTICIPANT'S BILL INCREASE $(000)	(7) TOTAL COSTS $(000)	(8) NET BENEFITS TO PARTICIPANTS $(000)
	BENEFITS				COSTS			
1999	22	18	0	40	57	0	57	-17
2000	40	15	0	55	47	0	47	8
2001	59	15	0	74	50	0	50	24
2002	78	15	0	93	53	0	53	40
2003	98	16	0	114	56	0	56	58
2004	119	16	0	135	59	0	59	76
2005	139	15	0	154	56	0	56	98
2006	159	15	0	174	59	0	59	115
2007	180	16	0	196	63	0	63	133
2008	204	16	0	220	67	0	67	153
2009	207	0	0	207	0	0	0	207
2010	210	0	0	210	0	0	0	210
2011	213	0	0	213	0	0	0	213
2012	216	0	0	216	0	0	0	216
2013	220	0	0	220	0	0	0	220
2014	223	0	0	223	0	0	0	223
2015	227	0	0	227	0	0	0	227
2016	230	0	0	230	0	0	0	230
2017	234	0	0	234	0	0	0	234
2018	237	0	0	237	0	0	0	237
2019	241	0	0	241	0	0	0	241
2020	245	0	0	245	0	0	0	245
2021	249	0	0	249	0	0	0	249
2022	252	0	0	252	0	0	0	252
2023	256	0	0	256	0	0	0	256
2024	260	0	0	260	0	0	0	260
2025	264	0	0	264	0	0	0	264
2026	268	0	0	268	0	0	0	268
2027	273	0	0	273	0	0	0	273
2028	0	0	0	0	0	0	0	0
NOMINAL	5623	157	0	5780	567	0	567	5213
NPV	1680	0	0	1680	0	0	0	1680

UTILITY DISCOUNT RATE: 8.53%
BENEFIT/COST RATIO (COL. 4/COL. 7): 4.59

Florida Power Corporation
Docket No. 971005-EG
Witness: M.F. Jacob
Exhibit No.__ (MFJ-3)

MEASURE or PROGRAM: SCD-1N

TOTAL RESOURCE COST TEST

	BENEFITS					COSTS						
YEAR	(1) TOTAL FUEL & O&M SAVINGS $(000)	(2) AVOIDED T&D CAP. COSTS $(000)	(3) AVOIDED GEN. CAP. COSTS $(000)	(4) OTHER PARTICIPANT BENEFITS $(000)	(5) TOTAL BENEFITS $(000)	(6) PARTICIPANT'S COSTS $(000)	(7) TOTAL FUEL & O&M INCREASE $(000)	(8) INCREASED T&D CAP. COSTS $(000)	(9) INCREASED GEN. CAP. COSTS $(000)	(10) UTILITY PROGRAM COSTS $(000)	(11) TOTAL COSTS $(000)	(12) NET BENEFITS $(000)
1999	12	10	0	0	22	57	0	0	0	1	58	-36
2000	25	18	0	0	43	47	0	0	0	1	48	-5
2001	23	27	13	0	63	50	0	0	0	1	51	12
2002	39	35	18	0	92	53	0	0	0	1	54	38
2003	54	44	15	0	113	56	0	0	0	1	57	56
2004	59	53	24	0	136	59	0	0	0	1	60	76
2005	116	61	27	0	204	56	0	0	0	1	57	147
2006	85	70	31	0	186	59	0	0	0	1	60	126
2007	97	79	34	0	210	63	0	0	0	1	64	146
2008	108	88	43	0	239	67	0	0	0	1	68	171
2009	110	88	42	0	240	0	0	0	0	0	0	240
2010	111	88	45	0	244	0	0	0	0	0	0	244
2011	113	88	43	0	244	0	0	0	0	0	0	244
2012	113	88	48	0	249	0	0	0	0	0	0	249
2013	115	88	47	0	250	0	0	0	0	0	0	250
2014	116	88	51	0	255	0	0	0	0	0	0	255
2015	119	88	49	0	256	0	0	0	0	0	0	256
2016	119	88	55	0	262	0	0	0	0	0	0	262
2017	121	88	54	0	263	0	0	0	0	0	0	263
2018	121	88	58	0	267	0	0	0	0	0	0	267
2019	124	88	55	0	267	0	0	0	0	0	0	267
2020	124	88	60	0	272	0	0	0	0	0	0	272
2021	127	88	60	0	275	0	0	0	0	0	0	275
2022	128	88	66	0	282	0	0	0	0	0	0	282
2023	131	88	63	0	282	0	0	0	0	0	0	282
2024	131	88	68	0	287	0	0	0	0	0	0	287
2025	134	88	68	0	290	0	0	0	0	0	0	290
2026	135	88	74	0	297	0	0	0	0	0	0	297
2027	138	88	71	0	297	0	0	0	0	0	0	297
2028	0	0	0	0	0	0	0	0	0	0	0	0
NOMINAL	2948	2157	1282	0	6387	567	0	0	0	10	577	5810
NPV	899	683	357	0	1940	0	0	0	0	0	0	1940

UTILITY DISCOUNT RATE: 8.53%

BENEFIT/COST RATIO (COL. 5/COL. 11): 4.89

MEASURE or PROGRAM: SCD-1N

RATE IMPACT MEASURE TEST

	BENEFITS					COSTS							
YEAR	(1) FUEL & O & M SAVINGS $(000)	(2) AVOIDED T&D CAP. COSTS $(000)	(3) AVOIDED GEN. CAP. COSTS $(000)	(4) REVENUE GAINS $(000)	(5) TOTAL BENEFITS $(000)	(6) FUEL & O & M INCREASE $(000)	(7) INCREASED T&D CAP. COSTS $(000)	(8) INCREASED GEN. CAP. COSTS $(000)	(9) UTILITY PROGRAM COSTS $(000)	(10) INCENTIVE PAYMENTS $(000)	(11) REVENUE LOSSES $(000)	(12) TOTAL COSTS $(000)	(13) NET BENEFITS TO ALL CUSTOMERS $(000)
1999	12	10	0	0	22	0	0	0	1	18	22	41	-19
2000	25	18	0	0	43	0	0	0	1	15	40	56	-13
2001	23	27	13	0	63	0	0	0	1	15	59	75	-12
2002	39	35	18	0	92	0	0	0	1	15	78	94	-2
2003	54	44	15	0	113	0	0	0	1	16	98	115	-2
2004	59	53	24	0	136	0	0	0	1	16	119	136	0
2005	116	61	27	0	204	0	0	0	1	15	139	155	49
2006	85	70	31	0	186	0	0	0	1	15	159	175	11
2007	97	79	34	0	210	0	0	0	1	16	180	197	13
2008	108	88	43	0	239	0	0	0	1	16	204	221	18
2009	110	88	42	0	240	0	0	0	0	0	207	207	33
2010	111	88	45	0	244	0	0	0	0	0	210	210	34
2011	113	88	43	0	244	0	0	0	0	0	213	213	31
2012	113	88	48	0	249	0	0	0	0	0	216	216	33
2013	115	88	47	0	250	0	0	0	0	0	220	220	30
2014	116	88	51	0	255	0	0	0	0	0	223	223	32
2015	119	88	49	0	256	0	0	0	0	0	227	227	29
2016	119	88	55	0	262	0	0	0	0	0	230	230	32
2017	121	88	54	0	263	0	0	0	0	0	234	234	29
2018	121	88	58	0	267	0	0	0	0	0	237	237	30
2019	124	88	55	0	267	0	0	0	0	0	241	241	26
2020	124	88	60	0	272	0	0	0	0	0	245	245	27
2021	127	88	60	0	275	0	0	0	0	0	249	249	26
2022	128	88	66	0	282	0	0	0	0	0	252	252	30
2023	131	88	63	0	282	0	0	0	0	0	256	256	26
2024	131	88	68	0	287	0	0	0	0	0	260	260	27
2025	134	88	68	0	290	0	0	0	0	0	264	264	26
2026	135	88	74	0	297	0	0	0	0	0	268	268	29
2027	138	88	71	0	297	0	0	0	0	0	273	273	24
2028	0	0	0	0	0	0	0	0	0	0	0	0	0
NOMINAL	2948	2157	1282	0	6387	0	0	0	10	157	5623	5790	597
NPV	899	683	357	0	1940	0	0	0	0	0	1680	1680	260

UTILITY DISCOUNT RATE: 8.53%
BENEFIT/COST RATIO (COL. 5/COL. 12): 1.08

INPUT DATA

Base Code: SC-D-01

Measure Name: High Efficiency Chiller

Vintage: Existing

		Year	Cumulative Participation
Incremental Participant Cost:	$61.00	2000	1,600
Incremental Annual O&M Cost:	$0.00	2001	3,055
Non-Recurring Incentive per Participant:	$22.00	2002	4,546
Utility Non-Recurring Cost per Participant:	$2.00	2003	6,074
Utility Recurring Cost per Participant:	$0.00	2004	7,639
Annual KWH Reduction:	500	2005	9,243
Peak Winter KW Reduction:	0.207	2006	10,735
Peak Summer KW Reduction:	0.240	2007	12,261
Life of Measure (years):	20	2008	13,821
		2009	15,415

MEASURE or PROGRAM: SCD-1X

PARTICIPANT TEST

	BENEFITS				COSTS			
YEAR	(1) SAVINGS IN PARTICIPANT'S BILL $(000)	(2) INCENTIVE PAYMENTS $(000)	(3) OTHER PARTICIPANT BENEFITS $(000)	(4) TOTAL BENEFITS $(000)	(5) PARTICIPANT'S COSTS $(000)	(6) PARTICIPANT'S BILL INCREASE $(000)	(7) TOTAL COSTS $(000)	(8) NET BENEFITS TO PARTICIPANTS $(000)
1999	49	35	0	84	101	0	101	-17
2000	94	32	0	126	94	0	94	32
2001	141	33	0	174	100	0	100	74
2002	189	34	0	223	105	0	105	118
2003	240	34	0	274	111	0	111	163
2004	291	35	0	326	118	0	118	208
2005	340	33	0	373	113	0	113	260
2006	391	34	0	425	119	0	119	306
2007	443	34	0	477	125	0	125	352
2008	502	35	0	537	133	0	133	404
2009	510	0	0	510	0	0	0	510
2010	518	0	0	518	0	0	0	518
2011	526	0	0	526	0	0	0	526
2012	534	0	0	534	0	0	0	534
2013	542	0	0	542	0	0	0	542
2014	551	0	0	551	0	0	0	551
2015	559	0	0	559	0	0	0	559
2016	568	0	0	568	0	0	0	568
2017	577	0	0	577	0	0	0	577
2018	586	0	0	586	0	0	0	586
2019	595	0	0	595	0	0	0	595
2020	604	0	0	604	0	0	0	604
2021	613	0	0	613	0	0	0	613
2022	623	0	0	623	0	0	0	623
2023	633	0	0	633	0	0	0	633
2024	642	0	0	642	0	0	0	642
2025	652	0	0	652	0	0	0	652
2026	662	0	0	662	0	0	0	662
2027	673	0	0	673	0	0	0	673
2028	0	0	0	0	0	0	0	0
NOMINAL	13848	339	0	14187	1119	0	1119	13068
NPV	4128	0	0	4128	0	0	0	4128

UTILITY DISCOUNT RATE: 8.53%
BENEFIT/COST RATIO (COL. 4/COL. 7): 5.68

MEASURE or PROGRAM: SCD-1X

TOTAL RESOURCE COST TEST

	BENEFITS					COSTS						
YEAR	(1) TOTAL FUEL & O&M SAVINGS $(000)	(2) AVOIDED T&D CAP. COSTS $(000)	(3) AVOIDED GEN. CAP. COSTS $(000)	(4) OTHER PARTICIPANT BENEFITS $(000)	(5) TOTAL BENEFITS $(000)	(6) PARTICIPANT'S COSTS $(000)	(7) TOTAL FUEL & O&M INCREASE $(000)	(8) INCREASED T&D CAP. COSTS $(000)	(9) INCREASED GEN. CAP. COSTS $(000)	(10) UTILITY PROGRAM COSTS $(000)	(11) TOTAL COSTS $(000)	(12) NET BENEFITS $(000)
1999	27	14	0	0	41	101	0	0	0	3	104	-63
2000	82	27	0	0	109	94	0	0	0	3	97	12
2001	83	40	29	0	152	100	0	0	0	3	103	49
2002	95	54	40	0	189	105	0	0	0	3	108	81
2003	131	68	35	0	234	111	0	0	0	4	115	119
2004	154	82	53	0	289	118	0	0	0	4	122	167
2005	833	96	65	0	994	113	0	0	0	4	117	877
2006	207	109	75	0	391	119	0	0	0	4	123	268
2007	237	123	82	0	442	125	0	0	0	4	129	313
2008	265	137	100	0	502	133	0	0	0	4	137	365
2009	270	137	99	0	506	0	0	0	0	0	0	506
2010	271	137	107	0	515	0	0	0	0	0	0	515
2011	276	137	103	0	516	0	0	0	0	0	0	516
2012	277	137	113	0	527	0	0	0	0	0	0	527
2013	282	137	112	0	531	0	0	0	0	0	0	531
2014	284	137	120	0	541	0	0	0	0	0	0	541
2015	290	137	116	0	543	0	0	0	0	0	0	543
2016	291	137	128	0	556	0	0	0	0	0	0	556
2017	296	137	125	0	558	0	0	0	0	0	0	558
2018	297	137	136	0	570	0	0	0	0	0	0	570
2019	303	137	131	0	571	0	0	0	0	0	0	571
2020	304	137	144	0	585	0	0	0	0	0	0	585
2021	311	137	142	0	590	0	0	0	0	0	0	590
2022	312	137	154	0	603	0	0	0	0	0	0	603
2023	319	137	148	0	604	0	0	0	0	0	0	604
2024	321	137	163	0	621	0	0	0	0	0	0	621
2025	328	137	160	0	625	0	0	0	0	0	0	625
2026	331	137	174	0	642	0	0	0	0	0	0	642
2027	338	137	168	0	643	0	0	0	0	0	0	643
2028	0	0	0	0	0	0	0	0	0	0	0	0
NOMINAL	7815	3353	3022	0	14190	1119	0	0	0	36	1155	13035
NPV	2584	1061	840	0	4484	0	0	0	0	0	0	4484

UTILITY DISCOUNT RATE: 8.53%

BENEFIT/COST RATIO (COL. 5/COL. 11): 5.64

MEASURE or PROGRAM: SCD-1X

RATE IMPACT MEASURE TEST

	BENEFITS					COSTS							
YEAR	(1) FUEL & O & M SAVINGS $(000)	(2) AVOIDED T&D CAP. COSTS $(000)	(3) AVOIDED GEN. CAP. COSTS $(000)	(4) REVENUE GAINS $(000)	(5) TOTAL BENEFITS $(000)	(6) FUEL & O & M INCREASE $(000)	(7) INCREASED T&D CAP. COSTS $(000)	(8) INCREASED GEN. CAP. COSTS $(000)	(9) UTILITY PROGRAM COSTS $(000)	(10) INCENTIVE PAYMENTS $(000)	(11) REVENUE LOSSES $(000)	(12) TOTAL COSTS $(000)	(13) NET BENEFITS TO ALL CUSTOMERS $(000)
1999	27	14	0	0	41	0	0	0	3	35	49	87	-46
2000	82	27	0	0	109	0	0	0	3	32	94	129	-20
2001	83	40	29	0	152	0	0	0	3	33	141	177	-25
2002	95	54	40	0	189	0	0	0	3	34	189	226	-37
2003	131	68	35	0	234	0	0	0	4	34	240	278	-44
2004	154	82	53	0	289	0	0	0	4	35	291	330	-41
2005	833	96	65	0	994	0	0	0	4	33	340	377	617
2006	207	109	75	0	391	0	0	0	4	34	391	429	-38
2007	237	123	82	0	442	0	0	0	4	34	443	481	-39
2008	265	137	100	0	502	0	0	0	4	35	502	541	-39
2009	270	137	99	0	506	0	0	0	0	0	510	510	-4
2010	271	137	107	0	515	0	0	0	0	0	518	518	-3
2011	276	137	103	0	516	0	0	0	0	0	526	526	-10
2012	277	137	113	0	527	0	0	0	0	0	534	534	-7
2013	282	137	112	0	531	0	0	0	0	0	542	542	-11
2014	284	137	120	0	541	0	0	0	0	0	551	551	-10
2015	290	137	116	0	543	0	0	0	0	0	559	559	-16
2016	291	137	128	0	556	0	0	0	0	0	568	568	-12
2017	296	137	125	0	558	0	0	0	0	0	577	577	-19
2018	297	137	136	0	570	0	0	0	0	0	586	586	-16
2019	303	137	131	0	571	0	0	0	0	0	595	595	-24
2020	304	137	144	0	585	0	0	0	0	0	604	604	-19
2021	311	137	142	0	590	0	0	0	0	0	613	613	-23
2022	312	137	154	0	603	0	0	0	0	0	623	623	-20
2023	319	137	148	0	604	0	0	0	0	0	633	633	-29
2024	321	137	163	0	621	0	0	0	0	0	642	642	-21
2025	328	137	160	0	625	0	0	0	0	0	652	652	-27
2026	331	137	174	0	642	0	0	0	0	0	662	662	-20
2027	338	137	168	0	643	0	0	0	0	0	673	673	-30
2028	0	0	0	0	0	0	0	0	0	0	0	0	0
NOMINAL	7815	3353	3022	0	14190	0	0	0	36	339	13848	14223	-33
NPV	2584	1061	840	0	4484	0	0	0	0	0	4128	4128	356

UTILITY DISCOUNT RATE: 8.53%
BENEFIT/COST RATIO (COL. 5/COL. 12): 1.02

INPUT DATA

Base Code: SC-D-03

Measure Name: High Efficiency DX AC

Vintage: Existing

Incremental Participant Cost:	$350.00
Incremental Annual O&M Cost:	$0.00
Non-Recurring Incentive per Participant:	$23.00
Utility Non-Recurring Cost per Participant:	$2.00
Utility Recurring Cost per Participant:	$0.00
Annual KWH Reduction:	575
Peak Winter KW Reduction:	0.231
Peak Summer KW Reduction:	0.380
Life of Measure (years):	15

Year	Cumulative Participation
2000	113
2001	211
2002	313
2003	417
2004	523
2005	633
2006	731
2007	831
2008	934
2009	1,038

MEASURE or PROGRAM: SCD-3X

PARTICIPANT TEST

YEAR	BENEFITS (1) SAVINGS IN PARTICIPANT'S BILL $(000)	(2) INCENTIVE PAYMENTS $(000)	(3) OTHER PARTICIPANT BENEFITS $(000)	(4) TOTAL BENEFITS $(000)	COSTS (5) PARTICIPANT'S COSTS $(000)	(6) PARTICIPANT'S BILL INCREASE $(000)	(7) TOTAL COSTS $(000)	(8) NET BENEFITS TO PARTICIPANTS $(000)
1999	4	3	0	7	41	0	41	-34
2000	7	2	0	9	36	0	36	-27
2001	10	2	0	12	39	0	39	-27
2002	14	2	0	16	41	0	41	-25
2003	17	2	0	19	43	0	43	-24
2004	21	3	0	24	46	0	46	-22
2005	24	2	0	26	42	0	42	-16
2006	28	2	0	30	45	0	45	-15
2007	31	2	0	33	47	0	47	-14
2008	35	2	0	37	50	0	50	-13
2009	36	0	0	36	0	0	0	36
2010	36	0	0	36	0	0	0	36
2011	37	0	0	37	0	0	0	37
2012	38	0	0	38	0	0	0	38
2013	38	0	0	38	0	0	0	38
2014	39	0	0	39	0	0	0	39
2015	39	0	0	39	0	0	0	39
2016	40	0	0	40	0	0	0	40
2017	41	0	0	41	0	0	0	41
2018	41	0	0	41	0	0	0	41
2019	42	0	0	42	0	0	0	42
2020	43	0	0	43	0	0	0	43
2021	43	0	0	43	0	0	0	43
2022	44	0	0	44	0	0	0	44
2023	45	0	0	45	0	0	0	45
2024	45	0	0	45	0	0	0	45
2025	46	0	0	46	0	0	0	46
2026	47	0	0	47	0	0	0	47
2027	47	0	0	47	0	0	0	47
2028	0	0	0	0	0	0	0	0
NOMINAL	978	22	0	1000	430	0	430	570
NPV	292	0	0	292	0	0	0	292

UTILITY DISCOUNT RATE: 8.53%
BENEFIT/COST RATIO (COL. 4/COL. 7): 1.04

MEASURE or PROGRAM: SCD-3X

TOTAL RESOURCE COST TEST

	BENEFITS					COSTS						
YEAR	(1) TOTAL FUEL & O&M SAVINGS $(000)	(2) AVOIDED T&D CAP. COSTS $(000)	(3) AVOIDED GEN. CAP. COSTS $(000)	(4) OTHER PARTICIPANT BENEFITS $(000)	(5) TOTAL BENEFITS $(000)	(6) PARTICIPANT'S COSTS $(000)	(7) TOTAL FUEL & O&M INCREASE $(000)	(8) INCREASED T&D CAP. COSTS $(000)	(9) INCREASED GEN. CAP. COSTS $(000)	(10) UTILITY PROGRAM COSTS $(000)	(11) TOTAL COSTS $(000)	(12) NET BENEFITS $(000)
1999	2	2	0	0	4	41	0	0	0	0	41	-37
2000	5	3	0	0	8	36	0	0	0	0	36	-28
2001	5	5	1	0	11	39	0	0	0	0	39	-28
2002	7	7	2	0	16	41	0	0	0	0	41	-25
2003	10	8	1	0	19	43	0	0	0	0	43	-24
2004	12	10	3	0	25	46	0	0	0	0	46	-21
2005	17	12	2	0	31	42	0	0	0	0	42	-11
2006	16	13	2	0	31	45	0	0	0	0	45	-14
2007	18	15	2	0	35	47	0	0	0	0	47	-12
2008	20	17	2	0	39	50	0	0	0	0	50	-11
2009	20	17	2	0	39	0	0	0	0	0	0	39
2010	20	17	2	0	39	0	0	0	0	0	0	39
2011	20	17	2	0	39	0	0	0	0	0	0	39
2012	20	17	2	0	39	0	0	0	0	0	0	39
2013	21	17	2	0	40	0	0	0	0	0	0	40
2014	21	17	2	0	40	0	0	0	0	0	0	40
2015	21	17	3	0	41	0	0	0	0	0	0	41
2016	21	17	3	0	41	0	0	0	0	0	0	41
2017	22	17	3	0	42	0	0	0	0	0	0	42
2018	22	17	3	0	42	0	0	0	0	0	0	42
2019	22	17	3	0	42	0	0	0	0	0	0	42
2020	22	17	3	0	42	0	0	0	0	0	0	42
2021	23	17	3	0	43	0	0	0	0	0	0	43
2022	23	17	3	0	43	0	0	0	0	0	0	43
2023	23	17	3	0	43	0	0	0	0	0	0	43
2024	23	17	3	0	43	0	0	0	0	0	0	43
2025	24	17	3	0	44	0	0	0	0	0	0	44
2026	24	17	4	0	45	0	0	0	0	0	0	45
2027	24	17	4	0	45	0	0	0	0	0	0	45
2028	0	0	0	0	0	0	0	0	0	0	0	0
NOMINAL	528	415	68	0	1011	430	0	0	0	0	430	581
NPV	162	131	21	0	314	0	0	0	0	0	0	314

UTILITY DISCOUNT RATE: 8.53%
BENEFIT/COST RATIO (COL. 5/COL. 11): 1.04

MEASURE or PROGRAM: SCD-3X

RATE IMPACT MEASURE TEST

YEAR	BENEFITS (1) FUEL & O & M SAVINGS $(000)	(2) AVOIDED T&D CAP. COSTS $(000)	(3) AVOIDED GEN. CAP. COSTS $(000)	(4) REVENUE GAINS $(000)	(5) TOTAL BENEFITS $(000)	COSTS (6) FUEL & O & M INCREASE $(000)	(7) INCREASED T&D CAP. COSTS $(000)	(8) INCREASED GEN. CAP. COSTS $(000)	(9) UTILITY PROGRAM COSTS $(000)	(10) INCENTIVE PAYMENTS $(000)	(11) REVENUE LOSSES $(000)	(12) TOTAL COSTS $(000)	(13) NET BENEFITS TO ALL CUSTOMERS $(000)
1999	2	2	0	0	4	0	0	0	0	3	4	7	-3
2000	5	3	0	0	8	0	0	0	0	2	7	9	-1
2001	5	5	1	0	11	0	0	0	0	2	10	12	-1
2002	7	7	2	0	16	0	0	0	0	2	14	16	0
2003	10	8	1	0	19	0	0	0	0	2	17	19	0
2004	12	10	3	0	25	0	0	0	0	3	21	24	1
2005	17	12	2	0	31	0	0	0	0	2	24	26	5
2006	16	13	2	0	31	0	0	0	0	2	28	30	1
2007	18	15	2	0	35	0	0	0	0	2	31	33	2
2008	20	17	2	0	39	0	0	0	0	2	35	37	2
2009	20	17	2	0	39	0	0	0	0	0	36	36	3
2010	20	17	2	0	39	0	0	0	0	0	36	36	3
2011	20	17	2	0	39	0	0	0	0	0	37	37	2
2012	20	17	2	0	39	0	0	0	0	0	38	38	1
2013	21	17	2	0	40	0	0	0	0	0	38	38	2
2014	21	17	2	0	40	0	0	0	0	0	39	39	1
2015	21	17	3	0	41	0	0	0	0	0	39	39	2
2016	21	17	3	0	41	0	0	0	0	0	40	40	1
2017	22	17	3	0	42	0	0	0	0	0	41	41	1
2018	22	17	3	0	42	0	0	0	0	0	41	41	1
2019	22	17	3	0	42	0	0	0	0	0	42	42	0
2020	22	17	3	0	42	0	0	0	0	0	43	43	-1
2021	23	17	3	0	43	0	0	0	0	0	43	43	0
2022	23	17	3	0	43	0	0	0	0	0	44	44	-1
2023	23	17	3	0	43	0	0	0	0	0	45	45	-2
2024	23	17	3	0	43	0	0	0	0	0	45	45	-2
2025	24	17	3	0	44	0	0	0	0	0	46	46	-2
2026	24	17	4	0	45	0	0	0	0	0	47	47	-2
2027	24	17	4	0	45	0	0	0	0	0	47	47	-2
2028	0	0	0	0	0	0	0	0	0	0	0	0	0
NOMINAL	528	415	68	0	1011	0	0	0	0	22	978	1000	11
NPV	162	131	21	0	314	0	0	0	0	0	292	292	22

UTILITY DISCOUNT RATE: 8.53%
BENEFIT/COST RATIO (COL. 5/COL. 12): 1.00

Florida Power Corporation
Docket No. 971005-EG
Witness: M F Jacob
Exhibit No. __ (MFJ-3)
Page 12 of 90

INPUT DATA

Base Code: SC-D-04

Measure Name: High Efficiency Room AC Units

Vintage: New

		Year	Cumulative Participation
Incremental Participant Cost:	$255.00	2000	56
Incremental Annual O&M Cost:	$1.50	2001	112
Non-Recurring Incentive per Participant:	$24.00	2002	168
Utility Non-Recurring Cost per Participant:	$1.54	2003	224
Utility Recurring Cost per Participant:	$0.00	2004	280
Annual KWH Reduction:	396.49	2005	336
Peak Winter KW Reduction:	0.150	2006	392
Peak Summer KW Reduction:	0.450	2007	448
Life of Measure (years):	10	2008	504
		2009	560

MEASURE or PROGRAM: SCD-4N

PARTICIPANT TEST

YEAR	BENEFITS (1) SAVINGS IN PARTICIPANT'S BILL $(000)	(2) INCENTIVE PAYMENTS $(000)	(3) OTHER PARTICIPANT BENEFITS $(000)	(4) TOTAL BENEFITS $(000)	COSTS (5) PARTICIPANT'S COSTS $(000)	(6) PARTICIPANT'S BILL INCREASE $(000)	(7) TOTAL COSTS $(000)	(8) NET BENEFITS TO PARTICIPANTS $(000)
1999	1	1	0	2	15	0	15	-13
2000	2	1	0	3	15	0	15	-12
2001	4	1	0	5	16	0	16	-11
2002	5	1	0	6	16	0	16	-10
2003	6	1	0	7	17	0	17	-10
2004	8	1	0	9	17	0	17	-8
2005	9	1	0	10	18	0	18	-8
2006	10	1	0	11	18	0	18	-7
2007	12	1	0	13	19	0	19	-6
2008	13	1	0	14	20	0	20	-6
2009	13	0	0	13	0	0	0	13
2010	14	0	0	14	0	0	0	14
2011	14	0	0	14	0	0	0	14
2012	14	0	0	14	0	0	0	14
2013	14	0	0	14	0	0	0	14
2014	14	0	0	14	0	0	0	14
2015	15	0	0	15	0	0	0	15
2016	15	0	0	15	0	0	0	15
2017	15	0	0	15	0	0	0	15
2018	15	0	0	15	0	0	0	15
2019	16	0	0	16	0	0	0	16
2020	16	0	0	16	0	0	0	16
2021	16	0	0	16	0	0	0	16
2022	16	0	0	16	0	0	0	16
2023	17	0	0	17	0	0	0	17
2024	17	0	0	17	0	0	0	17
2025	17	0	0	17	0	0	0	17
2026	17	0	0	17	0	0	0	17
2027	18	0	0	18	0	0	0	18
2028	0	0	0	0	0	0	0	0
NOMINAL	363	10	0	373	171	0	171	202
NPV	108	0	0	108	0	0	0	108

UTILITY DISCOUNT RATE: 8.53%
BENEFIT/COST RATIO (COL. 4/COL. 7): 1.01

MEASURE or PROGRAM: SCD-4N

TOTAL RESOURCE COST TEST

	BENEFITS					COSTS						
YEAR	(1) TOTAL FUEL & O&M SAVINGS $(000)	(2) AVOIDED T&D CAP. COSTS $(000)	(3) AVOIDED GEN. CAP. COSTS $(000)	(4) OTHER PARTICIPANT BENEFITS $(000)	(5) TOTAL BENEFITS $(000)	(6) PARTICIPANT'S COSTS $(000)	(7) TOTAL FUEL & O&M INCREASE $(000)	(8) INCREASED T&D CAP. COSTS $(000)	(9) INCREASED GEN. CAP. COSTS $(000)	(10) UTILITY PROGRAM COSTS $(000)	(11) TOTAL COSTS $(000)	(12) NET BENEFITS $(000)
1999	1	1	0	0	2	15	0	0	0	0	15	-13
2000	2	1	0	0	3	15	0	0	0	0	15	-12
2001	2	2	0	0	4	16	0	0	0	0	16	-12
2002	3	2	1	0	6	16	0	0	0	0	16	-10
2003	4	3	1	0	8	17	0	0	0	0	17	-9
2004	4	4	1	0	9	17	0	0	0	0	17	-8
2005	6	4	1	0	11	18	0	0	0	0	18	-7
2006	6	5	2	0	13	18	0	0	0	0	18	-5
2007	7	6	1	0	14	19	0	0	0	0	19	-5
2008	7	6	1	0	14	20	0	0	0	0	20	-6
2009	8	6	1	0	15	0	0	0	0	0	0	15
2010	8	6	2	0	16	0	0	0	0	0	0	16
2011	8	6	1	0	15	0	0	0	0	0	0	15
2012	8	6	1	0	15	0	0	0	0	0	0	15
2013	8	6	1	0	15	0	0	0	0	0	0	15
2014	8	6	2	0	16	0	0	0	0	0	0	16
2015	8	6	1	0	15	0	0	0	0	0	0	15
2016	8	6	1	0	15	0	0	0	0	0	0	15
2017	8	6	1	0	15	0	0	0	0	0	0	15
2018	8	6	1	0	15	0	0	0	0	0	0	15
2019	8	6	1	0	15	0	0	0	0	0	0	15
2020	8	6	1	0	15	0	0	0	0	0	0	15
2021	9	6	1	0	16	0	0	0	0	0	0	16
2022	9	6	2	0	17	0	0	0	0	0	0	17
2023	9	6	2	0	17	0	0	0	0	0	0	17
2024	9	6	1	0	16	0	0	0	0	0	0	16
2025	9	6	2	0	17	0	0	0	0	0	0	17
2026	9	6	2	0	17	0	0	0	0	0	0	17
2027	9	6	2	0	17	0	0	0	0	0	0	17
2028	0	0	0	0	0	0	0	0	0	0	0	0
NOMINAL	201	148	34	0	383	171	0	0	0	0	171	212
NPV	62	47	11	0	119	0	0	0	0	0	0	119

UTILITY DISCOUNT RATE: 8.53%

BENEFIT/COST RATIO (COL. 5/COL. 11): 1.01

Florida Power Corporation
Docket No. 971005-EG
Witness: M.F. Jacob
Exhibit No.__ (MFJ-3)
Page 15 of 90

MEASURE or PROGRAM: SCD-4N

RATE IMPACT MEASURE TEST

YEAR	BENEFITS (1) FUEL & O & M SAVINGS $(000)	BENEFITS (2) AVOIDED T&D CAP. COSTS $(000)	BENEFITS (3) AVOIDED GEN. CAP. COSTS $(000)	BENEFITS (4) REVENUE GAINS $(000)	BENEFITS (5) TOTAL BENEFITS $(000)	COSTS (6) FUEL & O & M INCREASE $(000)	COSTS (7) INCREASED T&D CAP. COSTS $(000)	COSTS (8) INCREASED GEN. CAP. COSTS $(000)	COSTS (9) UTILITY PROGRAM COSTS $(000)	COSTS (10) INCENTIVE PAYMENTS $(000)	COSTS (11) REVENUE LOSSES $(000)	COSTS (12) TOTAL COSTS $(000)	(13) NET BENEFITS TO ALL CUSTOMERS $(000)
1999	1	1	0	0	2	0	0	0	0	1	1	2	0
2000	2	1	0	0	3	0	0	0	0	1	2	3	0
2001	2	2	0	0	4	0	0	0	0	1	4	5	-1
2002	3	2	1	0	6	0	0	0	0	1	5	6	0
2003	4	3	1	0	8	0	0	0	0	1	6	7	1
2004	4	4	1	0	9	0	0	0	0	1	8	9	0
2005	6	4	1	0	11	0	0	0	0	1	9	10	1
2006	6	5	2	0	13	0	0	0	0	1	10	11	2
2007	7	6	1	0	14	0	0	0	0	1	12	13	1
2008	7	6	1	0	14	0	0	0	0	1	13	14	0
2009	8	6	1	0	15	0	0	0	0	0	13	13	2
2010	8	6	2	0	16	0	0	0	0	0	14	14	2
2011	8	6	1	0	15	0	0	0	0	0	14	14	1
2012	8	6	1	0	15	0	0	0	0	0	14	14	1
2013	8	6	1	0	15	0	0	0	0	0	14	14	1
2014	8	6	2	0	16	0	0	0	0	0	14	14	2
2015	8	6	1	0	15	0	0	0	0	0	15	15	0
2016	8	6	1	0	15	0	0	0	0	0	15	15	0
2017	8	6	1	0	15	0	0	0	0	0	15	15	0
2018	8	6	1	0	15	0	0	0	0	0	15	15	0
2019	8	6	1	0	15	0	0	0	0	0	16	16	-1
2020	8	6	1	0	15	0	0	0	0	0	16	16	-1
2021	9	6	1	0	16	0	0	0	0	0	16	16	0
2022	9	6	2	0	17	0	0	0	0	0	16	16	1
2023	9	6	2	0	17	0	0	0	0	0	17	17	0
2024	9	6	1	0	16	0	0	0	0	0	17	17	-1
2025	9	6	2	0	17	0	0	0	0	0	17	17	0
2026	9	6	2	0	17	0	0	0	0	0	17	17	0
2027	9	6	2	0	17	0	0	0	0	0	18	18	-1
2028	0	0	0	0	0	0	0	0	0	0	0	0	0
NOMINAL	201	148	34	0	383	0	0	0	0	10	363	373	10
NPV	62	47	11	0	119	0	0	0	0	0	108	108	11

UTILITY DISCOUNT RATE: 8.53%
BENEFIT/COST RATIO (COL. 5/COL. 12): 1.00

Florida Power Corporation
Docket No. 971005-EG
Witness: M.F. Jacob
Exhibit No.__ (MFJ-3)
Page 16 of 90

INPUT DATA

Base Code: SC-D-04

Measure Name: High Efficiency Room AC Units

Vintage: Existing

Incremental Participant Cost:	$327.00
Incremental Annual O&M Cost:	$1.50
Non-Recurring Incentive per Participant:	$23.00
Utility Non-Recurring Cost per Participant:	$2.00
Utility Recurring Cost per Participant:	$0.00
Annual KWH Reduction:	750
Peak Winter KW Reduction:	0.232
Peak Summer KW Reduction:	0.450
Life of Measure (years):	10

Year	Cumulative Participation
2000	113
2001	211
2002	313
2003	417
2004	523
2005	633
2006	731
2007	831
2008	934
2009	1,038

MEASURE or PROGRAM: SCD-4X

PARTICIPANT TEST

YEAR	BENEFITS: (1) SAVINGS IN PARTICIPANT'S BILL $(000)	BENEFITS: (2) INCENTIVE PAYMENTS $(000)	BENEFITS: (3) OTHER PARTICIPANT BENEFITS $(000)	BENEFITS: (4) TOTAL BENEFITS $(000)	COSTS: (5) PARTICIPANT'S COSTS $(000)	COSTS: (6) PARTICIPANT'S BILL INCREASE $(000)	COSTS: (7) TOTAL COSTS $(000)	(8) NET BENEFITS TO PARTICIPANTS $(000)
1999	5	3	0	8	38	0	38	-30
2000	9	2	0	11	34	0	34	-23
2001	13	2	0	15	37	0	37	-22
2002	18	2	0	20	38	0	38	-18
2003	22	2	0	24	40	0	40	-16
2004	27	3	0	30	43	0	43	-13
2005	32	2	0	34	40	0	40	-6
2006	36	2	0	38	42	0	42	-4
2007	41	2	0	43	44	0	44	-1
2008	46	2	0	48	47	0	47	1
2009	47	0	0	47	0	0	0	47
2010	48	0	0	48	0	0	0	48
2011	48	0	0	48	0	0	0	48
2012	49	0	0	49	0	0	0	49
2013	50	0	0	50	0	0	0	50
2014	51	0	0	51	0	0	0	51
2015	51	0	0	51	0	0	0	51
2016	52	0	0	52	0	0	0	52
2017	53	0	0	53	0	0	0	53
2018	54	0	0	54	0	0	0	54
2019	55	0	0	55	0	0	0	55
2020	55	0	0	55	0	0	0	55
2021	56	0	0	56	0	0	0	56
2022	57	0	0	57	0	0	0	57
2023	58	0	0	58	0	0	0	58
2024	59	0	0	59	0	0	0	59
2025	60	0	0	60	0	0	0	60
2026	61	0	0	61	0	0	0	61
2027	62	0	0	62	0	0	0	62
2028	0	0	0	0	0	0	0	0
NOMINAL	1275	22	0	1297	403	0	403	894
NPV	381	0	0	381	0	0	0	381

UTILITY DISCOUNT RATE: 8.53%

BENEFIT/COST RATIO (COL. 4/COL. 7): 1.43

MEASURE or PROGRAM: SCD-4X

TOTAL RESOURCE COST TEST

	BENEFITS					COSTS						
YEAR	(1) TOTAL FUEL & O&M SAVINGS $(000)	(2) AVOIDED T&D CAP. COSTS $(000)	(3) AVOIDED GEN. CAP. COSTS $(000)	(4) OTHER PARTICIPANT BENEFITS $(000)	(5) TOTAL BENEFITS $(000)	(6) PARTICIPANT'S COSTS $(000)	(7) TOTAL FUEL & O&M INCREASE $(000)	(8) INCREASED T&D CAP. COSTS $(000)	(9) INCREASED GEN. CAP. COSTS $(000)	(10) UTILITY PROGRAM COSTS $(000)	(11) TOTAL COSTS $(000)	(12) NET BENEFITS $(000)
1999	3	2	0	0	5	38	0	0	0	0	38	-33
2000	6	4	0	0	10	34	0	0	0	0	34	-24
2001	6	6	2	0	14	37	0	0	0	0	37	-23
2002	9	8	3	0	20	38	0	0	0	0	38	-18
2003	13	10	2	0	25	40	0	0	0	0	40	-15
2004	16	12	5	0	33	43	0	0	0	0	43	-10
2005	22	14	3	0	39	40	0	0	0	0	40	-1
2006	20	16	4	0	40	42	0	0	0	0	42	-2
2007	23	18	3	0	44	44	0	0	0	0	44	0
2008	26	20	4	0	50	47	0	0	0	0	47	3
2009	26	20	4	0	50	0	0	0	0	0	0	50
2010	26	20	5	0	51	0	0	0	0	0	0	51
2011	26	20	5	0	51	0	0	0	0	0	0	51
2012	27	20	5	0	52	0	0	0	0	0	0	52
2013	27	20	5	0	52	0	0	0	0	0	0	52
2014	27	20	5	0	52	0	0	0	0	0	0	52
2015	27	20	5	0	52	0	0	0	0	0	0	52
2016	28	20	6	0	54	0	0	0	0	0	0	54
2017	28	20	5	0	53	0	0	0	0	0	0	53
2018	28	20	6	0	54	0	0	0	0	0	0	54
2019	29	20	6	0	55	0	0	0	0	0	0	55
2020	29	20	6	0	55	0	0	0	0	0	0	55
2021	29	20	6	0	55	0	0	0	0	0	0	55
2022	30	20	7	0	57	0	0	0	0	0	0	57
2023	30	20	7	0	57	0	0	0	0	0	0	57
2024	31	20	7	0	58	0	0	0	0	0	0	58
2025	31	20	7	0	58	0	0	0	0	0	0	58
2026	31	20	8	0	59	0	0	0	0	0	0	59
2027	32	20	7	0	59	0	0	0	0	0	0	59
2028	0	0	0	0	0	0	0	0	0	0	0	0
NOMINAL	686	490	138	0	1314	403	0	0	0	0	403	911
NPV	210	155	41	0	406	0	0	0	0	0	0	406

UTILITY DISCOUNT RATE: 8.53%
BENEFIT/COST RATIO (COL. 5/COL. 11): 1.46

MEASURE or PROGRAM: SCD-4X

RATE IMPACT MEASURE TEST

	BENEFITS					COSTS							
YEAR	(1) FUEL & O & M SAVINGS $(000)	(2) AVOIDED T&D CAP. COSTS $(000)	(3) AVOIDED GEN. CAP. COSTS $(000)	(4) REVENUE GAINS $(000)	(5) TOTAL BENEFITS $(000)	(6) FUEL & O & M INCREASE $(000)	(7) INCREASED T&D CAP. COSTS $(000)	(8) INCREASED GEN. CAP. COSTS $(000)	(9) UTILITY PROGRAM COSTS $(000)	(10) INCENTIVE PAYMENTS $(000)	(11) REVENUE LOSSES $(000)	(12) TOTAL COSTS $(000)	(13) NET BENEFITS TO ALL CUSTOMERS $(000)
1999	3	2	0	0	5	0	0	0	0	3	5	8	-3
2000	6	4	0	0	10	0	0	0	0	2	9	11	-1
2001	6	6	2	0	14	0	0	0	0	2	13	15	-1
2002	9	8	3	0	20	0	0	0	0	2	18	20	0
2003	13	10	2	0	25	0	0	0	0	2	22	24	1
2004	16	12	5	0	33	0	0	0	0	3	27	30	3
2005	22	14	3	0	39	0	0	0	0	2	32	34	5
2006	20	16	4	0	40	0	0	0	0	2	36	38	2
2007	23	18	3	0	44	0	0	0	0	2	41	43	1
2008	26	20	4	0	50	0	0	0	0	2	46	48	2
2009	26	20	4	0	50	0	0	0	0	0	47	47	3
2010	26	20	5	0	51	0	0	0	0	0	48	48	3
2011	26	20	5	0	51	0	0	0	0	0	48	48	3
2012	27	20	5	0	52	0	0	0	0	0	49	49	3
2013	27	20	5	0	52	0	0	0	0	0	50	50	2
2014	27	20	5	0	52	0	0	0	0	0	51	51	1
2015	27	20	5	0	52	0	0	0	0	0	51	51	1
2016	28	20	6	0	54	0	0	0	0	0	52	52	2
2017	28	20	5	0	53	0	0	0	0	0	53	53	0
2018	28	20	6	0	54	0	0	0	0	0	54	54	0
2019	29	20	6	0	55	0	0	0	0	0	55	55	0
2020	29	20	6	0	55	0	0	0	0	0	55	55	0
2021	29	20	6	0	55	0	0	0	0	0	56	56	-1
2022	30	20	7	0	57	0	0	0	0	0	57	57	0
2023	30	20	7	0	57	0	0	0	0	0	58	58	-1
2024	31	20	7	0	58	0	0	0	0	0	59	59	-1
2025	31	20	7	0	58	0	0	0	0	0	60	60	-2
2026	31	20	8	0	59	0	0	0	0	0	61	61	-2
2027	32	20	7	0	59	0	0	0	0	0	62	62	-3
2028	0	0	0	0	0	0	0	0	0	0	0	0	0
NOMINAL	686	490	138	0	1314	0	0	0	0	22	1275	1297	17
NPV	210	155	41	0	406	0	0	0	0	0	381	381	25

UTILITY DISCOUNT RATE: 8.53%
BENEFIT/COST RATIO (COL. 5/COL. 12): 1.02

Florida Power Corporation
Docket No. 971005-EG
Witness: M F Jacob
Exhibit No __ (MFJ-3)
Page 20 of 90

INPUT DATA

Base Code: SC-D-08

Measure Name: 2-Speed Motor for Cooling Tower

Vintage: Existing

		Year	Cumulative Participation
Incremental Participant Cost:	$17.00	2000	856
Incremental Annual O&M Cost:	$0.00	2001	1,645
Non-Recurring Incentive per Participant:	$7.40	2002	2,454
Utility Non-Recurring Cost per Participant:	$1.00	2003	3,282
Utility Recurring Cost per Participant:	$0.00	2004	4,130
Annual KWH Reduction:	415	2005	4,998
Peak Winter KW Reduction:	0.074	2006	5,811
Peak Summer KW Reduction:	0.000	2007	6,642
Life of Measure (years):	10	2008	7,492
		2009	8,359

MEASURE or PROGRAM: SCD-8X

PARTICIPANT TEST

YEAR	BENEFITS (1) SAVINGS IN PARTICIPANT'S BILL $(000)	(2) INCENTIVE PAYMENTS $(000)	(3) OTHER PARTICIPANT BENEFITS $(000)	(4) TOTAL BENEFITS $(000)	COSTS (5) PARTICIPANT'S COSTS $(000)	(6) PARTICIPANT'S BILL INCREASE $(000)	(7) TOTAL COSTS $(000)	(8) NET BENEFITS TO PARTICIPANTS $(000)
1999	20	6	0	26	15	0	15	11
2000	38	6	0	44	14	0	14	30
2001	57	6	0	63	15	0	15	48
2002	77	6	0	83	16	0	16	67
2003	98	6	0	104	17	0	17	87
2004	119	6	0	125	18	0	18	107
2005	139	6	0	145	17	0	17	128
2006	160	6	0	166	18	0	18	148
2007	181	6	0	187	19	0	19	168
2008	206	6	0	212	20	0	20	192
2009	209	0	0	209	0	0	0	209
2010	212	0	0	212	0	0	0	212
2011	215	0	0	215	0	0	0	215
2012	219	0	0	219	0	0	0	219
2013	222	0	0	222	0	0	0	222
2014	225	0	0	225	0	0	0	225
2015	229	0	0	229	0	0	0	229
2016	232	0	0	232	0	0	0	232
2017	236	0	0	236	0	0	0	236
2018	240	0	0	240	0	0	0	240
2019	243	0	0	243	0	0	0	243
2020	247	0	0	247	0	0	0	247
2021	251	0	0	251	0	0	0	251
2022	255	0	0	255	0	0	0	255
2023	259	0	0	259	0	0	0	259
2024	263	0	0	263	0	0	0	263
2025	267	0	0	267	0	0	0	267
2026	271	0	0	271	0	0	0	271
2027	275	0	0	275	0	0	0	275
2028	0	0	0	0	0	0	0	0
NOMINAL	5665	60	0	5725	169	0	169	5556
NPV	1688	0	0	1688	0	0	0	1688

UTILITY DISCOUNT RATE: 8.53%

BENEFIT/COST RATIO (COL. 4/COL. 7): 14.92

Florida Power Corporation
Docket No. 971005-EG
Witness: M.F. Jacob
Exhibit No.__ (MFJ-3)
Page 22 of 90

MEASURE or PROGRAM: SCD-8X

TOTAL RESOURCE COST TEST

	BENEFITS					COSTS						
YEAR	(1) TOTAL FUEL & O&M SAVINGS $(000)	(2) AVOIDED T&D CAP. COSTS $(000)	(3) AVOIDED GEN. CAP. COSTS $(000)	(4) OTHER PARTICIPANT BENEFITS $(000)	(5) TOTAL BENEFITS $(000)	(6) PARTICIPANT'S COSTS $(000)	(7) TOTAL FUEL & O&M INCREASE $(000)	(8) INCREASED T&D CAP. COSTS $(000)	(9) INCREASED GEN. CAP. COSTS $(000)	(10) UTILITY PROGRAM COSTS $(000)	(11) TOTAL COSTS $(000)	(12) NET BENEFITS $(000)
1999	11	10	0	0	21	15	0	0	0	1	16	5
2000	24	18	0	0	42	14	0	0	0	1	15	27
2001	26	28	7	0	61	15	0	0	0	1	16	45
2002	41	37	12	0	90	16	0	0	0	1	17	73
2003	56	46	8	0	110	17	0	0	0	1	18	92
2004	61	56	19	0	136	18	0	0	0	1	19	117
2005	89	65	8	0	162	17	0	0	0	1	18	144
2006	89	75	12	0	176	18	0	0	0	1	19	157
2007	103	84	10	0	197	19	0	0	0	1	20	177
2008	114	94	13	0	221	20	0	0	0	1	21	200
2009	116	94	12	0	222	0	0	0	0	0	0	222
2010	117	94	13	0	224	0	0	0	0	0	0	224
2011	119	94	13	0	226	0	0	0	0	0	0	226
2012	119	94	14	0	227	0	0	0	0	0	0	227
2013	121	94	14	0	229	0	0	0	0	0	0	229
2014	121	94	14	0	229	0	0	0	0	0	0	229
2015	124	94	15	0	233	0	0	0	0	0	0	233
2016	124	94	16	0	234	0	0	0	0	0	0	234
2017	126	94	15	0	235	0	0	0	0	0	0	235
2018	126	94	17	0	237	0	0	0	0	0	0	237
2019	128	94	16	0	238	0	0	0	0	0	0	238
2020	129	94	17	0	240	0	0	0	0	0	0	240
2021	132	94	17	0	243	0	0	0	0	0	0	243
2022	132	94	20	0	246	0	0	0	0	0	0	246
2023	135	94	19	0	248	0	0	0	0	0	0	248
2024	135	94	19	0	248	0	0	0	0	0	0	248
2025	138	94	20	0	252	0	0	0	0	0	0	252
2026	139	94	22	0	255	0	0	0	0	0	0	255
2027	141	94	21	0	256	0	0	0	0	0	0	256
2028	0	0	0	0	0	0	0	0	0	0	0	0
NOMINAL	3036	2299	403	0	5738	169	0	0	0	10	179	5559
NPV	920	726	125	0	1771	0	0	0	0	0	0	1771

UTILITY DISCOUNT RATE: 8.53%
BENEFIT/COST RATIO (COL. 5/COL. 11): 14.39

MEASURE or PROGRAM: SCD-8X

RATE IMPACT MEASURE TEST

YEAR	BENEFITS (1) FUEL & O & M SAVINGS $(000)	(2) AVOIDED T&D CAP. COSTS $(000)	(3) AVOIDED GEN. CAP. COSTS $(000)	(4) REVENUE GAINS $(000)	(5) TOTAL BENEFITS $(000)	COSTS (6) FUEL & O & M INCREASE $(000)	(7) INCREASED T&D CAP. COSTS $(000)	(8) INCREASED GEN. CAP. COSTS $(000)	(9) UTILITY PROGRAM COSTS $(000)	(10) INCENTIVE PAYMENTS $(000)	(11) REVENUE LOSSES $(000)	(12) TOTAL COSTS $(000)	(13) NET BENEFITS TO ALL CUSTOMERS $(000)
1999	11	10	0	0	21	0	0	0	1	6	20	27	-6
2000	24	18	0	0	42	0	0	0	1	6	38	45	-3
2001	26	28	7	0	61	0	0	0	1	6	57	64	-3
2002	41	37	12	0	90	0	0	0	1	6	77	84	6
2003	56	46	8	0	110	0	0	0	1	6	98	105	5
2004	61	56	19	0	136	0	0	0	1	6	119	126	10
2005	89	65	8	0	162	0	0	0	1	6	139	146	16
2006	89	75	12	0	176	0	0	0	1	6	160	167	9
2007	103	84	10	0	197	0	0	0	1	6	181	188	9
2008	114	94	13	0	221	0	0	0	1	6	206	213	8
2009	116	94	12	0	222	0	0	0	0	0	209	209	13
2010	117	94	13	0	224	0	0	0	0	0	212	212	12
2011	119	94	13	0	226	0	0	0	0	0	215	215	11
2012	119	94	14	0	227	0	0	0	0	0	219	219	8
2013	121	94	14	0	229	0	0	0	0	0	222	222	7
2014	121	94	14	0	229	0	0	0	0	0	225	225	4
2015	124	94	15	0	233	0	0	0	0	0	229	229	4
2016	124	94	16	0	234	0	0	0	0	0	232	232	2
2017	126	94	15	0	235	0	0	0	0	0	236	236	-1
2018	126	94	17	0	237	0	0	0	0	0	240	240	-3
2019	128	94	16	0	238	0	0	0	0	0	243	243	-5
2020	129	94	17	0	240	0	0	0	0	0	247	247	-7
2021	132	94	17	0	243	0	0	0	0	0	251	251	-8
2022	132	94	20	0	246	0	0	0	0	0	255	255	-9
2023	135	94	19	0	248	0	0	0	0	0	259	259	-11
2024	135	94	19	0	248	0	0	0	0	0	263	263	-15
2025	138	94	20	0	252	0	0	0	0	0	267	267	-15
2026	139	94	22	0	255	0	0	0	0	0	271	271	-16
2027	141	94	21	0	256	0	0	0	0	0	275	275	-19
2028	0	0	0	0	0	0	0	0	0	0	0	0	0
NOMINAL	3036	2299	403	0	5738	0	0	0	10	60	5665	5735	3
NPV	920	726	125	0	1771	0	0	0	0	0	1688	1688	84

UTILITY DISCOUNT RATE: 8.53%
BENEFIT/COST RATIO (COL. 5/COL. 12): 1.02

Florida Power Corporation
Docket No. 971005-EG
Witness: M.F. Jacob
Exhibit No.__ (MFJ-3)
Page 24 of 90

INPUT DATA

Base Code: SC-D-09

Measure Name: Speed Control for Cooling Tower

Vintage: Existing

		Year	Cumulative Participation
Incremental Participant Cost:	$74.00	2000	826
Incremental Annual O&M Cost:	$0.00	2001	1,541
Non-Recurring Incentive per Participant:	$9.26	2002	2,273
Utility Non-Recurring Cost per Participant:	$1.00	2003	3,024
Utility Recurring Cost per Participant:	$0.00	2004	3,793
Annual KWH Reduction:	259	2005	4,580
Peak Winter KW Reduction:	0.093	2006	5,285
Peak Summer KW Reduction:	0.090	2007	6,005
Life of Measure (years):	10	2008	6,741
		2009	7,494

MEASURE or PROGRAM: SCD-9X

PARTICIPANT TEST

	BENEFITS				COSTS			
YEAR	(1) SAVINGS IN PARTICIPANT'S BILL $(000)	(2) INCENTIVE PAYMENTS $(000)	(3) OTHER PARTICIPANT BENEFITS $(000)	(4) TOTAL BENEFITS $(000)	(5) PARTICIPANT'S COSTS $(000)	(6) PARTICIPANT'S BILL INCREASE $(000)	(7) TOTAL COSTS $(000)	(8) NET BENEFITS TO PARTICIPANTS $(000)
1999	12	8	0	20	63	0	63	-43
2000	22	7	0	29	56	0	56	-27
2001	33	7	0	40	59	0	59	-19
2002	44	7	0	51	63	0	63	-12
2003	56	7	0	63	66	0	66	-3
2004	68	7	0	75	70	0	70	5
2005	79	7	0	86	65	0	65	21
2006	90	7	0	97	68	0	68	29
2007	102	7	0	109	72	0	72	37
2008	115	7	0	122	76	0	76	46
2009	117	0	0	117	0	0	0	117
2010	119	0	0	119	0	0	0	119
2011	120	0	0	120	0	0	0	120
2012	122	0	0	122	0	0	0	122
2013	124	0	0	124	0	0	0	124
2014	126	0	0	126	0	0	0	126
2015	128	0	0	128	0	0	0	128
2016	130	0	0	130	0	0	0	130
2017	132	0	0	132	0	0	0	132
2018	134	0	0	134	0	0	0	134
2019	136	0	0	136	0	0	0	136
2020	138	0	0	138	0	0	0	138
2021	140	0	0	140	0	0	0	140
2022	143	0	0	143	0	0	0	143
2023	145	0	0	145	0	0	0	145
2024	147	0	0	147	0	0	0	147
2025	149	0	0	149	0	0	0	149
2026	152	0	0	152	0	0	0	152
2027	154	0	0	154	0	0	0	154
2028	0	0	0	0	0	0	0	0
NOMINAL	3177	71	0	3248	658	0	658	2590
NPV	949	0	0	949	0	0	0	949

UTILITY DISCOUNT RATE: 8.53%

BENEFIT/COST RATIO (COL. 4/COL. 7): 2.20

Florida Power Corporation
Docket No. 971005-EG
Witness: M.F. Jacob
Exhibit No.__ (MFJ-3)
Page 26 of 90

MEASURE or PROGRAM: SCD-9X

TOTAL RESOURCE COST TEST

YEAR	BENEFITS (1) TOTAL FUEL & O&M SAVINGS $(000)	(2) AVOIDED T&D CAP. COSTS $(000)	(3) AVOIDED GEN. CAP. COSTS $(000)	(4) OTHER PARTICIPANT BENEFITS $(000)	(5) TOTAL BENEFITS $(000)	COSTS (6) PARTICIPANT'S COSTS $(000)	(7) TOTAL FUEL & O&M INCREASE $(000)	(8) INCREASED T&D CAP. COSTS $(000)	(9) INCREASED GEN. CAP. COSTS $(000)	(10) UTILITY PROGRAM COSTS $(000)	(11) TOTAL COSTS $(000)	(12) NET BENEFITS $(000)
1999	7	6	0	0	13	63	0	0	0	1	64	-51
2000	14	11	0	0	25	56	0	0	0	1	57	-32
2001	15	16	5	0	36	59	0	0	0	1	60	-24
2002	24	22	7	0	53	63	0	0	0	1	64	-11
2003	32	27	5	0	64	66	0	0	0	1	67	-3
2004	32	33	11	0	76	70	0	0	0	1	71	5
2005	53	38	6	0	97	65	0	0	0	1	66	31
2006	50	43	7	0	100	68	0	0	0	1	69	31
2007	58	48	7	0	113	72	0	0	0	1	73	40
2008	64	54	9	0	127	76	0	0	0	1	77	50
2009	65	54	8	0	127	0	0	0	0	0	0	127
2010	66	54	8	0	128	0	0	0	0	0	0	128
2011	67	54	9	0	130	0	0	0	0	0	0	130
2012	67	54	10	0	131	0	0	0	0	0	0	131
2013	68	54	9	0	131	0	0	0	0	0	0	131
2014	68	54	10	0	132	0	0	0	0	0	0	132
2015	69	54	10	0	133	0	0	0	0	0	0	133
2016	70	54	11	0	135	0	0	0	0	0	0	135
2017	71	54	10	0	135	0	0	0	0	0	0	135
2018	71	54	11	0	136	0	0	0	0	0	0	136
2019	72	54	11	0	137	0	0	0	0	0	0	137
2020	72	54	11	0	137	0	0	0	0	0	0	137
2021	74	54	12	0	140	0	0	0	0	0	0	140
2022	74	54	12	0	140	0	0	0	0	0	0	140
2023	76	54	12	0	142	0	0	0	0	0	0	142
2024	76	54	13	0	143	0	0	0	0	0	0	143
2025	77	54	13	0	144	0	0	0	0	0	0	144
2026	78	54	14	0	146	0	0	0	0	0	0	146
2027	80	54	14	0	148	0	0	0	0	0	0	148
2028	0	0	0	0	0	0	0	0	0	0	0	0
NOMINAL	1710	1324	265	0	3299	658	0	0	0	10	668	2631
NPV	519	420	81	0	1020	0	0	0	0	0	0	1020

UTILITY DISCOUNT RATE: 8.53%

BENEFIT/COST RATIO (COL. 5/COL. 11): 2.21

MEASURE or PROGRAM: SCD-9X

RATE IMPACT MEASURE TEST

	BENEFITS					COSTS							
YEAR	(1) FUEL & O & M SAVINGS $(000)	(2) AVOIDED T&D CAP. COSTS $(000)	(3) AVOIDED GEN. CAP. COSTS $(000)	(4) REVENUE GAINS $(000)	(5) TOTAL BENEFITS $(000)	(6) FUEL & O & M INCREASE $(000)	(7) INCREASED T&D CAP. COSTS $(000)	(8) INCREASED GEN. CAP. COSTS $(000)	(9) UTILITY PROGRAM COSTS $(000)	(10) INCENTIVE PAYMENTS $(000)	(11) REVENUE LOSSES $(000)	(12) TOTAL COSTS $(000)	(13) NET BENEFITS TO ALL CUSTOMERS $(000)
1999	7	6	0	0	13	0	0	0	1	8	12	21	-8
2000	14	11	0	0	25	0	0	0	1	7	22	30	-5
2001	15	16	5	0	36	0	0	0	1	7	33	41	-5
2002	24	22	7	0	53	0	0	0	1	7	44	52	1
2003	32	27	5	0	64	0	0	0	1	7	56	64	0
2004	32	33	11	0	76	0	0	0	1	7	68	76	0
2005	53	38	6	0	97	0	0	0	1	7	79	87	10
2006	50	43	7	0	100	0	0	0	1	7	90	98	2
2007	58	48	7	0	113	0	0	0	1	7	102	110	3
2008	64	54	9	0	127	0	0	0	1	7	115	123	4
2009	65	54	8	0	127	0	0	0	0	0	117	117	10
2010	66	54	8	0	128	0	0	0	0	0	119	119	9
2011	67	54	9	0	130	0	0	0	0	0	120	120	10
2012	67	54	10	0	131	0	0	0	0	0	122	122	9
2013	68	54	9	0	131	0	0	0	0	0	124	124	7
2014	68	54	10	0	132	0	0	0	0	0	126	126	6
2015	69	54	10	0	133	0	0	0	0	0	128	128	5
2016	70	54	11	0	135	0	0	0	0	0	130	130	5
2017	71	54	10	0	135	0	0	0	0	0	132	132	3
2018	71	54	11	0	136	0	0	0	0	0	134	134	2
2019	72	54	11	0	137	0	0	0	0	0	136	136	1
2020	72	54	11	0	137	0	0	0	0	0	138	138	-1
2021	74	54	12	0	140	0	0	0	0	0	140	140	0
2022	74	54	12	0	140	0	0	0	0	0	143	143	-3
2023	76	54	12	0	142	0	0	0	0	0	145	145	-3
2024	76	54	13	0	143	0	0	0	0	0	147	147	-4
2025	77	54	13	0	144	0	0	0	0	0	149	149	-5
2026	78	54	14	0	146	0	0	0	0	0	152	152	-6
2027	80	54	14	0	148	0	0	0	0	0	154	154	-6
2028	0	0	0	0	0	0	0	0	0	0	0	0	0
NOMINAL	1710	1324	265	0	3299	0	0	0	10	71	3177	3258	41
NPV	519	420	81	0	1020	0	0	0	0	0	949	949	71

UTILITY DISCOUNT RATE: 8.53%
BENEFIT/COST RATIO (COL. 5/COL. 12): 1.01

INPUT DATA

Base Code: SC-D-22

Measure Name: Window Film (Chiller)

Vintage: New

Incremental Participant Cost:	$231.00
Incremental Annual O&M Cost:	$0.00
Non-Recurring Incentive per Participant:	$11.00
Utility Non-Recurring Cost per Participant:	$2.00
Utility Recurring Cost per Participant:	$0.00
Annual KWH Reduction:	651
Peak Winter KW Reduction:	0.110
Peak Summer KW Reduction:	0.092
Life of Measure (years):	10

Year	Cumulative Participation
2000	50
2001	96
2002	143
2003	191
2004	241
2005	291
2006	338
2007	386
2008	435
2009	485

MEASURE or PROGRAM: SCD-22N

PARTICIPANT TEST

	BENEFITS				COSTS			
YEAR	(1) SAVINGS IN PARTICIPANT'S BILL $(000)	(2) INCENTIVE PAYMENTS $(000)	(3) OTHER PARTICIPANT BENEFITS $(000)	(4) TOTAL BENEFITS $(000)	(5) PARTICIPANT'S COSTS $(000)	(6) PARTICIPANT'S BILL INCREASE $(000)	(7) TOTAL COSTS $(000)	(8) NET BENEFITS TO PARTICIPANTS $(000)
1999	2	1	0	3	12	0	12	-9
2000	4	1	0	5	11	0	11	-6
2001	5	1	0	6	12	0	12	-6
2002	7	1	0	8	13	0	13	-5
2003	9	1	0	10	13	0	13	-3
2004	11	1	0	12	14	0	14	-2
2005	13	1	0	14	13	0	13	1
2006	15	1	0	16	14	0	14	2
2007	17	1	0	18	15	0	15	3
2008	19	1	0	20	16	0	16	4
2009	19	0	0	19	0	0	0	19
2010	19	0	0	19	0	0	0	19
2011	20	0	0	20	0	0	0	20
2012	20	0	0	20	0	0	0	20
2013	20	0	0	20	0	0	0	20
2014	21	0	0	21	0	0	0	21
2015	21	0	0	21	0	0	0	21
2016	21	0	0	21	0	0	0	21
2017	21	0	0	21	0	0	0	21
2018	22	0	0	22	0	0	0	22
2019	22	0	0	22	0	0	0	22
2020	22	0	0	22	0	0	0	22
2021	23	0	0	23	0	0	0	23
2022	23	0	0	23	0	0	0	23
2023	24	0	0	24	0	0	0	24
2024	24	0	0	24	0	0	0	24
2025	24	0	0	24	0	0	0	24
2026	25	0	0	25	0	0	0	25
2027	25	0	0	25	0	0	0	25
2028	0	0	0	0	0	0	0	0
NOMINAL	518	10	0	528	133	0	133	395
NPV	155	0	0	155	0	0	0	155

UTILITY DISCOUNT RATE: 8.53%
BENEFIT/COST RATIO (COL. 4/COL. 7): 1.72

MEASURE or PROGRAM: SCD-22N

TOTAL RESOURCE COST TEST

	BENEFITS					COSTS						
YEAR	(1) TOTAL FUEL & O&M SAVINGS $(000)	(2) AVOIDED T&D CAP. COSTS $(000)	(3) AVOIDED GEN. CAP. COSTS $(000)	(4) OTHER PARTICIPANT BENEFITS $(000)	(5) TOTAL BENEFITS $(000)	(6) PARTICIPANT'S COSTS $(000)	(7) TOTAL FUEL & O&M INCREASE $(000)	(8) INCREASED T&D CAP. COSTS $(000)	(9) INCREASED GEN. CAP. COSTS $(000)	(10) UTILITY PROGRAM COSTS $(000)	(11) TOTAL COSTS $(000)	(12) NET BENEFITS $(000)
1999	1	1	0	0	2	12	0	0	0	0	12	-10
2000	2	2	0	0	4	11	0	0	0	0	11	-7
2001	2	2	1	0	5	12	0	0	0	0	12	-7
2002	4	3	1	0	8	13	0	0	0	0	13	-5
2003	5	4	1	0	10	13	0	0	0	0	13	-3
2004	7	5	2	0	14	14	0	0	0	0	14	0
2005	8	6	1	0	15	13	0	0	0	0	13	2
2006	8	6	1	0	15	14	0	0	0	0	14	1
2007	9	7	2	0	18	15	0	0	0	0	15	3
2008	10	8	1	0	19	16	0	0	0	0	16	3
2009	10	8	1	0	19	0	0	0	0	0	0	19
2010	11	8	1	0	20	0	0	0	0	0	0	20
2011	11	8	1	0	20	0	0	0	0	0	0	20
2012	11	8	1	0	20	0	0	0	0	0	0	20
2013	11	8	1	0	20	0	0	0	0	0	0	20
2014	11	8	1	0	20	0	0	0	0	0	0	20
2015	11	8	1	0	20	0	0	0	0	0	0	20
2016	11	8	1	0	20	0	0	0	0	0	0	20
2017	12	8	1	0	21	0	0	0	0	0	0	21
2018	11	8	1	0	20	0	0	0	0	0	0	20
2019	12	8	1	0	21	0	0	0	0	0	0	21
2020	12	8	1	0	21	0	0	0	0	0	0	21
2021	12	8	2	0	22	0	0	0	0	0	0	22
2022	12	8	2	0	22	0	0	0	0	0	0	22
2023	12	8	2	0	22	0	0	0	0	0	0	22
2024	12	8	1	0	21	0	0	0	0	0	0	21
2025	12	8	2	0	22	0	0	0	0	0	0	22
2026	12	8	2	0	22	0	0	0	0	0	0	22
2027	13	8	2	0	23	0	0	0	0	0	0	23
2028	0	0	0	0	0	0	0	0	0	0	0	0
NOMINAL	275	196	35	0	506	133	0	0	0	0	133	373
NPV	84	62	12	0	157	0	0	0	0	0	0	157

UTILITY DISCOUNT RATE: 8.53%
BENEFIT/COST RATIO (COL. 5/COL. 11): 1.72

MEASURE or PROGRAM: SCD-22N

RATE IMPACT MEASURE TEST

	BENEFITS					COSTS							
YEAR	(1) FUEL & O & M SAVINGS $(000)	(2) AVOIDED T&D CAP. COSTS $(000)	(3) AVOIDED GEN. CAP. COSTS $(000)	(4) REVENUE GAINS $(000)	(5) TOTAL BENEFITS $(000)	(6) FUEL & O & M INCREASE $(000)	(7) INCREASED T&D CAP. COSTS $(000)	(8) INCREASED GEN. CAP. COSTS $(000)	(9) UTILITY PROGRAM COSTS $(000)	(10) INCENTIVE PAYMENTS $(000)	(11) REVENUE LOSSES $(000)	(12) TOTAL COSTS $(000)	(13) NET BENEFITS TO ALL CUSTOMERS $(000)
1999	1	1	0	0	2	0	0	0	0	1	2	3	-1
2000	2	2	0	0	4	0	0	0	0	1	4	5	-1
2001	2	2	1	0	5	0	0	0	0	1	5	6	-1
2002	4	3	1	0	8	0	0	0	0	1	7	8	0
2003	5	4	1	0	10	0	0	0	0	1	9	10	0
2004	7	5	2	0	14	0	0	0	0	1	11	12	2
2005	8	6	1	0	15	0	0	0	0	1	13	14	1
2006	8	6	1	0	15	0	0	0	0	1	15	16	-1
2007	9	7	2	0	18	0	0	0	0	1	17	18	0
2008	10	8	1	0	19	0	0	0	0	1	19	20	-1
2009	10	8	1	0	19	0	0	0	0	0	19	19	0
2010	11	8	1	0	20	0	0	0	0	0	19	19	1
2011	11	8	1	0	20	0	0	0	0	0	20	20	0
2012	11	8	1	0	20	0	0	0	0	0	20	20	0
2013	11	8	1	0	20	0	0	0	0	0	20	20	0
2014	11	8	1	0	20	0	0	0	0	0	21	21	-1
2015	11	8	1	0	20	0	0	0	0	0	21	21	-1
2016	11	8	1	0	20	0	0	0	0	0	21	21	-1
2017	12	8	1	0	21	0	0	0	0	0	21	21	0
2018	11	8	1	0	20	0	0	0	0	0	22	22	-2
2019	12	8	1	0	21	0	0	0	0	0	22	22	-1
2020	12	8	1	0	21	0	0	0	0	0	22	22	-1
2021	12	8	2	0	22	0	0	0	0	0	23	23	-1
2022	12	8	2	0	22	0	0	0	0	0	23	23	-1
2023	12	8	2	0	22	0	0	0	0	0	24	24	-2
2024	12	8	1	0	21	0	0	0	0	0	24	24	-3
2025	12	8	2	0	22	0	0	0	0	0	24	24	-2
2026	12	8	2	0	22	0	0	0	0	0	25	25	-3
2027	13	8	2	0	23	0	0	0	0	0	25	25	-2
2028	0	0	0	0	0	0	0	0	0	0	0	0	0
NOMINAL	275	196	35	0	506	0	0	0	0	10	518	528	-22
NPV	84	62	12	0	157	0	0	0	0	0	155	155	2

UTILITY DISCOUNT RATE: 8.53%
BENEFIT/COST RATIO (COL. 5/COL. 12): 1.00

INPUT DATA

Base Code: SC-D-22

Measure Name: Window Film (Chiller)

Vintage: Existing

		Year	Cumulative Participation
Incremental Participant Cost:	$251.00	2000	100
Incremental Annual O&M Cost:	$0.00	2001	187
Non-Recurring Incentive per Participant:	$26.00	2002	275
Utility Non-Recurring Cost per Participant:	$10.00	2003	366
Utility Recurring Cost per Participant:	$0.00	2004	459
Annual KWH Reduction:	852	2005	554
Peak Winter KW Reduction:	0.260	2006	640
Peak Summer KW Reduction:	0.200	2007	727
Life of Measure (years):	10	2008	816
		2009	907

MEASURE or PROGRAM: SCD-22X

PARTICIPANT TEST

	BENEFITS				COSTS			
YEAR	(1) SAVINGS IN PARTICIPANT'S BILL $(000)	(2) INCENTIVE PAYMENTS $(000)	(3) OTHER PARTICIPANT BENEFITS $(000)	(4) TOTAL BENEFITS $(000)	(5) PARTICIPANT'S COSTS $(000)	(6) PARTICIPANT'S BILL INCREASE $(000)	(7) TOTAL COSTS $(000)	(8) NET BENEFITS TO PARTICIPANTS $(000)
1999	5	3	0	8	26	0	26	-18
2000	9	2	0	11	23	0	23	-12
2001	13	2	0	15	24	0	24	-9
2002	18	2	0	20	26	0	26	-6
2003	22	2	0	24	27	0	27	-3
2004	27	2	0	29	29	0	29	0
2005	31	2	0	33	27	0	27	6
2006	36	2	0	38	28	0	28	10
2007	41	2	0	43	29	0	29	14
2008	46	2	0	48	31	0	31	17
2009	46	0	0	46	0	0	0	46
2010	47	0	0	47	0	0	0	47
2011	48	0	0	48	0	0	0	48
2012	49	0	0	49	0	0	0	49
2013	49	0	0	49	0	0	0	49
2014	50	0	0	50	0	0	0	50
2015	51	0	0	51	0	0	0	51
2016	52	0	0	52	0	0	0	52
2017	53	0	0	53	0	0	0	53
2018	53	0	0	53	0	0	0	53
2019	54	0	0	54	0	0	0	54
2020	55	0	0	55	0	0	0	55
2021	56	0	0	56	0	0	0	56
2022	57	0	0	57	0	0	0	57
2023	58	0	0	58	0	0	0	58
2024	59	0	0	59	0	0	0	59
2025	59	0	0	59	0	0	0	59
2026	60	0	0	60	0	0	0	60
2027	61	0	0	61	0	0	0	61
2028	0	0	0	0	0	0	0	0
NOMINAL	1265	21	0	1286	270	0	270	1016
NPV	378	0	0	378	0	0	0	378

UTILITY DISCOUNT RATE: 8.53%
BENEFIT/COST RATIO (COL. 4/COL. 7): 2.12

Florida Power Corporation
Docket No. 971005-EG
Witness: M.F. Jacob
Exhibit No.__ (MFJ-3)
Page 34 of 90

MEASURE or PROGRAM: SCD-22X

TOTAL RESOURCE COST TEST

	BENEFITS					COSTS						
YEAR	(1) TOTAL FUEL & O&M SAVINGS $(000)	(2) AVOIDED T&D CAP. COSTS $(000)	(3) AVOIDED GEN. CAP. COSTS $(000)	(4) OTHER PARTICIPANT BENEFITS $(000)	(5) TOTAL BENEFITS $(000)	(6) PARTICIPANT'S COSTS $(000)	(7) TOTAL FUEL & O&M INCREASE $(000)	(8) INCREASED T&D CAP. COSTS $(000)	(9) INCREASED GEN. CAP. COSTS $(000)	(10) UTILITY PROGRAM COSTS $(000)	(11) TOTAL COSTS $(000)	(12) NET BENEFITS $(000)
1999	3	2	0	0	5	26	0	0	0	1	27	-22
2000	6	4	0	0	10	23	0	0	0	1	24	-14
2001	6	6	2	0	14	24	0	0	0	1	25	-11
2002	9	9	3	0	21	26	0	0	0	1	27	-6
2003	13	11	2	0	26	27	0	0	0	1	28	-2
2004	16	13	4	0	33	29	0	0	0	1	30	3
2005	21	15	2	0	38	27	0	0	0	1	28	10
2006	20	17	3	0	40	28	0	0	0	1	29	11
2007	23	19	2	0	44	29	0	0	0	1	30	14
2008	25	21	3	0	49	31	0	0	0	1	32	17
2009	26	21	3	0	50	0	0	0	0	0	0	50
2010	26	21	3	0	50	0	0	0	0	0	0	50
2011	27	21	3	0	51	0	0	0	0	0	0	51
2012	27	21	3	0	51	0	0	0	0	0	0	51
2013	27	21	3	0	51	0	0	0	0	0	0	51
2014	27	21	4	0	52	0	0	0	0	0	0	52
2015	28	21	4	0	53	0	0	0	0	0	0	53
2016	28	21	4	0	53	0	0	0	0	0	0	53
2017	28	21	4	0	53	0	0	0	0	0	0	53
2018	28	21	4	0	53	0	0	0	0	0	0	53
2019	29	21	4	0	54	0	0	0	0	0	0	54
2020	29	21	4	0	54	0	0	0	0	0	0	54
2021	30	21	4	0	55	0	0	0	0	0	0	55
2022	30	21	5	0	56	0	0	0	0	0	0	56
2023	30	21	5	0	56	0	0	0	0	0	0	56
2024	30	21	5	0	56	0	0	0	0	0	0	56
2025	31	21	5	0	57	0	0	0	0	0	0	57
2026	31	21	5	0	57	0	0	0	0	0	0	57
2027	32	21	5	0	58	0	0	0	0	0	0	58
2028	0	0	0	0	0	0	0	0	0	0	0	0
NOMINAL	686	516	98	0	1300	270	0	0	0	10	280	1020
NPV	209	164	30	0	403	0	0	0	0	0	0	403

UTILITY DISCOUNT RATE: 8.53%

BENEFIT/COST RATIO (COL. 5/COL. 11): 2.10

MEASURE or PROGRAM: SCD-22X

RATE IMPACT MEASURE TEST

YEAR	BENEFITS (1) FUEL & O & M SAVINGS $(000)	(2) AVOIDED T&D CAP. COSTS $(000)	(3) AVOIDED GEN. CAP. COSTS $(000)	(4) REVENUE GAINS $(000)	(5) TOTAL BENEFITS $(000)	COSTS (6) FUEL & O & M INCREASE $(000)	(7) INCREASED T&D CAP. COSTS $(000)	(8) INCREASED GEN. CAP. COSTS $(000)	(9) UTILITY PROGRAM COSTS $(000)	(10) INCENTIVE PAYMENTS $(000)	(11) REVENUE LOSSES $(000)	(12) TOTAL COSTS $(000)	(13) NET BENEFITS TO ALL CUSTOMERS $(000)
1999	3	2	0	0	5	0	0	0	1	3	5	9	-4
2000	6	4	0	0	10	0	0	0	1	2	9	12	-2
2001	6	6	2	0	14	0	0	0	1	2	13	16	-2
2002	9	9	3	0	21	0	0	0	1	2	18	21	0
2003	13	11	2	0	26	0	0	0	1	2	22	25	1
2004	16	13	4	0	33	0	0	0	1	2	27	30	3
2005	21	15	2	0	38	0	0	0	1	2	31	34	4
2006	20	17	3	0	40	0	0	0	1	2	36	39	1
2007	23	19	2	0	44	0	0	0	1	2	41	44	0
2008	25	21	3	0	49	0	0	0	1	2	46	49	0
2009	26	21	3	0	50	0	0	0	0	0	46	46	4
2010	26	21	3	0	50	0	0	0	0	0	47	47	3
2011	27	21	3	0	51	0	0	0	0	0	48	48	3
2012	27	21	3	0	51	0	0	0	0	0	49	49	2
2013	27	21	3	0	51	0	0	0	0	0	49	49	2
2014	27	21	4	0	52	0	0	0	0	0	50	50	2
2015	28	21	4	0	53	0	0	0	0	0	51	51	2
2016	28	21	4	0	53	0	0	0	0	0	52	52	1
2017	28	21	4	0	53	0	0	0	0	0	53	53	0
2018	28	21	4	0	53	0	0	0	0	0	53	53	0
2019	29	21	4	0	54	0	0	0	0	0	54	54	0
2020	29	21	4	0	54	0	0	0	0	0	55	55	-1
2021	30	21	4	0	55	0	0	0	0	0	56	56	-1
2022	30	21	5	0	56	0	0	0	0	0	57	57	-1
2023	30	21	5	0	56	0	0	0	0	0	58	58	-2
2024	30	21	5	0	56	0	0	0	0	0	59	59	-3
2025	31	21	5	0	57	0	0	0	0	0	59	59	-2
2026	31	21	5	0	57	0	0	0	0	0	60	60	-3
2027	32	21	5	0	58	0	0	0	0	0	61	61	-3
2028	0	0	0	0	0	0	0	0	0	0	0	0	0
NOMINAL	686	516	98	0	1300	0	0	0	10	21	1265	1296	4
NPV	209	164	30	0	403	0	0	0	0	0	378	378	25

UTILITY DISCOUNT RATE: 8.53%
BENEFIT/COST RATIO (COL. 5/COL. 12): 1.01

Florida Power Corporation
Docket No. 971005-EG
Witness: M.F. Jacob
Exhibit No.__ (MFJ-3)
Page 36 of 90

INPUT DATA

Base Code: N/A

Measure Name: Standby Generation

Vintage: Existing

		Year	Cumulative Participation
Incremental Participant Cost:	$0.00	2000	5
Utility Annual O&M Cost:	$10,000.00	2001	10
Recurring Incentive per Participant:	$14,900.00	2002	15
Utility Non-Recurring Cost per Participant:	$0.00	2003	20
Utility Recurring Cost per Participant:	$0.00	2004	25
Annual KWH Reduction:	6000	2005	30
Peak Winter KW Reduction:	600.000	2006	35
Peak Summer KW Reduction:	600.000	2007	40
Life of Measure (years):	20	2008	45
		2009	50

MEASURE or PROGRAM: STNDBY

PARTICIPANT TEST

YEAR	BENEFITS (1) SAVINGS IN PARTICIPANT'S BILL $(000)	BENEFITS (2) INCENTIVE PAYMENTS $(000)	BENEFITS (3) OTHER PARTICIPANT BENEFITS $(000)	BENEFITS (4) TOTAL BENEFITS $(000)	COSTS (5) PARTICIPANT'S COSTS $(000)	COSTS (6) PARTICIPANT'S BILL INCREASE $(000)	COSTS (7) TOTAL COSTS $(000)	(8) NET BENEFITS TO PARTICIPANTS $(000)
1999	2	75	0	77	0	0	0	77
2000	5	149	0	154	0	0	0	154
2001	6	224	0	230	0	0	0	230
2002	6	298	0	304	0	0	0	304
2003	13	373	0	386	0	0	0	386
2004	12	447	0	459	0	0	0	459
2005	20	522	0	542	0	0	0	542
2006	22	596	0	618	0	0	0	618
2007	19	671	0	690	0	0	0	690
2008	39	745	0	784	0	0	0	784
2009	18	745	0	763	0	0	0	763
2010	40	745	0	785	0	0	0	785
2011	18	745	0	763	0	0	0	763
2012	38	745	0	783	0	0	0	783
2013	19	745	0	764	0	0	0	764
2014	37	745	0	782	0	0	0	782
2015	45	745	0	790	0	0	0	790
2016	38	745	0	783	0	0	0	783
2017	46	745	0	791	0	0	0	791
2018	39	745	0	784	0	0	0	784
2019	48	745	0	793	0	0	0	793
2020	38	745	0	783	0	0	0	783
2021	45	745	0	790	0	0	0	790
2022	35	745	0	780	0	0	0	780
2023	40	745	0	785	0	0	0	785
2024	36	745	0	781	0	0	0	781
2025	45	745	0	790	0	0	0	790
2026	33	745	0	778	0	0	0	778
2027	35	745	0	780	0	0	0	780
2028	0	0	0	0	0	0	0	0
NOMINAL	837	18255	0	19092	0	0	0	19092
NPV	238	0	0	238	0	0	0	238

UTILITY DISCOUNT RATE: 8.53%

BENEFIT/COST RATIO (COL. 4/COL. 7): 9999.00

MEASURE or PROGRAM: STNDBY

TOTAL RESOURCE COST TEST

	BENEFITS					COSTS						
YEAR	(1) TOTAL FUEL & O&M SAVINGS $(000)	(2) AVOIDED T&D CAP. COSTS $(000)	(3) AVOIDED GEN. CAP. COSTS $(000)	(4) OTHER PARTICIPANT BENEFITS $(000)	(5) TOTAL BENEFITS $(000)	(6) PARTICIPANT'S COSTS $(000)	(7) TOTAL FUEL & O&M INCREASE $(000)	(8) INCREASED T&D CAP. COSTS $(000)	(9) INCREASED GEN. CAP. COSTS $(000)	(10) UTILITY PROGRAM COSTS $(000)	(11) TOTAL COSTS $(000)	(12) NET BENEFITS $(000)
1999	2	25	0	0	27	0	0	0	0	10	10	17
2000	6	50	0	0	56	0	0	0	0	10	10	46
2001	0	75	148	0	223	0	127	0	0	10	137	86
2002	0	100	159	0	259	0	141	0	0	10	151	108
2003	0	125	286	0	411	0	198	0	0	10	208	203
2004	0	150	265	0	415	0	29	0	0	10	39	376
2005	0	175	344	0	519	0	96	0	0	10	106	413
2006	0	200	314	0	514	0	46	0	0	10	56	458
2007	0	225	365	0	590	0	43	0	0	10	53	537
2008	0	250	660	0	910	0	73	0	0	10	83	827
2009	0	250	678	0	928	0	66	0	0	10	76	852
2010	0	250	703	0	953	0	55	0	0	10	65	888
2011	0	250	722	0	972	0	76	0	0	10	86	886
2012	0	250	746	0	996	0	67	0	0	10	77	919
2013	0	250	766	0	1016	0	52	0	0	10	62	954
2014	0	250	794	0	1044	0	62	0	0	10	72	972
2015	0	250	816	0	1066	0	44	0	0	10	54	1012
2016	0	250	843	0	1093	0	44	0	0	10	54	1039
2017	10	250	633	0	893	0	0	0	0	10	10	883
2018	0	250	897	0	1147	0	41	0	0	10	51	1096
2019	0	250	644	0	894	0	9	0	0	10	19	875
2020	0	250	952	0	1202	0	33	0	0	10	43	1159
2021	13	250	716	0	979	0	0	0	0	10	10	969
2022	0	250	1014	0	1264	0	26	0	0	10	36	1228
2023	0	250	727	0	977	0	2	0	0	10	12	965
2024	0	250	1076	0	1326	0	16	0	0	10	26	1300
2025	28	250	809	0	1087	0	0	0	0	10	10	1077
2026	0	250	1146	0	1396	0	9	0	0	10	19	1377
2027	11	250	822	0	1083	0	0	0	0	10	10	1073
2028	0	0	0	0	0	0	0	0	0	0	0	0
NOMINAL	70	6125	18045	0	24240	0	1355	0	0	290	1645	22595
NPV	14	1941	4993	0	6948	0	706	0	0	0	706	6242

UTILITY DISCOUNT RATE: 8.53%

BENEFIT/COST RATIO (COL. 5/COL. 11): 8.49

Florida Power Corporation
Docket No. 971005-EG
Witness: M.F. Jacob
Exhibit No.__ (MFJ-3)
Page 39 of 90

MEASURE or PROGRAM: STNDBY

RATE IMPACT MEASURE TEST

	BENEFITS					COSTS							
YEAR	(1) FUEL & O & M SAVINGS $(000)	(2) AVOIDED T&D CAP. COSTS $(000)	(3) AVOIDED GEN. CAP. COSTS $(000)	(4) REVENUE GAINS $(000)	(5) TOTAL BENEFITS $(000)	(6) FUEL & O & M INCREASE $(000)	(7) INCREASED T&D CAP. COSTS $(000)	(8) INCREASED GEN. CAP. COSTS $(000)	(9) UTILITY PROGRAM COSTS $(000)	(10) INCENTIVE PAYMENTS $(000)	(11) REVENUE LOSSES $(000)	(12) TOTAL COSTS $(000)	(13) NET BENEFITS TO ALL CUSTOMERS $(000)
1999	2	25	0	0	27	0	0	0	10	75	2	87	-60
2000	6	50	0	0	56	0	0	0	10	149	5	164	-108
2001	0	75	148	0	223	127	0	0	10	224	6	367	-144
2002	0	100	159	0	259	141	0	0	10	298	6	455	-196
2003	0	125	286	0	411	198	0	0	10	373	13	594	-183
2004	0	150	265	0	415	29	0	0	10	447	12	498	-83
2005	0	175	344	0	519	96	0	0	10	522	20	648	-129
2006	0	200	314	0	514	46	0	0	10	596	22	674	-160
2007	0	225	365	0	590	43	0	0	10	671	19	743	-153
2008	0	250	660	0	910	73	0	0	10	745	39	867	43
2009	0	250	678	0	928	66	0	0	10	745	18	839	89
2010	0	250	703	0	953	55	0	0	10	745	40	850	103
2011	0	250	722	0	972	76	0	0	10	745	18	849	123
2012	0	250	746	0	996	67	0	0	10	745	38	860	136
2013	0	250	766	0	1016	52	0	0	10	745	19	826	190
2014	0	250	794	0	1044	62	0	0	10	745	37	854	190
2015	0	250	816	0	1066	44	0	0	10	745	45	844	222
2016	0	250	843	0	1093	44	0	0	10	745	38	837	256
2017	10	250	633	0	893	0	0	0	10	745	46	801	92
2018	0	250	897	0	1147	41	0	0	10	745	39	835	312
2019	0	250	644	0	894	9	0	0	10	745	48	812	82
2020	0	250	952	0	1202	33	0	0	10	745	38	826	376
2021	13	250	716	0	979	0	0	0	10	745	45	800	179
2022	0	250	1014	0	1264	26	0	0	10	745	35	816	448
2023	0	250	727	0	977	2	0	0	10	745	40	797	180
2024	0	250	1076	0	1326	16	0	0	10	745	36	807	519
2025	28	250	809	0	1087	0	0	0	10	745	45	800	287
2026	0	250	1146	0	1396	9	0	0	10	745	33	797	599
2027	11	250	822	0	1083	0	0	0	10	745	35	790	293
2028	0	0	0	0	0	0	0	0	0	0	0	0	0
NOMINAL	70	6125	18045	0	24240	1355	0	0	290	18255	837	20737	3503
NPV	14	1941	4993	0	6948	706	0	0	0	0	238	944	6004

UTILITY DISCOUNT RATE: 8.53%
BENEFIT/COST RATIO (COL. 5/COL. 12): 1.01

Florida Power Corporation
Docket No. 971005-EG
Witness: M.F. Jacob
Exhibit No.__ (MFJ-3)

INPUT DATA

Base Code: RSC-01A

Measure Name: High Efficiency Air Source HP

Vintage: Existing

		Year	Cumulative Participation
Incremental Participant Cost:	$500.00	2000	2,501
Incremental Annual O&M Cost:	$0.00	2001	5,020
Non-Recurring Incentive per Participant:	$250.00	2002	7,541
Utility Non-Recurring Cost per Participant:	$40.00	2003	10,051
Utility Recurring Cost per Participant:	$0.00	2004	12,546
Annual KWH Reduction:	750	2005	15,020
Peak Winter KW Reduction:	2.200	2006	17,472
Peak Summer KW Reduction:	0.270	2007	19,901
Life of Measure (years):	15	2008	22,307
		2009	24,690

MEASURE or PROGRAM: RSC-1AX

PARTICIPANT TEST

	BENEFITS				COSTS			
YEAR	(1) SAVINGS IN PARTICIPANT'S BILL $(000)	(2) INCENTIVE PAYMENTS $(000)	(3) OTHER PARTICIPANT BENEFITS $(000)	(4) TOTAL BENEFITS $(000)	(5) PARTICIPANT'S COSTS $(000)	(6) PARTICIPANT'S BILL INCREASE $(000)	(7) TOTAL COSTS $(000)	(8) NET BENEFITS TO PARTICIPANTS $(000)
1999	139	625	0	764	1289	0	1289	-525
2000	279	630	0	909	1339	0	1339	-430
2001	422	630	0	1052	1381	0	1381	-329
2002	566	628	0	1194	1418	0	1418	-224
2003	703	624	0	1327	1453	0	1453	-126
2004	844	619	0	1463	1486	0	1486	-23
2005	985	613	0	1598	1518	0	1518	80
2006	1119	607	0	1726	1550	0	1550	176
2007	1265	602	0	1867	1583	0	1583	284
2008	1421	596	0	2017	1629	0	1629	388
2009	1443	0	0	1443	0	0	0	1443
2010	1468	0	0	1468	0	0	0	1468
2011	1493	0	0	1493	0	0	0	1493
2012	1519	0	0	1519	0	0	0	1519
2013	1543	0	0	1543	0	0	0	1543
2014	1569	0	0	1569	0	0	0	1569
2015	1595	0	0	1595	0	0	0	1595
2016	1618	0	0	1618	0	0	0	1618
2017	1644	0	0	1644	0	0	0	1644
2018	1672	0	0	1672	0	0	0	1672
2019	1699	0	0	1699	0	0	0	1699
2020	1728	0	0	1728	0	0	0	1728
2021	1755	0	0	1755	0	0	0	1755
2022	1785	0	0	1785	0	0	0	1785
2023	1813	0	0	1813	0	0	0	1813
2024	1844	0	0	1844	0	0	0	1844
2025	1873	0	0	1873	0	0	0	1873
2026	1905	0	0	1905	0	0	0	1905
2027	1935	0	0	1935	0	0	0	1935
2028	0	0	0	0	0	0	0	0
NOMINAL	39644	6174	0	45818	14646	0	14646	31172
NPV	11847	0	0	11847	0	0	0	11847

UTILITY DISCOUNT RATE: 8.53%
BENEFIT/COST RATIO (COL. 4/COL. 7): 1.60

MEASURE or PROGRAM: RSC-1AX

TOTAL RESOURCE COST TEST

	BENEFITS					COSTS						
YEAR	(1) TOTAL FUEL & O&M SAVINGS $(000)	(2) AVOIDED T&D CAP. COSTS $(000)	(3) AVOIDED GEN. CAP. COSTS $(000)	(4) OTHER PARTICIPANT BENEFITS $(000)	(5) TOTAL BENEFITS $(000)	(6) PARTICIPANT'S COSTS $(000)	(7) TOTAL FUEL & O&M INCREASE $(000)	(8) INCREASED T&D CAP. COSTS $(000)	(9) INCREASED GEN. CAP. COSTS $(000)	(10) UTILITY PROGRAM COSTS $(000)	(11) TOTAL COSTS $(000)	(12) NET BENEFITS $(000)
1999	72	194	0	0	266	1289	0	0	0	103	1392	-1126
2000	187	390	0	0	577	1339	0	0	0	107	1446	-869
2001	118	586	295	0	999	1381	0	0	0	111	1492	-493
2002	195	781	364	0	1340	1418	0	0	0	113	1531	-191
2003	346	975	134	0	1455	1453	0	0	0	116	1569	-114
2004	429	1167	165	0	1761	1486	0	0	0	119	1605	156
2005	2213	1352	983	0	4548	1518	0	0	0	121	1639	2909
2006	503	1541	922	0	2966	1550	0	0	0	124	1674	1292
2007	576	1729	641	0	2946	1583	0	0	0	127	1710	1236
2008	686	1914	290	0	2890	1629	0	0	0	130	1759	1131
2009	697	1914	320	0	2931	0	0	0	0	0	0	2931
2010	700	1914	307	0	2921	0	0	0	0	0	0	2921
2011	683	1914	857	0	3454	0	0	0	0	0	0	3454
2012	690	1914	896	0	3500	0	0	0	0	0	0	3500
2013	701	1914	914	0	3529	0	0	0	0	0	0	3529
2014	714	1914	953	0	3581	0	0	0	0	0	0	3581
2015	725	1914	968	0	3607	0	0	0	0	0	0	3607
2016	712	1914	1641	0	4267	0	0	0	0	0	0	4267
2017	723	1914	1638	0	4275	0	0	0	0	0	0	4275
2018	734	1914	1748	0	4396	0	0	0	0	0	0	4396
2019	756	1914	1730	0	4400	0	0	0	0	0	0	4400
2020	765	1914	1854	0	4533	0	0	0	0	0	0	4533
2021	798	1914	1850	0	4562	0	0	0	0	0	0	4562
2022	802	1914	1975	0	4691	0	0	0	0	0	0	4691
2023	835	1914	1955	0	4704	0	0	0	0	0	0	4704
2024	848	1914	2095	0	4857	0	0	0	0	0	0	4857
2025	874	1914	2091	0	4879	0	0	0	0	0	0	4879
2026	889	1914	2231	0	5034	0	0	0	0	0	0	5034
2027	907	1914	2209	0	5030	0	0	0	0	0	0	5030
2028	0	0	0	0	0	0	0	0	0	0	0	0
NOMINAL	19878	46995	32026	0	98899	14646	0	0	0	1171	15817	83082
NPV	6494	14929	7751	0	29174	0	0	0	0	0	0	29174

UTILITY DISCOUNT RATE: 8.53%
BENEFIT/COST RATIO (COL. 5/COL. 11): 2.66

Florida Power Corporation
Docket No. 971005-EG
Witness: M.F. Jacob
Exhibit No.__ (MFJ-3)
Page 43 of 90

MEASURE or PROGRAM: RSC-1AX

RATE IMPACT MEASURE TEST

	BENEFITS					COSTS							
YEAR	(1) FUEL & O & M SAVINGS $(000)	(2) AVOIDED T&D CAP. COSTS $(000)	(3) AVOIDED GEN. CAP. COSTS $(000)	(4) REVENUE GAINS $(000)	(5) TOTAL BENEFITS $(000)	(6) FUEL & O & M INCREASE $(000)	(7) INCREASED T&D CAP. COSTS $(000)	(8) INCREASED GEN. CAP. COSTS $(000)	(9) UTILITY PROGRAM COSTS $(000)	(10) INCENTIVE PAYMENTS $(000)	(11) REVENUE LOSSES $(000)	(12) TOTAL COSTS $(000)	(13) NET BENEFITS TO ALL CUSTOMERS $(000)
1999	72	194	0	0	266	0	0	0	103	625	139	867	-601
2000	187	390	0	0	577	0	0	0	107	630	279	1016	-439
2001	118	586	295	0	999	0	0	0	111	630	422	1163	-164
2002	195	781	364	0	1340	0	0	0	113	628	566	1307	33
2003	346	975	134	0	1455	0	0	0	116	624	703	1443	12
2004	429	1167	165	0	1761	0	0	0	119	619	844	1582	179
2005	2213	1352	983	0	4548	0	0	0	121	613	985	1719	2829
2006	503	1541	922	0	2966	0	0	0	124	607	1119	1850	1116
2007	576	1729	641	0	2946	0	0	0	127	602	1265	1994	952
2008	686	1914	290	0	2890	0	0	0	130	596	1421	2147	743
2009	697	1914	320	0	2931	0	0	0	0	0	1443	1443	1488
2010	700	1914	307	0	2921	0	0	0	0	0	1468	1468	1453
2011	683	1914	857	0	3454	0	0	0	0	0	1493	1493	1961
2012	690	1914	896	0	3500	0	0	0	0	0	1519	1519	1981
2013	701	1914	914	0	3529	0	0	0	0	0	1543	1543	1986
2014	714	1914	953	0	3581	0	0	0	0	0	1569	1569	2012
2015	725	1914	968	0	3607	0	0	0	0	0	1595	1595	2012
2016	712	1914	1641	0	4267	0	0	0	0	0	1618	1618	2649
2017	723	1914	1638	0	4275	0	0	0	0	0	1644	1644	2631
2018	734	1914	1748	0	4396	0	0	0	0	0	1672	1672	2724
2019	756	1914	1730	0	4400	0	0	0	0	0	1699	1699	2701
2020	765	1914	1854	0	4533	0	0	0	0	0	1728	1728	2805
2021	798	1914	1850	0	4562	0	0	0	0	0	1755	1755	2807
2022	802	1914	1975	0	4691	0	0	0	0	0	1785	1785	2906
2023	835	1914	1955	0	4704	0	0	0	0	0	1813	1813	2891
2024	848	1914	2095	0	4857	0	0	0	0	0	1844	1844	3013
2025	874	1914	2091	0	4879	0	0	0	0	0	1873	1873	3006
2026	889	1914	2231	0	5034	0	0	0	0	0	1905	1905	3129
2027	907	1914	2209	0	5030	0	0	0	0	0	1935	1935	3095
2028	0	0	0	0	0	0	0	0	0	0	0	0	0
NOMINAL	19878	46995	32026	0	98899	0	0	0	1171	6174	39644	46989	51910
NPV	6494	14929	7751	0	29174	0	0	0	0	0	11847	11847	17327

UTILITY DISCOUNT RATE: 8.53%
BENEFIT/COST RATIO (COL. 5/COL. 12): 1.71

INPUT DATA

Base Code: RSC-01B

Measure Name: High Efficiency Air Source HP

Vintage: New

		Year	Cumulative Participation
Incremental Participant Cost:	$300.00	2000	352
Incremental Annual O&M Cost:	$0.00	2001	709
Non-Recurring Incentive per Participant:	$200.00	2002	1,069
Utility Non-Recurring Cost per Participant:	$0.00	2003	1,431
Utility Recurring Cost per Participant:	$0.00	2004	1,793
Annual KWH Reduction:	722	2005	2,156
Peak Winter KW Reduction:	0.293	2006	2,521
Peak Summer KW Reduction:	0.474	2007	2,890
Life of Measure (years):	15	2008	3,262
		2009	3,637

MEASURE or PROGRAM: RSC-1BN

PARTICIPANT TEST

YEAR	BENEFITS (1) SAVINGS IN PARTICIPANT'S BILL $(000)	(2) INCENTIVE PAYMENTS $(000)	(3) OTHER PARTICIPANT BENEFITS $(000)	(4) TOTAL BENEFITS $(000)	COSTS (5) PARTICIPANT'S COSTS $(000)	(6) PARTICIPANT'S BILL INCREASE $(000)	(7) TOTAL COSTS $(000)	(8) NET BENEFITS TO PARTICIPANTS $(000)
1999	19	14	0	33	109	0	109	-76
2000	38	14	0	52	114	0	114	-62
2001	58	14	0	72	118	0	118	-46
2002	78	14	0	92	123	0	123	-31
2003	97	14	0	111	127	0	127	-16
2004	117	15	0	132	131	0	131	1
2005	137	15	0	152	136	0	136	16
2006	157	15	0	172	141	0	141	31
2007	178	15	0	193	147	0	147	46
2008	201	15	0	216	154	0	154	62
2009	205	0	0	205	0	0	0	205
2010	208	0	0	208	0	0	0	208
2011	211	0	0	211	0	0	0	211
2012	215	0	0	215	0	0	0	215
2013	218	0	0	218	0	0	0	218
2014	222	0	0	222	0	0	0	222
2015	226	0	0	226	0	0	0	226
2016	229	0	0	229	0	0	0	229
2017	233	0	0	233	0	0	0	233
2018	237	0	0	237	0	0	0	237
2019	241	0	0	241	0	0	0	241
2020	245	0	0	245	0	0	0	245
2021	249	0	0	249	0	0	0	249
2022	253	0	0	253	0	0	0	253
2023	257	0	0	257	0	0	0	257
2024	261	0	0	261	0	0	0	261
2025	265	0	0	265	0	0	0	265
2026	270	0	0	270	0	0	0	270
2027	274	0	0	274	0	0	0	274
2028	0	0	0	0	0	0	0	0
NOMINAL	5599	145	0	5744	1300	0	1300	4444
NPV	1667	0	0	1667	0	0	0	1667

UTILITY DISCOUNT RATE: 8.53%

BENEFIT/COST RATIO (COL. 4/COL. 7): 1.99

Florida Power Corporation
Docket No. 971005-EG
Witness: M.F. Jacob
Exhibit No.__ (MFJ-3)
Page 46 of 90

MEASURE or PROGRAM: RSC-1BN

TOTAL RESOURCE COST TEST

	BENEFITS					COSTS						
YEAR	(1) TOTAL FUEL & O&M SAVINGS $(000)	(2) AVOIDED T&D CAP. COSTS $(000)	(3) AVOIDED GEN. CAP. COSTS $(000)	(4) OTHER PARTICIPANT BENEFITS $(000)	(5) TOTAL BENEFITS $(000)	(6) PARTICIPANT'S COSTS $(000)	(7) TOTAL FUEL & O&M INCREASE $(000)	(8) INCREASED T&D CAP. COSTS $(000)	(9) INCREASED GEN. CAP. COSTS $(000)	(10) UTILITY PROGRAM COSTS $(000)	(11) TOTAL COSTS $(000)	(12) NET BENEFITS $(000)
1999	9	8	0	0	17	109	0	0	0	0	109	-92
2000	21	16	0	0	37	114	0	0	0	0	114	-77
2001	18	24	13	0	55	118	0	0	0	0	118	-63
2002	34	33	18	0	85	123	0	0	0	0	123	-38
2003	47	41	18	0	106	127	0	0	0	0	127	-21
2004	49	49	24	0	122	131	0	0	0	0	131	-9
2005	109	58	30	0	197	136	0	0	0	0	136	61
2006	73	66	31	0	170	141	0	0	0	0	141	29
2007	82	75	34	0	191	147	0	0	0	0	147	44
2008	92	83	40	0	215	154	0	0	0	0	154	61
2009	93	83	41	0	217	0	0	0	0	0	0	217
2010	94	83	43	0	220	0	0	0	0	0	0	220
2011	96	83	43	0	222	0	0	0	0	0	0	222
2012	97	83	45	0	225	0	0	0	0	0	0	225
2013	98	83	46	0	227	0	0	0	0	0	0	227
2014	99	83	48	0	230	0	0	0	0	0	0	230
2015	101	83	49	0	233	0	0	0	0	0	0	233
2016	102	83	51	0	236	0	0	0	0	0	0	236
2017	103	83	52	0	238	0	0	0	0	0	0	238
2018	104	83	55	0	242	0	0	0	0	0	0	242
2019	106	83	55	0	244	0	0	0	0	0	0	244
2020	106	83	58	0	247	0	0	0	0	0	0	247
2021	109	83	58	0	250	0	0	0	0	0	0	250
2022	110	83	62	0	255	0	0	0	0	0	0	255
2023	112	83	62	0	257	0	0	0	0	0	0	257
2024	113	83	65	0	261	0	0	0	0	0	0	261
2025	115	83	66	0	264	0	0	0	0	0	0	264
2026	117	83	70	0	270	0	0	0	0	0	0	270
2027	118	83	70	0	271	0	0	0	0	0	0	271
2028	0	0	0	0	0	0	0	0	0	0	0	0
NOMINAL	2527	2030	1247	0	5804	1300	0	0	0	0	1300	4504
NPV	772	642	352	0	1766	0	0	0	0	0	0	1766

UTILITY DISCOUNT RATE: 8.53%
BENEFIT/COST RATIO (COL. 5/COL. 11): 1.98

Florida Power Corporation
Docket No. 971005-EG
Witness: M.F. Jacob
Exhibit No.__ (MFJ-3)
Page 47 of 90

MEASURE or PROGRAM: RSC-1BN

RATE IMPACT MEASURE TEST

	BENEFITS					COSTS							
YEAR	(1) FUEL & O & M SAVINGS $(000)	(2) AVOIDED T&D CAP. COSTS $(000)	(3) AVOIDED GEN. CAP. COSTS $(000)	(4) REVENUE GAINS $(000)	(5) TOTAL BENEFITS $(000)	(6) FUEL & O & M INCREASE $(000)	(7) INCREASED T&D CAP. COSTS $(000)	(8) INCREASED GEN. CAP. COSTS $(000)	(9) UTILITY PROGRAM COSTS $(000)	(10) INCENTIVE PAYMENTS $(000)	(11) REVENUE LOSSES $(000)	(12) TOTAL COSTS $(000)	(13) NET BENEFITS TO ALL CUSTOMERS $(000)
1999	9	8	0	0	17	0	0	0	0	14	19	33	-16
2000	21	16	0	0	37	0	0	0	0	14	38	52	-15
2001	18	24	13	0	55	0	0	0	0	14	58	72	-17
2002	34	33	18	0	85	0	0	0	0	14	78	92	-7
2003	47	41	18	0	106	0	0	0	0	14	97	111	-5
2004	49	49	24	0	122	0	0	0	0	15	117	132	-10
2005	109	58	30	0	197	0	0	0	0	15	137	152	45
2006	73	66	31	0	170	0	0	0	0	15	157	172	-2
2007	82	75	34	0	191	0	0	0	0	15	178	193	-2
2008	92	83	40	0	215	0	0	0	0	15	201	216	-1
2009	93	83	41	0	217	0	0	0	0	0	205	205	12
2010	94	83	43	0	220	0	0	0	0	0	208	208	12
2011	96	83	43	0	222	0	0	0	0	0	211	211	11
2012	97	83	45	0	225	0	0	0	0	0	215	215	10
2013	98	83	46	0	227	0	0	0	0	0	218	218	9
2014	99	83	48	0	230	0	0	0	0	0	222	222	8
2015	101	83	49	0	233	0	0	0	0	0	226	226	7
2016	102	83	51	0	236	0	0	0	0	0	229	229	7
2017	103	83	52	0	238	0	0	0	0	0	233	233	5
2018	104	83	55	0	242	0	0	0	0	0	237	237	5
2019	106	83	55	0	244	0	0	0	0	0	241	241	3
2020	106	83	58	0	247	0	0	0	0	0	245	245	2
2021	109	83	58	0	250	0	0	0	0	0	249	249	1
2022	110	83	62	0	255	0	0	0	0	0	253	253	2
2023	112	83	62	0	257	0	0	0	0	0	257	257	0
2024	113	83	65	0	261	0	0	0	0	0	261	261	0
2025	115	83	66	0	264	0	0	0	0	0	265	265	-1
2026	117	83	70	0	270	0	0	0	0	0	270	270	0
2027	118	83	70	0	271	0	0	0	0	0	274	274	-3
2028	0	0	0	0	0	0	0	0	0	0	0	0	0
NOMINAL	2527	2030	1247	0	5804	0	0	0	0	145	5599	5744	60
NPV	772	642	352	0	1766	0	0	0	0	0	1667	1667	99

UTILITY DISCOUNT RATE: 8.53%
BENEFIT/COST RATIO (COL. 5/COL. 12): 1.00

INPUT DATA

Base Code: RSC-05A

Measure Name: Reduced Duct Leakage

Vintage: Existing

		Year	Cumulative Participation
Incremental Participant Cost:	$250.00	2000	2,543
Incremental Annual O&M Cost:	$0.00	2001	5,292
Non-Recurring Incentive per Participant:	$125.00	2002	8,158
Utility Non-Recurring Cost per Participant:	$25.00	2003	11,031
Utility Recurring Cost per Participant:	$0.00	2004	13,798
Annual KWH Reduction:	500	2005	16,354
Peak Winter KW Reduction:	0.925	2006	18,621
Peak Summer KW Reduction:	0.473	2007	20,555
Life of Measure (years):	15	2008	22,139
		2009	23,387

MEASURE or PROGRAM: RSC-5AX

PARTICIPANT TEST

	BENEFITS				COSTS			
YEAR	(1) SAVINGS IN PARTICIPANT'S BILL $(000)	(2) INCENTIVE PAYMENTS $(000)	(3) OTHER PARTICIPANT BENEFITS $(000)	(4) TOTAL BENEFITS $(000)	(5) PARTICIPANT'S COSTS $(000)	(6) PARTICIPANT'S BILL INCREASE $(000)	(7) TOTAL COSTS $(000)	(8) NET BENEFITS TO PARTICIPANTS $(000)
1999	94	318	0	412	655	0	655	-243
2000	196	344	0	540	731	0	731	-191
2001	304	358	0	662	785	0	785	-123
2002	414	359	0	773	812	0	812	-39
2003	515	346	0	861	806	0	806	55
2004	612	320	0	932	767	0	767	165
2005	700	283	0	983	702	0	702	281
2006	772	242	0	1014	617	0	617	397
2007	835	198	0	1033	521	0	521	512
2008	901	156	0	1057	427	0	427	630
2009	916	0	0	916	0	0	0	916
2010	926	0	0	926	0	0	0	926
2011	941	0	0	941	0	0	0	941
2012	957	0	0	957	0	0	0	957
2013	972	0	0	972	0	0	0	972
2014	989	0	0	989	0	0	0	989
2015	1006	0	0	1006	0	0	0	1006
2016	1023	0	0	1023	0	0	0	1023
2017	1040	0	0	1040	0	0	0	1040
2018	1057	0	0	1057	0	0	0	1057
2019	1074	0	0	1074	0	0	0	1074
2020	1091	0	0	1091	0	0	0	1091
2021	1108	0	0	1108	0	0	0	1108
2022	1127	0	0	1127	0	0	0	1127
2023	1144	0	0	1144	0	0	0	1144
2024	1164	0	0	1164	0	0	0	1164
2025	1183	0	0	1183	0	0	0	1183
2026	1203	0	0	1203	0	0	0	1203
2027	1222	0	0	1222	0	0	0	1222
2028	0	0	0	0	0	0	0	0
NOMINAL	25486	2924	0	28410	6823	0	6823	21587
NPV	7784	0	0	7784	0	0	0	7784

UTILITY DISCOUNT RATE: 8.53%
BENEFIT/COST RATIO (COL. 4/COL. 7): 2.02

MEASURE or PROGRAM: RSC-5AX

TOTAL RESOURCE COST TEST

	BENEFITS					COSTS						
YEAR	(1) TOTAL FUEL & O&M SAVINGS $(000)	(2) AVOIDED T&D CAP. COSTS $(000)	(3) AVOIDED GEN. CAP. COSTS $(000)	(4) OTHER PARTICIPANT BENEFITS $(000)	(5) TOTAL BENEFITS $(000)	(6) PARTICIPANT'S COSTS $(000)	(7) TOTAL FUEL & O&M INCREASE $(000)	(8) INCREASED T&D CAP. COSTS $(000)	(9) INCREASED GEN. CAP. COSTS $(000)	(10) UTILITY PROGRAM COSTS $(000)	(11) TOTAL COSTS $(000)	(12) NET BENEFITS $(000)
1999	48	89	0	0	137	655	0	0	0	66	721	-584
2000	136	185	0	0	321	731	0	0	0	73	804	-483
2001	119	285	162	0	566	785	0	0	0	79	864	-298
2002	183	386	216	0	785	812	0	0	0	81	893	-108
2003	253	482	0	0	735	806	0	0	0	81	887	-152
2004	310	572	0	0	882	767	0	0	0	77	844	38
2005	1576	645	500	0	2721	702	0	0	0	70	772	1949
2006	346	714	452	0	1512	617	0	0	0	62	679	833
2007	362	770	504	0	1636	521	0	0	0	52	573	1063
2008	429	813	61	0	1303	427	0	0	0	43	470	833
2009	435	813	80	0	1328	0	0	0	0	0	0	1328
2010	403	813	602	0	1818	0	0	0	0	0	0	1818
2011	417	813	602	0	1832	0	0	0	0	0	0	1832
2012	421	813	638	0	1872	0	0	0	0	0	0	1872
2013	431	813	644	0	1888	0	0	0	0	0	0	1888
2014	436	813	680	0	1929	0	0	0	0	0	0	1929
2015	441	813	680	0	1934	0	0	0	0	0	0	1934
2016	446	813	721	0	1980	0	0	0	0	0	0	1980
2017	454	813	727	0	1994	0	0	0	0	0	0	1994
2018	457	813	768	0	2038	0	0	0	0	0	0	2038
2019	467	813	768	0	2048	0	0	0	0	0	0	2048
2020	480	813	814	0	2107	0	0	0	0	0	0	2107
2021	497	813	822	0	2132	0	0	0	0	0	0	2132
2022	500	813	868	0	2181	0	0	0	0	0	0	2181
2023	519	813	868	0	2200	0	0	0	0	0	0	2200
2024	523	813	920	0	2256	0	0	0	0	0	0	2256
2025	537	813	929	0	2279	0	0	0	0	0	0	2279
2026	545	813	981	0	2339	0	0	0	0	0	0	2339
2027	560	813	980	0	2353	0	0	0	0	0	0	2353
2028	0	0	0	0	0	0	0	0	0	0	0	0
NOMINAL	12731	20388	15987	0	49106	6823	0	0	0	684	7507	41599
NPV	4319	6627	4100	0	15046	0	0	0	0	0	0	15046

UTILITY DISCOUNT RATE: 8.53%

BENEFIT/COST RATIO (COL. 5/COL. 11): 2.78

MEASURE or PROGRAM: RSC-5AX

RATE IMPACT MEASURE TEST

	BENEFITS					COSTS							
YEAR	(1) FUEL & O & M SAVINGS $(000)	(2) AVOIDED T&D CAP. COSTS $(000)	(3) AVOIDED GEN. CAP. COSTS $(000)	(4) REVENUE GAINS $(000)	(5) TOTAL BENEFITS $(000)	(6) FUEL & O & M INCREASE $(000)	(7) INCREASED T&D CAP. COSTS $(000)	(8) INCREASED GEN. CAP. COSTS $(000)	(9) UTILITY PROGRAM COSTS $(000)	(10) INCENTIVE PAYMENTS $(000)	(11) REVENUE LOSSES $(000)	(12) TOTAL COSTS $(000)	(13) NET BENEFITS TO ALL CUSTOMERS $(000)
1999	48	89	0	0	137	0	0	0	66	318	94	478	-341
2000	136	185	0	0	321	0	0	0	73	344	196	613	-292
2001	119	285	162	0	566	0	0	0	79	358	304	741	-175
2002	183	386	216	0	785	0	0	0	81	359	414	854	-69
2003	253	482	0	0	735	0	0	0	81	346	515	942	-207
2004	310	572	0	0	882	0	0	0	77	320	612	1009	-127
2005	1576	645	500	0	2721	0	0	0	70	283	700	1053	1668
2006	346	714	452	0	1512	0	0	0	62	242	772	1076	436
2007	362	770	504	0	1636	0	0	0	52	198	835	1085	551
2008	429	813	61	0	1303	0	0	0	43	156	901	1100	203
2009	435	813	80	0	1328	0	0	0	0	0	916	916	412
2010	403	813	602	0	1818	0	0	0	0	0	926	926	892
2011	417	813	602	0	1832	0	0	0	0	0	941	941	891
2012	421	813	638	0	1872	0	0	0	0	0	957	957	915
2013	431	813	644	0	1888	0	0	0	0	0	972	972	916
2014	436	813	680	0	1929	0	0	0	0	0	989	989	940
2015	441	813	680	0	1934	0	0	0	0	0	1006	1006	928
2016	446	813	721	0	1980	0	0	0	0	0	1023	1023	957
2017	454	813	727	0	1994	0	0	0	0	0	1040	1040	954
2018	457	813	768	0	2038	0	0	0	0	0	1057	1057	981
2019	467	813	768	0	2048	0	0	0	0	0	1074	1074	974
2020	480	813	814	0	2107	0	0	0	0	0	1091	1091	1016
2021	497	813	822	0	2132	0	0	0	0	0	1108	1108	1024
2022	500	813	868	0	2181	0	0	0	0	0	1127	1127	1054
2023	519	813	868	0	2200	0	0	0	0	0	1144	1144	1056
2024	523	813	920	0	2256	0	0	0	0	0	1164	1164	1092
2025	537	813	929	0	2279	0	0	0	0	0	1183	1183	1096
2026	545	813	981	0	2339	0	0	0	0	0	1203	1203	1136
2027	560	813	980	0	2353	0	0	0	0	0	1222	1222	1131
2028	0	0	0	0	0	0	0	0	0	0	0	0	0
NOMINAL	12731	20388	15987	0	49106	0	0	0	684	2924	25486	29094	20012
NPV	4319	6627	4100	0	15046	0	0	0	0	0	7784	7784	7262

UTILITY DISCOUNT RATE: 8.53%
BENEFIT/COST RATIO (COL. 5/COL. 12): 1.44

INPUT DATA

Base Code: RSC-05B

Measure Name: Reduced Duct Leakage

Vintage: New

		Year	Cumulative Participation
Incremental Participant Cost:	$175.00	2000	5,500
Incremental Annual O&M Cost:	$0.00	2001	12,651
Non-Recurring Incentive per Participant:	$125.00	2002	21,538
Utility Non-Recurring Cost per Participant:	$25.00	2003	32,112
Utility Recurring Cost per Participant:	$0.00	2004	44,192
Annual KWH Reduction:	500	2005	57,513
Peak Winter KW Reduction:	1.000	2006	71,804
Peak Summer KW Reduction:	0.500	2007	86,748
Life of Measure (years):	15	2008	102,064
		2009	117,520

MEASURE or PROGRAM: RSC-5BN

PARTICIPANT TEST

YEAR	BENEFITS: (1) SAVINGS IN PARTICIPANT'S BILL $(000)	BENEFITS: (2) INCENTIVE PAYMENTS $(000)	BENEFITS: (3) OTHER PARTICIPANT BENEFITS $(000)	BENEFITS: (4) TOTAL BENEFITS $(000)	COSTS: (5) PARTICIPANT'S COSTS $(000)	COSTS: (6) PARTICIPANT'S BILL INCREASE $(000)	COSTS: (7) TOTAL COSTS $(000)	(8) NET BENEFITS TO PARTICIPANTS $(000)
1999	204	688	0	892	992	0	992	-100
2000	462	894	0	1356	1330	0	1330	26
2001	804	1111	0	1915	1704	0	1704	211
2002	1206	1322	0	2528	2091	0	2091	437
2003	1659	1510	0	3169	2463	0	2463	706
2004	2158	1665	0	3823	2800	0	2800	1023
2005	2697	1786	0	4483	3097	0	3097	1386
2006	3252	1868	0	5120	3339	0	3339	1781
2007	3849	1915	0	5764	3528	0	3528	2236
2008	4502	1932	0	6434	3699	0	3699	2735
2009	4575	0	0	4575	0	0	0	4575
2010	4651	0	0	4651	0	0	0	4651
2011	4729	0	0	4729	0	0	0	4729
2012	4807	0	0	4807	0	0	0	4807
2013	4885	0	0	4885	0	0	0	4885
2014	4966	0	0	4966	0	0	0	4966
2015	5048	0	0	5048	0	0	0	5048
2016	5132	0	0	5132	0	0	0	5132
2017	5218	0	0	5218	0	0	0	5218
2018	5305	0	0	5305	0	0	0	5305
2019	5391	0	0	5391	0	0	0	5391
2020	5480	0	0	5480	0	0	0	5480
2021	5569	0	0	5569	0	0	0	5569
2022	5662	0	0	5662	0	0	0	5662
2023	5753	0	0	5753	0	0	0	5753
2024	5849	0	0	5849	0	0	0	5849
2025	5944	0	0	5944	0	0	0	5944
2026	6042	0	0	6042	0	0	0	6042
2027	6140	0	0	6140	0	0	0	6140
2028	0	0	0	0	0	0	0	0
NOMINAL	121939	14691	0	136630	25043	0	25043	111587
NPV	34984	0	0	34984	0	0	0	34984

UTILITY DISCOUNT RATE: 8.53%

BENEFIT/COST RATIO (COL. 4/COL. 7): 2.75

MEASURE or PROGRAM: RSC-5BN

TOTAL RESOURCE COST TEST

	BENEFITS					COSTS						
YEAR	(1) TOTAL FUEL & O&M SAVINGS $(000)	(2) AVOIDED T&D CAP. COSTS $(000)	(3) AVOIDED GEN. CAP. COSTS $(000)	(4) OTHER PARTICIPANT BENEFITS $(000)	(5) TOTAL BENEFITS $(000)	(6) PARTICIPANT'S COSTS $(000)	(7) TOTAL FUEL & O&M INCREASE $(000)	(8) INCREASED T&D CAP. COSTS $(000)	(9) INCREASED GEN. CAP. COSTS $(000)	(10) UTILITY PROGRAM COSTS $(000)	(11) TOTAL COSTS $(000)	(12) NET BENEFITS $(000)
1999	104	136	0	0	240	992	0	0	0	142	1134	-894
2000	286	312	0	0	598	1330	0	0	0	190	1520	-922
2001	274	531	348	0	1153	1704	0	0	0	243	1947	-794
2002	407	784	522	0	1713	2091	0	0	0	299	2390	-677
2003	816	1082	250	0	2148	2463	0	0	0	352	2815	-667
2004	1064	1412	526	0	3002	2800	0	0	0	400	3200	-198
2005	3321	1765	1310	0	6396	3097	0	0	0	442	3539	2857
2006	1497	2134	1408	0	5039	3339	0	0	0	477	3816	1223
2007	1826	2512	754	0	5092	3528	0	0	0	504	4032	1060
2008	2146	2893	529	0	5568	3699	0	0	0	528	4227	1341
2009	2173	2893	567	0	5633	0	0	0	0	0	0	5633
2010	2191	2893	559	0	5643	0	0	0	0	0	0	5643
2011	2191	2893	1136	0	6220	0	0	0	0	0	0	6220
2012	2207	2893	1185	0	6285	0	0	0	0	0	0	6285
2013	2249	2893	1211	0	6353	0	0	0	0	0	0	6353
2014	2274	2893	1258	0	6425	0	0	0	0	0	0	6425
2015	2305	2893	1284	0	6482	0	0	0	0	0	0	6482
2016	2329	2893	1339	0	6561	0	0	0	0	0	0	6561
2017	2330	2893	1991	0	7214	0	0	0	0	0	0	7214
2018	2361	2893	2113	0	7367	0	0	0	0	0	0	7367
2019	2405	2893	2107	0	7405	0	0	0	0	0	0	7405
2020	2423	2893	2245	0	7561	0	0	0	0	0	0	7561
2021	2481	2893	2250	0	7624	0	0	0	0	0	0	7624
2022	2512	2893	2387	0	7792	0	0	0	0	0	0	7792
2023	2562	2893	2380	0	7835	0	0	0	0	0	0	7835
2024	2594	2893	2537	0	8024	0	0	0	0	0	0	8024
2025	2635	2893	2542	0	8070	0	0	0	0	0	0	8070
2026	2681	2893	2698	0	8272	0	0	0	0	0	0	8272
2027	2725	2893	2689	0	8307	0	0	0	0	0	0	8307
2028	0	0	0	0	0	0	0	0	0	0	0	0
NOMINAL	57369	68528	40125	0	166022	25043	0	0	0	3577	28620	137402
NPV	17279	20850	10200	0	48328	0	0	0	0	0	0	48328

UTILITY DISCOUNT RATE: 8.53%
BENEFIT/COST RATIO (COL. 5/COL. 11): 2.60

Florida Power Corporation
Docket No. 971005-EG
Witness: M.F. Jacob
Exhibit No.__ (MFJ-3)
Page 55 of 90

MEASURE or PROGRAM: RSC-5BN

RATE IMPACT MEASURE TEST

YEAR	BENEFITS (1) FUEL & O & M SAVINGS $(000)	(2) AVOIDED T&D CAP. COSTS $(000)	(3) AVOIDED GEN. CAP. COSTS $(000)	(4) REVENUE GAINS $(000)	(5) TOTAL BENEFITS $(000)	COSTS (6) FUEL & O & M INCREASE $(000)	(7) INCREASED T&D CAP. COSTS $(000)	(8) INCREASED GEN. CAP. COSTS $(000)	(9) UTILITY PROGRAM COSTS $(000)	(10) INCENTIVE PAYMENTS $(000)	(11) REVENUE LOSSES $(000)	(12) TOTAL COSTS $(000)	(13) NET BENEFITS TO ALL CUSTOMERS $(000)
1999	104	136	0	0	240	0	0	0	142	688	204	1034	-794
2000	286	312	0	0	598	0	0	0	190	894	462	1546	-948
2001	274	531	348	0	1153	0	0	0	243	1111	804	2158	-1005
2002	407	784	522	0	1713	0	0	0	299	1322	1206	2827	-1114
2003	816	1082	250	0	2148	0	0	0	352	1510	1659	3521	-1373
2004	1064	1412	526	0	3002	0	0	0	400	1665	2158	4223	-1221
2005	3321	1765	1310	0	6396	0	0	0	442	1786	2697	4925	1471
2006	1497	2134	1408	0	5039	0	0	0	477	1868	3252	5597	-558
2007	1826	2512	754	0	5092	0	0	0	504	1915	3849	6268	-1176
2008	2146	2893	529	0	5568	0	0	0	528	1932	4502	6962	-1394
2009	2173	2893	567	0	5633	0	0	0	0	0	4575	4575	1058
2010	2191	2893	559	0	5643	0	0	0	0	0	4651	4651	992
2011	2191	2893	1136	0	6220	0	0	0	0	0	4729	4729	1491
2012	2207	2893	1185	0	6285	0	0	0	0	0	4807	4807	1478
2013	2249	2893	1211	0	6353	0	0	0	0	0	4885	4885	1468
2014	2274	2893	1258	0	6425	0	0	0	0	0	4966	4966	1459
2015	2305	2893	1284	0	6482	0	0	0	0	0	5048	5048	1434
2016	2329	2893	1339	0	6561	0	0	0	0	0	5132	5132	1429
2017	2330	2893	1991	0	7214	0	0	0	0	0	5218	5218	1996
2018	2361	2893	2113	0	7367	0	0	0	0	0	5305	5305	2062
2019	2405	2893	2107	0	7405	0	0	0	0	0	5391	5391	2014
2020	2423	2893	2245	0	7561	0	0	0	0	0	5480	5480	2081
2021	2481	2893	2250	0	7624	0	0	0	0	0	5569	5569	2055
2022	2512	2893	2387	0	7792	0	0	0	0	0	5662	5662	2130
2023	2562	2893	2380	0	7835	0	0	0	0	0	5753	5753	2082
2024	2594	2893	2537	0	8024	0	0	0	0	0	5849	5849	2175
2025	2635	2893	2542	0	8070	0	0	0	0	0	5944	5944	2126
2026	2681	2893	2698	0	8272	0	0	0	0	0	6042	6042	2230
2027	2725	2893	2689	0	8307	0	0	0	0	0	6140	6140	2167
2028	0	0	0	0	0	0	0	0	0	0	0	0	0
NOMINAL	57369	68528	40125	0	166022	0	0	0	3577	14691	121939	140207	25815
NPV	17279	20850	10200	0	48328	0	0	0	0	0	34984	34984	13344

UTILITY DISCOUNT RATE: 8.53%

BENEFIT/COST RATIO (COL. 5/COL. 12): 1.03

INPUT DATA

Base Code: RSC-05B

Measure Name: Reduced Duct Leakage

Vintage: Existing

		Year	Cumulative Participation
Incremental Participant Cost:	$250.00	2000	2,487
Incremental Annual O&M Cost:	$0.00	2001	5,175
Non-Recurring Incentive per Participant:	$125.00	2002	7,978
Utility Non-Recurring Cost per Participant:	$25.00	2003	10,788
Utility Recurring Cost per Participant:	$0.00	2004	13,493
Annual KWH Reduction:	500	2005	15,992
Peak Winter KW Reduction:	0.925	2006	18,210
Peak Summer KW Reduction:	0.473	2007	20,100
Life of Measure (years):	15	2008	21,650
		2009	22,870

MEASURE or PROGRAM: RSC-5BX

PARTICIPANT TEST

	BENEFITS				COSTS			
YEAR	(1) SAVINGS IN PARTICIPANT'S BILL $(000)	(2) INCENTIVE PAYMENTS $(000)	(3) OTHER PARTICIPANT BENEFITS $(000)	(4) TOTAL BENEFITS $(000)	(5) PARTICIPANT'S COSTS $(000)	(6) PARTICIPANT'S BILL INCREASE $(000)	(7) TOTAL COSTS $(000)	(8) NET BENEFITS TO PARTICIPANTS $(000)
1999	92	311	0	403	641	0	641	-238
2000	192	336	0	528	714	0	714	-186
2001	298	350	0	648	768	0	768	-120
2002	405	351	0	756	794	0	794	-38
2003	503	338	0	841	788	0	788	53
2004	601	312	0	913	750	0	750	163
2005	684	277	0	961	687	0	687	274
2006	754	236	0	990	603	0	603	387
2007	816	194	0	1010	510	0	510	500
2008	880	153	0	1033	417	0	417	616
2009	890	0	0	890	0	0	0	890
2010	905	0	0	905	0	0	0	905
2011	919	0	0	919	0	0	0	919
2012	935	0	0	935	0	0	0	935
2013	950	0	0	950	0	0	0	950
2014	966	0	0	966	0	0	0	966
2015	983	0	0	983	0	0	0	983
2016	999	0	0	999	0	0	0	999
2017	1016	0	0	1016	0	0	0	1016
2018	1033	0	0	1033	0	0	0	1033
2019	1048	0	0	1048	0	0	0	1048
2020	1065	0	0	1065	0	0	0	1065
2021	1082	0	0	1082	0	0	0	1082
2022	1100	0	0	1100	0	0	0	1100
2023	1118	0	0	1118	0	0	0	1118
2024	1136	0	0	1136	0	0	0	1136
2025	1155	0	0	1155	0	0	0	1155
2026	1174	0	0	1174	0	0	0	1174
2027	1193	0	0	1193	0	0	0	1193
2028	0	0	0	0	0	0	0	0
NOMINAL	24892	2858	0	27750	6672	0	6672	21078
NPV	7605	0	0	7605	0	0	0	7605

UTILITY DISCOUNT RATE: 8.53%
BENEFIT/COST RATIO (COL. 4/COL. 7): 2.02

MEASURE or PROGRAM: RSC-5BX

TOTAL RESOURCE COST TEST

	BENEFITS					COSTS						
YEAR	(1) TOTAL FUEL & O&M SAVINGS $(000)	(2) AVOIDED T&D CAP. COSTS $(000)	(3) AVOIDED GEN. CAP. COSTS $(000)	(4) OTHER PARTICIPANT BENEFITS $(000)	(5) TOTAL BENEFITS $(000)	(6) PARTICIPANT'S COSTS $(000)	(7) TOTAL FUEL & O&M INCREASE $(000)	(8) INCREASED T&D CAP. COSTS $(000)	(9) INCREASED GEN. CAP. COSTS $(000)	(10) UTILITY PROGRAM COSTS $(000)	(11) TOTAL COSTS $(000)	(12) NET BENEFITS $(000)
1999	47	61	0	0	108	641	0	0	0	64	705	-597
2000	135	128	0	0	263	714	0	0	0	71	785	-522
2001	132	197	129	0	458	768	0	0	0	77	845	-387
2002	183	266	178	0	627	794	0	0	0	79	873	-246
2003	248	333	0	0	581	788	0	0	0	79	867	-286
2004	288	394	226	0	908	750	0	0	0	75	825	83
2005	1367	444	336	0	2147	687	0	0	0	69	756	1391
2006	348	491	328	0	1167	603	0	0	0	60	663	504
2007	368	530	355	0	1253	510	0	0	0	51	561	692
2008	422	560	0	0	982	417	0	0	0	42	459	523
2009	402	560	402	0	1364	0	0	0	0	0	0	1364
2010	407	560	430	0	1397	0	0	0	0	0	0	1397
2011	415	560	423	0	1398	0	0	0	0	0	0	1398
2012	417	560	457	0	1434	0	0	0	0	0	0	1434
2013	428	560	455	0	1443	0	0	0	0	0	0	1443
2014	434	560	485	0	1479	0	0	0	0	0	0	1479
2015	436	560	478	0	1474	0	0	0	0	0	0	1474
2016	441	560	516	0	1517	0	0	0	0	0	0	1517
2017	444	560	514	0	1518	0	0	0	0	0	0	1518
2018	453	560	548	0	1561	0	0	0	0	0	0	1561
2019	466	560	540	0	1566	0	0	0	0	0	0	1566
2020	474	560	582	0	1616	0	0	0	0	0	0	1616
2021	487	560	580	0	1627	0	0	0	0	0	0	1627
2022	493	560	620	0	1673	0	0	0	0	0	0	1673
2023	504	560	610	0	1674	0	0	0	0	0	0	1674
2024	508	560	658	0	1726	0	0	0	0	0	0	1726
2025	519	560	656	0	1735	0	0	0	0	0	0	1735
2026	530	560	700	0	1790	0	0	0	0	0	0	1790
2027	538	560	689	0	1787	0	0	0	0	0	0	1787
2028	0	0	0	0	0	0	0	0	0	0	0	0
NOMINAL	12334	14044	11895	0	38273	6672	0	0	0	667	7339	30934
NPV	4147	4566	3214	0	11927	0	0	0	0	0	0	11927

UTILITY DISCOUNT RATE: 8.53%
BENEFIT/COST RATIO (COL. 5/COL. 11): 2.25

MEASURE or PROGRAM: RSC-5BX

RATE IMPACT MEASURE TEST

	BENEFITS					COSTS								
YEAR	(1) FUEL & O & M SAVINGS $(000)	(2) AVOIDED T&D CAP. COSTS $(000)	(3) AVOIDED GEN. CAP. COSTS $(000)	(4) REVENUE GAINS $(000)	(5) TOTAL BENEFITS $(000)	(6) FUEL & O & M INCREASE $(000)	(7) INCREASED T&D CAP. COSTS $(000)	(8) INCREASED GEN. CAP. COSTS $(000)	(9) UTILITY PROGRAM COSTS $(000)	(10) INCENTIVE PAYMENTS $(000)	(11) REVENUE LOSSES $(000)	(12) TOTAL COSTS $(000)	(13) NET BENEFITS TO ALL CUSTOMERS $(000)
1999	47	61	0	0	108	0	0	0	64	311	92	467	-359
2000	135	128	0	0	263	0	0	0	71	336	192	599	-336
2001	132	197	129	0	458	0	0	0	77	350	298	725	-267
2002	183	266	178	0	627	0	0	0	79	351	405	835	-208
2003	248	333	0	0	581	0	0	0	79	338	503	920	-339
2004	288	394	226	0	908	0	0	0	75	312	601	988	-80
2005	1367	444	336	0	2147	0	0	0	69	277	684	1030	1117
2006	348	491	328	0	1167	0	0	0	60	236	754	1050	117
2007	368	530	355	0	1253	0	0	0	51	194	816	1061	192
2008	422	560	0	0	982	0	0	0	42	153	880	1075	-93
2009	402	560	402	0	1364	0	0	0	0	0	890	890	474
2010	407	560	430	0	1397	0	0	0	0	0	905	905	492
2011	415	560	423	0	1398	0	0	0	0	0	919	919	479
2012	417	560	457	0	1434	0	0	0	0	0	935	935	499
2013	428	560	455	0	1443	0	0	0	0	0	950	950	493
2014	434	560	485	0	1479	0	0	0	0	0	966	966	513
2015	436	560	478	0	1474	0	0	0	0	0	983	983	491
2016	441	560	516	0	1517	0	0	0	0	0	999	999	518
2017	444	560	514	0	1518	0	0	0	0	0	1016	1016	502
2018	453	560	548	0	1561	0	0	0	0	0	1033	1033	528
2019	466	560	540	0	1566	0	0	0	0	0	1048	1048	518
2020	474	560	582	0	1616	0	0	0	0	0	1065	1065	551
2021	487	560	580	0	1627	0	0	0	0	0	1082	1082	545
2022	493	560	620	0	1673	0	0	0	0	0	1100	1100	573
2023	504	560	610	0	1674	0	0	0	0	0	1118	1118	556
2024	508	560	658	0	1726	0	0	0	0	0	1136	1136	590
2025	519	560	656	0	1735	0	0	0	0	0	1155	1155	580
2026	530	560	700	0	1790	0	0	0	0	0	1174	1174	616
2027	538	560	689	0	1787	0	0	0	0	0	1193	1193	594
2028	0	0	0	0	0	0	0	0	0	0	0	0	0
NOMINAL	12334	14044	11895	0	38273	0	0	0	667	2858	24892	28417	9856
NPV	4147	4566	3214	0	11927	0	0	0	0	0	7605	7605	4322

UTILITY DISCOUNT RATE: 8.53%

BENEFIT/COST RATIO (COL. 5/COL. 12): 1.17

INPUT DATA

Base Code: RSC-09A

Measure Name: Ceiling Insulation - New Dwelling

Vintage: New

Incremental Participant Cost:	$220.00
Incremental Annual O&M Cost:	$0.00
Non-Recurring Incentive per Participant:	$17.00
Utility Non-Recurring Cost per Participant:	$10.00
Utility Recurring Cost per Participant:	$0.00
Annual KWH Reduction:	336
Peak Winter KW Reduction:	0.397
Peak Summer KW Reduction:	0.210
Life of Measure (years):	30

Year	Cumulative Participation
2000	326
2001	750
2002	1,277
2003	1,904
2004	2,620
2005	3,410
2006	4,257
2007	5,143
2008	6,051
2009	6,968

Florida Power Corporation
Docket No. 971005-EG
Witness: M. F. Jacob
Exhibit No.___ (MFJ-3)

MEASURE or PROGRAM: RSC-9AN

PARTICIPANT TEST

YEAR	BENEFITS (1) SAVINGS IN PARTICIPANT'S BILL $(000)	(2) INCENTIVE PAYMENTS $(000)	(3) OTHER PARTICIPANT BENEFITS $(000)	(4) TOTAL BENEFITS $(000)	COSTS (5) PARTICIPANT'S COSTS $(000)	(6) PARTICIPANT'S BILL INCREASE $(000)	(7) TOTAL COSTS $(000)	(8) NET BENEFITS TO PARTICIPANTS $(000)
1999	8	6	0	14	74	0	74	-60
2000	19	7	0	26	99	0	99	-73
2001	32	9	0	41	127	0	127	-86
2002	48	11	0	59	156	0	156	-97
2003	66	12	0	78	183	0	183	-105
2004	86	13	0	99	209	0	209	-110
2005	108	14	0	122	231	0	231	-109
2006	131	15	0	146	249	0	249	-103
2007	154	15	0	169	263	0	263	-94
2008	180	16	0	196	276	0	276	-80
2009	183	0	0	183	0	0	0	183
2010	186	0	0	186	0	0	0	186
2011	189	0	0	189	0	0	0	189
2012	192	0	0	192	0	0	0	192
2013	196	0	0	196	0	0	0	196
2014	199	0	0	199	0	0	0	199
2015	202	0	0	202	0	0	0	202
2016	205	0	0	205	0	0	0	205
2017	209	0	0	209	0	0	0	209
2018	212	0	0	212	0	0	0	212
2019	216	0	0	216	0	0	0	216
2020	219	0	0	219	0	0	0	219
2021	223	0	0	223	0	0	0	223
2022	227	0	0	227	0	0	0	227
2023	230	0	0	230	0	0	0	230
2024	234	0	0	234	0	0	0	234
2025	238	0	0	238	0	0	0	238
2026	242	0	0	242	0	0	0	242
2027	246	0	0	246	0	0	0	246
2028	0	0	0	0	0	0	0	0
NOMINAL	4880	118	0	4998	1867	0	1867	3131
NPV	1400	0	0	1400	0	0	0	1400

UTILITY DISCOUNT RATE: 8.53%

BENEFIT/COST RATIO (COL. 4/COL. 7): 1.22

MEASURE or PROGRAM: RSC-9AN

TOTAL RESOURCE COST TEST

YEAR	BENEFITS (1) TOTAL FUEL & O&M SAVINGS $(000)	(2) AVOIDED T&D CAP. COSTS $(000)	(3) AVOIDED GEN. CAP. COSTS $(000)	(4) OTHER PARTICIPANT BENEFITS $(000)	(5) TOTAL BENEFITS $(000)	COSTS (6) PARTICIPANT'S COSTS $(000)	(7) TOTAL FUEL & O&M INCREASE $(000)	(8) INCREASED T&D CAP. COSTS $(000)	(9) INCREASED GEN. CAP. COSTS $(000)	(10) UTILITY PROGRAM COSTS $(000)	(11) TOTAL COSTS $(000)	(12) NET BENEFITS $(000)
1999	4	6	0	0	10	74	0	0	0	3	77	-67
2000	10	14	0	0	24	99	0	0	0	5	104	-80
2001	6	24	12	0	42	127	0	0	0	6	133	-91
2002	19	35	18	0	72	156	0	0	0	7	163	-91
2003	30	49	26	0	105	183	0	0	0	8	191	-86
2004	32	63	26	0	121	209	0	0	0	9	218	-97
2005	691	79	59	0	829	231	0	0	0	10	241	588
2006	57	95	57	0	209	249	0	0	0	11	260	-51
2007	65	112	71	0	248	263	0	0	0	12	275	-27
2008	77	129	88	0	294	276	0	0	0	13	289	5
2009	78	129	88	0	295	0	0	0	0	0	0	295
2010	78	129	93	0	300	0	0	0	0	0	0	300
2011	81	129	93	0	303	0	0	0	0	0	0	303
2012	81	129	99	0	309	0	0	0	0	0	0	309
2013	83	129	99	0	311	0	0	0	0	0	0	311
2014	84	129	105	0	318	0	0	0	0	0	0	318
2015	86	129	105	0	320	0	0	0	0	0	0	320
2016	86	129	112	0	327	0	0	0	0	0	0	327
2017	89	129	113	0	331	0	0	0	0	0	0	331
2018	90	129	119	0	338	0	0	0	0	0	0	338
2019	92	129	119	0	340	0	0	0	0	0	0	340
2020	92	129	126	0	347	0	0	0	0	0	0	347
2021	95	129	128	0	352	0	0	0	0	0	0	352
2022	96	129	135	0	360	0	0	0	0	0	0	360
2023	99	129	134	0	362	0	0	0	0	0	0	362
2024	99	129	143	0	371	0	0	0	0	0	0	371
2025	103	129	145	0	377	0	0	0	0	0	0	377
2026	104	129	152	0	385	0	0	0	0	0	0	385
2027	106	129	152	0	387	0	0	0	0	0	0	387
2028	0	0	0	0	0	0	0	0	0	0	0	0
NOMINAL	2713	3057	2617	0	8387	1867	0	0	0	84	1951	6436
NPV	983	931	697	0	2610	0	0	0	0	0	0	2610

UTILITY DISCOUNT RATE: 8.53%

BENEFIT/COST RATIO (COL. 5/COL. 11): 2.06

MEASURE or PROGRAM: RSC-9AN

RATE IMPACT MEASURE TEST

YEAR	BENEFITS (1) FUEL & O & M SAVINGS $(000)	(2) AVOIDED T&D CAP. COSTS $(000)	(3) AVOIDED GEN. CAP. COSTS $(000)	(4) REVENUE GAINS $(000)	(5) TOTAL BENEFITS $(000)	COSTS (6) FUEL & O & M INCREASE $(000)	(7) INCREASED T&D CAP. COSTS $(000)	(8) INCREASED GEN. CAP. COSTS $(000)	(9) UTILITY PROGRAM COSTS $(000)	(10) INCENTIVE PAYMENTS $(000)	(11) REVENUE LOSSES $(000)	(12) TOTAL COSTS $(000)	(13) NET BENEFITS TO ALL CUSTOMERS $(000)
1999	4	6	0	0	10	0	0	0	3	6	8	17	-7
2000	10	14	0	0	24	0	0	0	5	7	19	31	-7
2001	6	24	12	0	42	0	0	0	6	9	32	47	-5
2002	19	35	18	0	72	0	0	0	7	11	48	66	6
2003	30	49	26	0	105	0	0	0	8	12	66	86	19
2004	32	63	26	0	121	0	0	0	9	13	86	108	13
2005	691	79	59	0	829	0	0	0	10	14	108	132	697
2006	57	95	57	0	209	0	0	0	11	15	131	157	52
2007	65	112	71	0	248	0	0	0	12	15	154	181	67
2008	77	129	88	0	294	0	0	0	13	16	180	209	85
2009	78	129	88	0	295	0	0	0	0	0	183	183	112
2010	78	129	93	0	300	0	0	0	0	0	186	186	114
2011	81	129	93	0	303	0	0	0	0	0	189	189	114
2012	81	129	99	0	309	0	0	0	0	0	192	192	117
2013	83	129	99	0	311	0	0	0	0	0	196	196	115
2014	84	129	105	0	318	0	0	0	0	0	199	199	119
2015	86	129	105	0	320	0	0	0	0	0	202	202	118
2016	86	129	112	0	327	0	0	0	0	0	205	205	122
2017	89	129	113	0	331	0	0	0	0	0	209	209	122
2018	90	129	119	0	338	0	0	0	0	0	212	212	126
2019	92	129	119	0	340	0	0	0	0	0	216	216	124
2020	92	129	126	0	347	0	0	0	0	0	219	219	128
2021	95	129	128	0	352	0	0	0	0	0	223	223	129
2022	96	129	135	0	360	0	0	0	0	0	227	227	133
2023	99	129	134	0	362	0	0	0	0	0	230	230	132
2024	99	129	143	0	371	0	0	0	0	0	234	234	137
2025	103	129	145	0	377	0	0	0	0	0	238	238	139
2026	104	129	152	0	385	0	0	0	0	0	242	242	143
2027	106	129	152	0	387	0	0	0	0	0	246	246	141
2028	0	0	0	0	0	0	0	0	0	0	0	0	0
NOMINAL	2713	3057	2617	0	8387	0	0	0	84	118	4880	5082	3305
NPV	983	931	697	0	2610	0	0	0	0	0	1400	1400	1210

UTILITY DISCOUNT RATE: 8.53%
BENEFIT/COST RATIO (COL. 5/COL. 12): 1.70

INPUT DATA

Base Code: RSC-09B

Measure Name: Ceiling Insulation - New Dwelling

Vintage: New

		Year	Cumulative Participation
Incremental Participant Cost:	$220.00	2000	197
Incremental Annual O&M Cost:	$0.00	2001	452
Non-Recurring Incentive per Participant:	$10.00	2002	770
Utility Non-Recurring Cost per Participant:	$10.00	2003	1,148
Utility Recurring Cost per Participant:	$0.00	2004	1,579
Annual KWH Reduction:	288	2005	2,056
Peak Winter KW Reduction:	0.233	2006	2,566
Peak Summer KW Reduction:	0.227	2007	3,101
Life of Measure (years):	30	2008	3,648
		2009	4,200

MEASURE or PROGRAM: RSC-9BN

PARTICIPANT TEST

YEAR	BENEFITS (1) SAVINGS IN PARTICIPANT'S BILL $(000)	(2) INCENTIVE PAYMENTS $(000)	(3) OTHER PARTICIPANT BENEFITS $(000)	(4) TOTAL BENEFITS $(000)	COSTS (5) PARTICIPANT'S COSTS $(000)	(6) PARTICIPANT'S BILL INCREASE $(000)	(7) TOTAL COSTS $(000)	(8) NET BENEFITS TO PARTICIPANTS $(000)
1999	4	2	0	6	45	0	45	-39
2000	10	3	0	13	60	0	60	-47
2001	17	3	0	20	77	0	77	-57
2002	25	4	0	29	94	0	94	-65
2003	34	4	0	38	110	0	110	-72
2004	44	5	0	49	126	0	126	-77
2005	56	5	0	61	139	0	139	-78
2006	67	5	0	72	150	0	150	-78
2007	79	5	0	84	158	0	158	-74
2008	92	6	0	98	166	0	166	-68
2009	94	0	0	94	0	0	0	94
2010	95	0	0	95	0	0	0	95
2011	97	0	0	97	0	0	0	97
2012	99	0	0	99	0	0	0	99
2013	100	0	0	100	0	0	0	100
2014	102	0	0	102	0	0	0	102
2015	104	0	0	104	0	0	0	104
2016	105	0	0	105	0	0	0	105
2017	107	0	0	107	0	0	0	107
2018	109	0	0	109	0	0	0	109
2019	110	0	0	110	0	0	0	110
2020	112	0	0	112	0	0	0	112
2021	114	0	0	114	0	0	0	114
2022	116	0	0	116	0	0	0	116
2023	118	0	0	118	0	0	0	118
2024	120	0	0	120	0	0	0	120
2025	122	0	0	122	0	0	0	122
2026	124	0	0	124	0	0	0	124
2027	126	0	0	126	0	0	0	126
2028	0	0	0	0	0	0	0	0
NOMINAL	2502	42	0	2544	1125	0	1125	1419
NPV	719	0	0	719	0	0	0	719

UTILITY DISCOUNT RATE: 8.53%

BENEFIT/COST RATIO (COL. 4/COL. 7): 1.02

MEASURE or PROGRAM: RSC-9BN

TOTAL RESOURCE COST TEST

	BENEFITS					COSTS						
YEAR	(1) TOTAL FUEL & O&M SAVINGS $(000)	(2) AVOIDED T&D CAP. COSTS $(000)	(3) AVOIDED GEN. CAP. COSTS $(000)	(4) OTHER PARTICIPANT BENEFITS $(000)	(5) TOTAL BENEFITS $(000)	(6) PARTICIPANT'S COSTS $(000)	(7) TOTAL FUEL & O&M INCREASE $(000)	(8) INCREASED T&D CAP. COSTS $(000)	(9) INCREASED GEN. CAP. COSTS $(000)	(10) UTILITY PROGRAM COSTS $(000)	(11) TOTAL COSTS $(000)	(12) NET BENEFITS $(000)
1999	2	4	0	0	6	45	0	0	0	2	47	-41
2000	6	8	0	0	14	60	0	0	0	3	63	-49
2001	3	15	8	0	26	77	0	0	0	3	80	-54
2002	11	22	12	0	45	94	0	0	0	4	98	-53
2003	17	30	15	0	62	110	0	0	0	5	115	-53
2004	14	39	17	0	70	126	0	0	0	6	132	-62
2005	78	48	34	0	160	139	0	0	0	6	145	15
2006	31	58	36	0	125	150	0	0	0	7	157	-32
2007	35	69	44	0	148	158	0	0	0	7	165	-17
2008	41	79	55	0	175	166	0	0	0	8	174	1
2009	42	79	55	0	176	0	0	0	0	0	0	176
2010	42	79	59	0	180	0	0	0	0	0	0	180
2011	44	79	57	0	180	0	0	0	0	0	0	180
2012	44	79	62	0	185	0	0	0	0	0	0	185
2013	45	79	62	0	186	0	0	0	0	0	0	186
2014	45	79	67	0	191	0	0	0	0	0	0	191
2015	47	79	65	0	191	0	0	0	0	0	0	191
2016	47	79	70	0	196	0	0	0	0	0	0	196
2017	48	79	69	0	196	0	0	0	0	0	0	196
2018	49	79	75	0	203	0	0	0	0	0	0	203
2019	50	79	73	0	202	0	0	0	0	0	0	202
2020	50	79	78	0	207	0	0	0	0	0	0	207
2021	52	79	78	0	209	0	0	0	0	0	0	209
2022	53	79	85	0	217	0	0	0	0	0	0	217
2023	54	79	83	0	216	0	0	0	0	0	0	216
2024	55	79	89	0	223	0	0	0	0	0	0	223
2025	56	79	88	0	223	0	0	0	0	0	0	223
2026	57	79	96	0	232	0	0	0	0	0	0	232
2027	58	79	94	0	231	0	0	0	0	0	0	231
2028	0	0	0	0	0	0	0	0	0	0	0	0
NOMINAL	1176	1873	1626	0	4675	1125	0	0	0	51	1176	3499
NPV	351	570	433	0	1354	0	0	0	0	0	0	1354

UTILITY DISCOUNT RATE: 8.53%
BENEFIT/COST RATIO (COL. 5/COL. 11): 1.77

MEASURE or PROGRAM: RSC-9BN

RATE IMPACT MEASURE TEST

	BENEFITS					COSTS							
YEAR	(1) FUEL & O & M SAVINGS $(000)	(2) AVOIDED T&D CAP. COSTS $(000)	(3) AVOIDED GEN. CAP. COSTS $(000)	(4) REVENUE GAINS $(000)	(5) TOTAL BENEFITS $(000)	(6) FUEL & O & M INCREASE $(000)	(7) INCREASED T&D CAP. COSTS $(000)	(8) INCREASED GEN. CAP. COSTS $(000)	(9) UTILITY PROGRAM COSTS $(000)	(10) INCENTIVE PAYMENTS $(000)	(11) REVENUE LOSSES $(000)	(12) TOTAL COSTS $(000)	(13) NET BENEFITS TO ALL CUSTOMERS $(000)
1999	2	4	0	0	6	0	0	0	2	2	4	8	-2
2000	6	8	0	0	14	0	0	0	3	3	10	16	-2
2001	3	15	8	0	26	0	0	0	3	3	17	23	3
2002	11	22	12	0	45	0	0	0	4	4	25	33	12
2003	17	30	15	0	62	0	0	0	5	4	34	43	19
2004	14	39	17	0	70	0	0	0	6	5	44	55	15
2005	78	48	34	0	160	0	0	0	6	5	56	67	93
2006	31	58	36	0	125	0	0	0	7	5	67	79	46
2007	35	69	44	0	148	0	0	0	7	5	79	91	57
2008	41	79	55	0	175	0	0	0	8	6	92	106	69
2009	42	79	55	0	176	0	0	0	0	0	94	94	82
2010	42	79	59	0	180	0	0	0	0	0	95	95	85
2011	44	79	57	0	180	0	0	0	0	0	97	97	83
2012	44	79	62	0	185	0	0	0	0	0	99	99	86
2013	45	79	62	0	186	0	0	0	0	0	100	100	86
2014	45	79	67	0	191	0	0	0	0	0	102	102	89
2015	47	79	65	0	191	0	0	0	0	0	104	104	87
2016	47	79	70	0	196	0	0	0	0	0	105	105	91
2017	48	79	69	0	196	0	0	0	0	0	107	107	89
2018	49	79	75	0	203	0	0	0	0	0	109	109	94
2019	50	79	73	0	202	0	0	0	0	0	110	110	92
2020	50	79	78	0	207	0	0	0	0	0	112	112	95
2021	52	79	78	0	209	0	0	0	0	0	114	114	95
2022	53	79	85	0	217	0	0	0	0	0	116	116	101
2023	54	79	83	0	216	0	0	0	0	0	118	118	98
2024	55	79	89	0	223	0	0	0	0	0	120	120	103
2025	56	79	88	0	223	0	0	0	0	0	122	122	101
2026	57	79	96	0	232	0	0	0	0	0	124	124	108
2027	58	79	94	0	231	0	0	0	0	0	126	126	105
2028	0	0	0	0	0	0	0	0	0	0	0	0	0
NOMINAL	1176	1873	1626	0	4675	0	0	0	51	42	2502	2595	2080
NPV	351	570	433	0	1354	0	0	0	0	0	719	719	635

UTILITY DISCOUNT RATE: 8.53%

BENEFIT/COST RATIO (COL. 5/COL. 12): 1.73

INPUT DATA

Base Code: RSC-10A

Measure Name: Ceiling Ins. (R5-R24)

Vintage: Existing

		Year	Cumulative Participation
Incremental Participant Cost:	$250.00	2000	1,986
Incremental Annual O&M Cost:	$0.00	2001	4,133
Non-Recurring Incentive per Participant:	$75.00	2002	6,370
Utility Non-Recurring Cost per Participant:	$40.00	2003	8,614
Utility Recurring Cost per Participant:	$0.00	2004	10,774
Annual KWH Reduction:	487.5	2005	12,770
Peak Winter KW Reduction:	0.661	2006	14,541
Peak Summer KW Reduction:	0.502	2007	16,050
Life of Measure (years):	30	2008	17,288
		2009	18,262

MEASURE or PROGRAM: RSC-10AX

PARTICIPANT TEST

	BENEFITS				COSTS			
YEAR	(1) SAVINGS IN PARTICIPANT'S BILL $(000)	(2) INCENTIVE PAYMENTS $(000)	(3) OTHER PARTICIPANT BENEFITS $(000)	(4) TOTAL BENEFITS $(000)	(5) PARTICIPANT'S COSTS $(000)	(6) PARTICIPANT'S BILL INCREASE $(000)	(7) TOTAL COSTS $(000)	(8) NET BENEFITS TO PARTICIPANTS $(000)
1999	72	149	0	221	497	0	497	-276
2000	150	161	0	311	553	0	553	-242
2001	232	168	0	400	594	0	594	-194
2002	316	168	0	484	615	0	615	-131
2003	392	162	0	554	610	0	610	-56
2004	471	150	0	621	581	0	581	40
2005	537	133	0	670	532	0	532	138
2006	593	113	0	706	467	0	467	239
2007	641	93	0	734	395	0	395	339
2008	688	73	0	761	323	0	323	438
2009	699	0	0	699	0	0	0	699
2010	711	0	0	711	0	0	0	711
2011	722	0	0	722	0	0	0	722
2012	735	0	0	735	0	0	0	735
2013	746	0	0	746	0	0	0	746
2014	759	0	0	759	0	0	0	759
2015	772	0	0	772	0	0	0	772
2016	786	0	0	786	0	0	0	786
2017	796	0	0	796	0	0	0	796
2018	811	0	0	811	0	0	0	811
2019	822	0	0	822	0	0	0	822
2020	837	0	0	837	0	0	0	837
2021	849	0	0	849	0	0	0	849
2022	864	0	0	864	0	0	0	864
2023	877	0	0	877	0	0	0	877
2024	893	0	0	893	0	0	0	893
2025	906	0	0	906	0	0	0	906
2026	923	0	0	923	0	0	0	923
2027	936	0	0	936	0	0	0	936
2028	0	0	0	0	0	0	0	0
NOMINAL	19536	1370	0	20906	5167	0	5167	15739
NPV	5965	0	0	5965	0	0	0	5965

UTILITY DISCOUNT RATE: 8.53%

BENEFIT/COST RATIO (COL. 4/COL. 7): 1.87

Florida Power Corporation
Docket No. 971005-EG
Witness: M.F. Jacob
Exhibit No.__ (MFJ-3)
Page 70 of 90

MEASURE or PROGRAM: RSC-10AX

TOTAL RESOURCE COST TEST

	BENEFITS					COSTS						
YEAR	(1) TOTAL FUEL & O&M SAVINGS $(000)	(2) AVOIDED T&D CAP. COSTS $(000)	(3) AVOIDED GEN. CAP. COSTS $(000)	(4) OTHER PARTICIPANT BENEFITS $(000)	(5) TOTAL BENEFITS $(000)	(6) PARTICIPANT'S COSTS $(000)	(7) TOTAL FUEL & O&M INCREASE $(000)	(8) INCREASED T&D CAP. COSTS $(000)	(9) INCREASED GEN. CAP. COSTS $(000)	(10) UTILITY PROGRAM COSTS $(000)	(11) TOTAL COSTS $(000)	(12) NET BENEFITS $(000)
1999	32	75	0	0	107	497	0	0	0	79	576	-469
2000	101	156	0	0	257	553	0	0	0	89	642	-385
2001	101	241	105	0	447	594	0	0	0	95	689	-242
2002	132	326	127	0	585	615	0	0	0	98	713	-128
2003	174	407	0	0	581	610	0	0	0	98	708	-127
2004	207	483	146	0	836	581	0	0	0	93	674	162
2005	1357	550	392	0	2299	532	0	0	0	85	617	1682
2006	253	607	349	0	1209	467	0	0	0	75	542	667
2007	264	654	397	0	1315	395	0	0	0	63	458	857
2008	283	690	449	0	1422	323	0	0	0	52	375	1047
2009	290	690	451	0	1431	0	0	0	0	0	0	1431
2010	290	690	479	0	1459	0	0	0	0	0	0	1459
2011	303	690	474	0	1467	0	0	0	0	0	0	1467
2012	304	690	507	0	1501	0	0	0	0	0	0	1501
2013	312	690	509	0	1511	0	0	0	0	0	0	1511
2014	316	690	541	0	1547	0	0	0	0	0	0	1547
2015	320	690	536	0	1546	0	0	0	0	0	0	1546
2016	321	690	573	0	1584	0	0	0	0	0	0	1584
2017	334	690	575	0	1599	0	0	0	0	0	0	1599
2018	336	690	612	0	1638	0	0	0	0	0	0	1638
2019	352	690	605	0	1647	0	0	0	0	0	0	1647
2020	351	690	648	0	1689	0	0	0	0	0	0	1689
2021	367	690	649	0	1706	0	0	0	0	0	0	1706
2022	365	690	691	0	1746	0	0	0	0	0	0	1746
2023	381	690	684	0	1755	0	0	0	0	0	0	1755
2024	380	690	732	0	1802	0	0	0	0	0	0	1802
2025	394	690	734	0	1818	0	0	0	0	0	0	1818
2026	400	690	781	0	1871	0	0	0	0	0	0	1871
2027	414	690	772	0	1876	0	0	0	0	0	0	1876
2028	0	0	0	0	0	0	0	0	0	0	0	0
NOMINAL	9434	17299	13518	0	40251	5167	0	0	0	827	5994	34257
NPV	3243	5621	3645	0	12509	0	0	0	0	0	0	12509

UTILITY DISCOUNT RATE: 8.53%
BENEFIT/COST RATIO (COL. 5/COL. 11): 2.89

MEASURE or PROGRAM: RSC-10AX

RATE IMPACT MEASURE TEST

	BENEFITS					COSTS							
YEAR	(1) FUEL & O & M SAVINGS $(000)	(2) AVOIDED T&D CAP. COSTS $(000)	(3) AVOIDED GEN. CAP. COSTS $(000)	(4) REVENUE GAINS $(000)	(5) TOTAL BENEFITS $(000)	(6) FUEL & O & M INCREASE $(000)	(7) INCREASED T&D CAP. COSTS $(000)	(8) INCREASED GEN. CAP. COSTS $(000)	(9) UTILITY PROGRAM COSTS $(000)	(10) INCENTIVE PAYMENTS $(000)	(11) REVENUE LOSSES $(000)	(12) TOTAL COSTS $(000)	(13) NET BENEFITS TO ALL CUSTOMERS $(000)
1999	32	75	0	0	107	0	0	0	79	149	72	300	-193
2000	101	156	0	0	257	0	0	0	89	161	150	400	-143
2001	101	241	105	0	447	0	0	0	95	168	232	495	-48
2002	132	326	127	0	585	0	0	0	98	168	316	582	3
2003	174	407	0	0	581	0	0	0	98	162	392	652	-71
2004	207	483	146	0	836	0	0	0	93	150	471	714	122
2005	1357	550	392	0	2299	0	0	0	85	133	537	755	1544
2006	253	607	349	0	1209	0	0	0	75	113	593	781	428
2007	264	654	397	0	1315	0	0	0	63	93	641	797	518
2008	283	690	449	0	1422	0	0	0	52	73	688	813	609
2009	290	690	451	0	1431	0	0	0	0	0	699	699	732
2010	290	690	479	0	1459	0	0	0	0	0	711	711	748
2011	303	690	474	0	1467	0	0	0	0	0	722	722	745
2012	304	690	507	0	1501	0	0	0	0	0	735	735	766
2013	312	690	509	0	1511	0	0	0	0	0	746	746	765
2014	316	690	541	0	1547	0	0	0	0	0	759	759	788
2015	320	690	536	0	1546	0	0	0	0	0	772	772	774
2016	321	690	573	0	1584	0	0	0	0	0	786	786	798
2017	334	690	575	0	1599	0	0	0	0	0	796	796	803
2018	336	690	612	0	1638	0	0	0	0	0	811	811	827
2019	352	690	605	0	1647	0	0	0	0	0	822	822	825
2020	351	690	648	0	1689	0	0	0	0	0	837	837	852
2021	367	690	649	0	1706	0	0	0	0	0	849	849	857
2022	365	690	691	0	1746	0	0	0	0	0	864	864	882
2023	381	690	684	0	1755	0	0	0	0	0	877	877	878
2024	380	690	732	0	1802	0	0	0	0	0	893	893	909
2025	394	690	734	0	1818	0	0	0	0	0	906	906	912
2026	400	690	781	0	1871	0	0	0	0	0	923	923	948
2027	414	690	772	0	1876	0	0	0	0	0	936	936	940
2028	0	0	0	0	0	0	0	0	0	0	0	0	0
NOMINAL	9434	17299	13518	0	40251	0	0	0	827	1370	19536	21733	18518
NPV	3243	5621	3645	0	12509	0	0	0	0	0	5965	5965	6544

UTILITY DISCOUNT RATE: 8.53%

BENEFIT/COST RATIO (COL. 5/COL. 12): 1.65

INPUT DATA

Base Code: RSC-10B

Measure Name: Ceiling Ins. (R5-R24)

Vintage: Existing

		Year	Cumulative Participation
Incremental Participant Cost:	$250.00	2000	897
Incremental Annual O&M Cost:	$0.00	2001	1,866
Non-Recurring Incentive per Participant:	$75.00	2002	2,877
Utility Non-Recurring Cost per Participant:	$40.00	2003	3,890
Utility Recurring Cost per Participant:	$0.00	2004	4,865
Annual KWH Reduction:	417	2005	5,767
Peak Winter KW Reduction:	0.476	2006	6,566
Peak Summer KW Reduction:	0.384	2007	7,248
Life of Measure (years):	30	2008	7,807
		2009	8,247

MEASURE or PROGRAM: RSC-10BX

PARTICIPANT TEST

YEAR	BENEFITS (1) SAVINGS IN PARTICIPANT'S BILL $(000)	(2) INCENTIVE PAYMENTS $(000)	(3) OTHER PARTICIPANT BENEFITS $(000)	(4) TOTAL BENEFITS $(000)	COSTS (5) PARTICIPANT'S COSTS $(000)	(6) PARTICIPANT'S BILL INCREASE $(000)	(7) TOTAL COSTS $(000)	(8) NET BENEFITS TO PARTICIPANTS $(000)
1999	28	67	0	95	231	0	231	-136
2000	58	73	0	131	258	0	258	-127
2001	90	76	0	166	277	0	277	-111
2002	122	76	0	198	286	0	286	-88
2003	153	73	0	226	284	0	284	-58
2004	182	68	0	250	271	0	271	-21
2005	207	60	0	267	247	0	247	20
2006	228	51	0	279	218	0	218	61
2007	247	42	0	289	184	0	184	105
2008	265	33	0	298	150	0	150	148
2009	269	0	0	269	0	0	0	269
2010	274	0	0	274	0	0	0	274
2011	278	0	0	278	0	0	0	278
2012	283	0	0	283	0	0	0	283
2013	287	0	0	287	0	0	0	287
2014	292	0	0	292	0	0	0	292
2015	298	0	0	298	0	0	0	298
2016	302	0	0	302	0	0	0	302
2017	307	0	0	307	0	0	0	307
2018	312	0	0	312	0	0	0	312
2019	317	0	0	317	0	0	0	317
2020	322	0	0	322	0	0	0	322
2021	327	0	0	327	0	0	0	327
2022	333	0	0	333	0	0	0	333
2023	338	0	0	338	0	0	0	338
2024	344	0	0	344	0	0	0	344
2025	349	0	0	349	0	0	0	349
2026	355	0	0	355	0	0	0	355
2027	361	0	0	361	0	0	0	361
2028	0	0	0	0	0	0	0	0
NOMINAL	7528	619	0	8147	2406	0	2406	5741
NPV	2300	0	0	2300	0	0	0	2300

UTILITY DISCOUNT RATE: 8.53%
BENEFIT/COST RATIO (COL. 4/COL. 7): 1.59

MEASURE or PROGRAM: RSC-10BX

TOTAL RESOURCE COST TEST

	BENEFITS					COSTS						
YEAR	(1) TOTAL FUEL & O&M SAVINGS $(000)	(2) AVOIDED T&D CAP. COSTS $(000)	(3) AVOIDED GEN. CAP. COSTS $(000)	(4) OTHER PARTICIPANT BENEFITS $(000)	(5) TOTAL BENEFITS $(000)	(6) PARTICIPANT'S COSTS $(000)	(7) TOTAL FUEL & O&M INCREASE $(000)	(8) INCREASED T&D CAP. COSTS $(000)	(9) INCREASED GEN. CAP. COSTS $(000)	(10) UTILITY PROGRAM COSTS $(000)	(11) TOTAL COSTS $(000)	(12) NET BENEFITS $(000)
1999	13	25	0	0	38	231	0	0	0	37	268	-230
2000	32	52	0	0	84	258	0	0	0	41	299	-215
2001	48	80	36	0	164	277	0	0	0	44	321	-157
2002	50	108	45	0	203	286	0	0	0	46	332	-129
2003	71	134	69	0	274	284	0	0	0	45	329	-55
2004	80	159	53	0	292	271	0	0	0	43	314	-22
2005	856	182	136	0	1174	247	0	0	0	40	287	887
2006	104	200	116	0	420	218	0	0	0	35	253	167
2007	109	216	134	0	459	184	0	0	0	29	213	246
2008	117	228	151	0	496	150	0	0	0	24	174	322
2009	119	228	153	0	500	0	0	0	0	0	0	500
2010	119	228	160	0	507	0	0	0	0	0	0	507
2011	123	228	161	0	512	0	0	0	0	0	0	512
2012	124	228	170	0	522	0	0	0	0	0	0	522
2013	127	228	172	0	527	0	0	0	0	0	0	527
2014	128	228	181	0	537	0	0	0	0	0	0	537
2015	125	228	182	0	535	0	0	0	0	0	0	535
2016	133	228	192	0	553	0	0	0	0	0	0	553
2017	134	228	194	0	556	0	0	0	0	0	0	556
2018	137	228	204	0	569	0	0	0	0	0	0	569
2019	142	228	205	0	575	0	0	0	0	0	0	575
2020	142	228	217	0	587	0	0	0	0	0	0	587
2021	147	228	219	0	594	0	0	0	0	0	0	594
2022	148	228	231	0	607	0	0	0	0	0	0	607
2023	153	228	232	0	613	0	0	0	0	0	0	613
2024	154	228	245	0	627	0	0	0	0	0	0	627
2025	158	228	247	0	633	0	0	0	0	0	0	633
2026	160	228	261	0	649	0	0	0	0	0	0	649
2027	165	228	262	0	655	0	0	0	0	0	0	655
2028	0	0	0	0	0	0	0	0	0	0	0	0
NOMINAL	4118	5716	4628	0	14462	2406	0	0	0	384	2790	11672
NPV	1497	1857	1284	0	4638	0	0	0	0	0	0	4638

UTILITY DISCOUNT RATE: 8.53%
BENEFIT/COST RATIO (COL. 5/COL. 11): 2.30

Florida Power Corporation
Docket No. 971005-EG
Witness: M.F. Jacob
Exhibit No.__ (MFJ-3)
Page 75 of 90

MEASURE or PROGRAM: RSC-10BX

RATE IMPACT MEASURE TEST

	BENEFITS					COSTS							
YEAR	(1) FUEL & O & M SAVINGS $(000)	(2) AVOIDED T&D CAP. COSTS $(000)	(3) AVOIDED GEN. CAP. COSTS $(000)	(4) REVENUE GAINS $(000)	(5) TOTAL BENEFITS $(000)	(6) FUEL & O & M INCREASE $(000)	(7) INCREASED T&D CAP. COSTS $(000)	(8) INCREASED GEN. CAP. COSTS $(000)	(9) UTILITY PROGRAM COSTS $(000)	(10) INCENTIVE PAYMENTS $(000)	(11) REVENUE LOSSES $(000)	(12) TOTAL COSTS $(000)	(13) NET BENEFITS TO ALL CUSTOMERS $(000)
1999	13	25	0	0	38	0	0	0	37	67	28	132	-94
2000	32	52	0	0	84	0	0	0	41	73	58	172	-88
2001	48	80	36	0	164	0	0	0	44	76	90	210	-46
2002	50	108	45	0	203	0	0	0	46	76	122	244	-41
2003	71	134	69	0	274	0	0	0	45	73	153	271	3
2004	80	159	53	0	292	0	0	0	43	68	182	293	-1
2005	856	182	136	0	1174	0	0	0	40	60	207	307	867
2006	104	200	116	0	420	0	0	0	35	51	228	314	106
2007	109	216	134	0	459	0	0	0	29	42	247	318	141
2008	117	228	151	0	496	0	0	0	24	33	265	322	174
2009	119	228	153	0	500	0	0	0	0	0	269	269	231
2010	119	228	160	0	507	0	0	0	0	0	274	274	233
2011	123	228	161	0	512	0	0	0	0	0	278	278	234
2012	124	228	170	0	522	0	0	0	0	0	283	283	239
2013	127	228	172	0	527	0	0	0	0	0	287	287	240
2014	128	228	181	0	537	0	0	0	0	0	292	292	245
2015	125	228	182	0	535	0	0	0	0	0	298	298	237
2016	133	228	192	0	553	0	0	0	0	0	302	302	251
2017	134	228	194	0	556	0	0	0	0	0	307	307	249
2018	137	228	204	0	569	0	0	0	0	0	312	312	257
2019	142	228	205	0	575	0	0	0	0	0	317	317	258
2020	142	228	217	0	587	0	0	0	0	0	322	322	265
2021	147	228	219	0	594	0	0	0	0	0	327	327	267
2022	148	228	231	0	607	0	0	0	0	0	333	333	274
2023	153	228	232	0	613	0	0	0	0	0	338	338	275
2024	154	228	245	0	627	0	0	0	0	0	344	344	283
2025	158	228	247	0	633	0	0	0	0	0	349	349	284
2026	160	228	261	0	649	0	0	0	0	0	355	355	294
2027	165	228	262	0	655	0	0	0	0	0	361	361	294
2028	0	0	0	0	0	0	0	0	0	0	0	0	0
NOMINAL	4118	5716	4628	0	14462	0	0	0	384	619	7528	8531	5931
NPV	1497	1857	1284	0	4638	0	0	0	0	0	2300	2300	2338

UTILITY DISCOUNT RATE: 8.53%

BENEFIT/COST RATIO (COL. 5/COL. 12): 1.52

INPUT DATA

Base Code: RSC-11A

Measure Name: Ceiling Ins. (R11-R30)

Vintage: Existing

		Year	Cumulative Participation
Incremental Participant Cost:	$250.00	2000	321
Incremental Annual O&M Cost:	$0.00	2001	668
Non-Recurring Incentive per Participant:	$100.00	2002	1,029
Utility Non-Recurring Cost per Participant:	$40.00	2003	1,391
Utility Recurring Cost per Participant:	$0.00	2004	1,740
Annual KWH Reduction:	244.5	2005	2,063
Peak Winter KW Reduction:	0.386	2006	2,349
Peak Summer KW Reduction:	0.282	2007	2,593
Life of Measure (years):	30	2008	2,792
		2009	2,950

MEASURE or PROGRAM: RSC-11AX

PARTICIPANT TEST

	BENEFITS				COSTS			
YEAR	(1) SAVINGS IN PARTICIPANT'S BILL $(000)	(2) INCENTIVE PAYMENTS $(000)	(3) OTHER PARTICIPANT BENEFITS $(000)	(4) TOTAL BENEFITS $(000)	(5) PARTICIPANT'S COSTS $(000)	(6) PARTICIPANT'S BILL INCREASE $(000)	(7) TOTAL COSTS $(000)	(8) NET BENEFITS TO PARTICIPANTS $(000)
1999	6	32	0	38	83	0	83	-45
2000	12	35	0	47	92	0	92	-45
2001	19	36	0	55	99	0	99	-44
2002	26	36	0	62	102	0	102	-40
2003	32	35	0	67	102	0	102	-35
2004	38	32	0	70	97	0	97	-27
2005	44	29	0	73	89	0	89	-16
2006	48	24	0	72	78	0	78	-6
2007	52	20	0	72	65	0	65	7
2008	56	16	0	72	54	0	54	18
2009	57	0	0	57	0	0	0	57
2010	58	0	0	58	0	0	0	58
2011	58	0	0	58	0	0	0	58
2012	60	0	0	60	0	0	0	60
2013	60	0	0	60	0	0	0	60
2014	61	0	0	61	0	0	0	61
2015	62	0	0	62	0	0	0	62
2016	64	0	0	64	0	0	0	64
2017	64	0	0	64	0	0	0	64
2018	66	0	0	66	0	0	0	66
2019	67	0	0	67	0	0	0	67
2020	68	0	0	68	0	0	0	68
2021	69	0	0	69	0	0	0	69
2022	70	0	0	70	0	0	0	70
2023	71	0	0	71	0	0	0	71
2024	72	0	0	72	0	0	0	72
2025	73	0	0	73	0	0	0	73
2026	75	0	0	75	0	0	0	75
2027	76	0	0	76	0	0	0	76
2028	0	0	0	0	0	0	0	0
NOMINAL	1584	295	0	1879	861	0	861	1018
NPV	484	0	0	484	0	0	0	484

UTILITY DISCOUNT RATE: 8.53%

BENEFIT/COST RATIO (COL. 4/COL. 7): 1.13

Florida Power Corporation
Docket No. 971005-EG
Witness: M.F. Jacob
Exhibit No.__ (MFJ-3)
Page 78 of 90

MEASURE or PROGRAM: RSC-11AX

TOTAL RESOURCE COST TEST

	BENEFITS					COSTS						
YEAR	(1) TOTAL FUEL & O&M SAVINGS $(000)	(2) AVOIDED T&D CAP. COSTS $(000)	(3) AVOIDED GEN. CAP. COSTS $(000)	(4) OTHER PARTICIPANT BENEFITS $(000)	(5) TOTAL BENEFITS $(000)	(6) PARTICIPANT'S COSTS $(000)	(7) TOTAL FUEL & O&M INCREASE $(000)	(8) INCREASED T&D CAP. COSTS $(000)	(9) INCREASED GEN. CAP. COSTS $(000)	(10) UTILITY PROGRAM COSTS $(000)	(11) TOTAL COSTS $(000)	(12) NET BENEFITS $(000)
1999	3	8	0	0	11	83	0	0	0	13	96	-85
2000	7	16	0	0	23	92	0	0	0	15	107	-84
2001	2	25	11	0	38	99	0	0	0	16	115	-77
2002	9	34	13	0	56	102	0	0	0	16	118	-62
2003	14	43	19	0	76	102	0	0	0	16	118	-42
2004	9	51	15	0	75	97	0	0	0	16	113	-38
2005	78	58	39	0	175	89	0	0	0	14	103	72
2006	20	64	36	0	120	78	0	0	0	12	90	30
2007	21	69	41	0	131	65	0	0	0	10	75	56
2008	22	72	47	0	141	54	0	0	0	9	63	78
2009	23	72	47	0	142	0	0	0	0	0	0	142
2010	22	72	50	0	144	0	0	0	0	0	0	144
2011	24	72	50	0	146	0	0	0	0	0	0	146
2012	24	72	53	0	149	0	0	0	0	0	0	149
2013	25	72	53	0	150	0	0	0	0	0	0	150
2014	24	72	57	0	153	0	0	0	0	0	0	153
2015	26	72	56	0	154	0	0	0	0	0	0	154
2016	26	72	60	0	158	0	0	0	0	0	0	158
2017	27	72	60	0	159	0	0	0	0	0	0	159
2018	27	72	64	0	163	0	0	0	0	0	0	163
2019	28	72	63	0	163	0	0	0	0	0	0	163
2020	28	72	68	0	168	0	0	0	0	0	0	168
2021	30	72	68	0	170	0	0	0	0	0	0	170
2022	30	72	72	0	174	0	0	0	0	0	0	174
2023	31	72	72	0	175	0	0	0	0	0	0	175
2024	31	72	77	0	180	0	0	0	0	0	0	180
2025	32	72	76	0	180	0	0	0	0	0	0	180
2026	33	72	82	0	187	0	0	0	0	0	0	187
2027	34	72	81	0	187	0	0	0	0	0	0	187
2028	0	0	0	0	0	0	0	0	0	0	0	0
NOMINAL	710	1808	1430	0	3948	861	0	0	0	137	998	2950
NPV	228	588	393	0	1209	0	0	0	0	0	0	1209

UTILITY DISCOUNT RATE: 8.53%

BENEFIT/COST RATIO (COL. 5/COL. 11): 1.68

Florida Power Corporation
Docket No. 971005-EG
Witness: M.F. Jacob
Exhibit No.__ (MFJ-3)
Page 79 of 90

MEASURE or PROGRAM: RSC-11AX

RATE IMPACT MEASURE TEST

	BENEFITS					COSTS							
YEAR	(1) FUEL & O & M SAVINGS $(000)	(2) AVOIDED T&D CAP. COSTS $(000)	(3) AVOIDED GEN. CAP. COSTS $(000)	(4) REVENUE GAINS $(000)	(5) TOTAL BENEFITS $(000)	(6) FUEL & O & M INCREASE $(000)	(7) INCREASED T&D CAP. COSTS $(000)	(8) INCREASED GEN. CAP. COSTS $(000)	(9) UTILITY PROGRAM COSTS $(000)	(10) INCENTIVE PAYMENTS $(000)	(11) REVENUE LOSSES $(000)	(12) TOTAL COSTS $(000)	(13) NET BENEFITS TO ALL CUSTOMERS $(000)
1999	3	8	0	0	11	0	0	0	13	32	6	51	-40
2000	7	16	0	0	23	0	0	0	15	35	12	62	-39
2001	2	25	11	0	38	0	0	0	16	36	19	71	-33
2002	9	34	13	0	56	0	0	0	16	36	26	78	-22
2003	14	43	19	0	76	0	0	0	16	35	32	83	-7
2004	9	51	15	0	75	0	0	0	16	32	38	86	-11
2005	78	58	39	0	175	0	0	0	14	29	44	87	88
2006	20	64	36	0	120	0	0	0	12	24	48	84	36
2007	21	69	41	0	131	0	0	0	10	20	52	82	49
2008	22	72	47	0	141	0	0	0	9	16	56	81	60
2009	23	72	47	0	142	0	0	0	0	0	57	57	85
2010	22	72	50	0	144	0	0	0	0	0	58	58	86
2011	24	72	50	0	146	0	0	0	0	0	58	58	88
2012	24	72	53	0	149	0	0	0	0	0	60	60	89
2013	25	72	53	0	150	0	0	0	0	0	60	60	90
2014	24	72	57	0	153	0	0	0	0	0	61	61	92
2015	26	72	56	0	154	0	0	0	0	0	62	62	92
2016	26	72	60	0	158	0	0	0	0	0	64	64	94
2017	27	72	60	0	159	0	0	0	0	0	64	64	95
2018	27	72	64	0	163	0	0	0	0	0	66	66	97
2019	28	72	63	0	163	0	0	0	0	0	67	67	96
2020	28	72	68	0	168	0	0	0	0	0	68	68	100
2021	30	72	68	0	170	0	0	0	0	0	69	69	101
2022	30	72	72	0	174	0	0	0	0	0	70	70	104
2023	31	72	72	0	175	0	0	0	0	0	71	71	104
2024	31	72	77	0	180	0	0	0	0	0	72	72	108
2025	32	72	76	0	180	0	0	0	0	0	73	73	107
2026	33	72	82	0	187	0	0	0	0	0	75	75	112
2027	34	72	81	0	187	0	0	0	0	0	76	76	111
2028	0	0	0	0	0	0	0	0	0	0	0	0	0
NOMINAL	710	1808	1430	0	3948	0	0	0	137	295	1584	2016	1932
NPV	228	588	393	0	1209	0	0	0	0	0	484	484	725

UTILITY DISCOUNT RATE: 8.53%

BENEFIT/COST RATIO (COL. 5/COL. 12): 1.51

INPUT DATA

Base Code: RSC-11B

Measure Name: Ceiling Ins. (R11-R30)

Vintage: Existing

		Year	Cumulative Participation
Incremental Participant Cost:	$250.00	2000	159
Incremental Annual O&M Cost:	$0.00	2001	330
Non-Recurring Incentive per Participant:	$100.00	2002	509
Utility Non-Recurring Cost per Participant:	$40.00	2003	689
Utility Recurring Cost per Participant:	$0.00	2004	861
Annual KWH Reduction:	210	2005	1,021
Peak Winter KW Reduction:	0.344	2006	1,163
Peak Summer KW Reduction:	0.286	2007	1,283
Life of Measure (years):	30	2008	1,382
		2009	1,460

MEASURE or PROGRAM: RSC-11BX

PARTICIPANT TEST

YEAR	BENEFITS (1) SAVINGS IN PARTICIPANT'S BILL $(000)	(2) INCENTIVE PAYMENTS $(000)	(3) OTHER PARTICIPANT BENEFITS $(000)	(4) TOTAL BENEFITS $(000)	COSTS (5) PARTICIPANT'S COSTS $(000)	(6) PARTICIPANT'S BILL INCREASE $(000)	(7) TOTAL COSTS $(000)	(8) NET BENEFITS TO PARTICIPANTS $(000)
1999	2	16	0	18	41	0	41	-23
2000	5	17	0	22	45	0	45	-23
2001	8	18	0	26	49	0	49	-23
2002	11	18	0	29	51	0	51	-22
2003	14	17	0	31	50	0	50	-19
2004	16	16	0	32	48	0	48	-16
2005	18	14	0	32	44	0	44	-12
2006	20	12	0	32	39	0	39	-7
2007	22	10	0	32	32	0	32	0
2008	24	8	0	32	27	0	27	5
2009	24	0	0	24	0	0	0	24
2010	24	0	0	24	0	0	0	24
2011	25	0	0	25	0	0	0	25
2012	25	0	0	25	0	0	0	25
2013	26	0	0	26	0	0	0	26
2014	26	0	0	26	0	0	0	26
2015	26	0	0	26	0	0	0	26
2016	27	0	0	27	0	0	0	27
2017	27	0	0	27	0	0	0	27
2018	28	0	0	28	0	0	0	28
2019	28	0	0	28	0	0	0	28
2020	29	0	0	29	0	0	0	29
2021	29	0	0	29	0	0	0	29
2022	30	0	0	30	0	0	0	30
2023	30	0	0	30	0	0	0	30
2024	31	0	0	31	0	0	0	31
2025	31	0	0	31	0	0	0	31
2026	32	0	0	32	0	0	0	32
2027	32	0	0	32	0	0	0	32
2028	0	0	0	0	0	0	0	0
NOMINAL	670	146	0	816	426	0	426	390
NPV	205	0	0	205	0	0	0	205

UTILITY DISCOUNT RATE: 8.53%
BENEFIT/COST RATIO (COL. 4/COL. 7): 1.02

MEASURE or PROGRAM: RSC-11BX

TOTAL RESOURCE COST TEST

	BENEFITS					COSTS						
YEAR	(1) TOTAL FUEL & O&M SAVINGS $(000)	(2) AVOIDED T&D CAP. COSTS $(000)	(3) AVOIDED GEN. CAP. COSTS $(000)	(4) OTHER PARTICIPANT BENEFITS $(000)	(5) TOTAL BENEFITS $(000)	(6) PARTICIPANT'S COSTS $(000)	(7) TOTAL FUEL & O&M INCREASE $(000)	(8) INCREASED T&D CAP. COSTS $(000)	(9) INCREASED GEN. CAP. COSTS $(000)	(10) UTILITY PROGRAM COSTS $(000)	(11) TOTAL COSTS $(000)	(12) NET BENEFITS $(000)
1999	1	3	0	0	4	41	0	0	0	7	48	-44
2000	3	7	0	0	10	45	0	0	0	7	52	-42
2001	1	11	4	0	16	49	0	0	0	8	57	-41
2002	4	15	5	0	24	51	0	0	0	8	59	-35
2003	6	19	8	0	33	50	0	0	0	8	58	-25
2004	8	22	6	0	36	48	0	0	0	8	56	-20
2005	32	26	16	0	74	44	0	0	0	7	51	23
2006	9	28	14	0	51	39	0	0	0	6	45	6
2007	9	30	16	0	55	32	0	0	0	5	37	18
2008	10	32	19	0	61	27	0	0	0	4	31	30
2009	10	32	18	0	60	0	0	0	0	0	0	60
2010	11	32	20	0	63	0	0	0	0	0	0	63
2011	11	32	19	0	62	0	0	0	0	0	0	62
2012	11	32	22	0	65	0	0	0	0	0	0	65
2013	11	32	21	0	64	0	0	0	0	0	0	64
2014	11	32	23	0	66	0	0	0	0	0	0	66
2015	12	32	22	0	66	0	0	0	0	0	0	66
2016	12	32	23	0	67	0	0	0	0	0	0	67
2017	12	32	23	0	67	0	0	0	0	0	0	67
2018	12	32	26	0	70	0	0	0	0	0	0	70
2019	13	32	25	0	70	0	0	0	0	0	0	70
2020	12	32	26	0	70	0	0	0	0	0	0	70
2021	13	32	26	0	71	0	0	0	0	0	0	71
2022	13	32	29	0	74	0	0	0	0	0	0	74
2023	14	32	28	0	74	0	0	0	0	0	0	74
2024	14	32	30	0	76	0	0	0	0	0	0	76
2025	14	32	30	0	76	0	0	0	0	0	0	76
2026	15	32	33	0	80	0	0	0	0	0	0	80
2027	15	32	32	0	79	0	0	0	0	0	0	79
2028	0	0	0	0	0	0	0	0	0	0	0	0
NOMINAL	319	801	564	0	1684	426	0	0	0	68	494	1190
NPV	103	260	155	0	518	0	0	0	0	0	0	518

UTILITY DISCOUNT RATE: 8.53%

BENEFIT/COST RATIO (COL. 5/COL. 11): 1.46

MEASURE or PROGRAM: RSC-11BX

RATE IMPACT MEASURE TEST

YEAR	BENEFITS (1) FUEL & O & M SAVINGS $(000)	(2) AVOIDED T&D CAP. COSTS $(000)	(3) AVOIDED GEN. CAP. COSTS $(000)	(4) REVENUE GAINS $(000)	(5) TOTAL BENEFITS $(000)	COSTS (6) FUEL & O & M INCREASE $(000)	(7) INCREASED T&D CAP. COSTS $(000)	(8) INCREASED GEN. CAP. COSTS $(000)	(9) UTILITY PROGRAM COSTS $(000)	(10) INCENTIVE PAYMENTS $(000)	(11) REVENUE LOSSES $(000)	(12) TOTAL COSTS $(000)	(13) NET BENEFITS TO ALL CUSTOMERS $(000)
1999	1	3	0	0	4	0	0	0	7	16	2	25	-21
2000	3	7	0	0	10	0	0	0	7	17	5	29	-19
2001	1	11	4	0	16	0	0	0	8	18	8	34	-18
2002	4	15	5	0	24	0	0	0	8	18	11	37	-13
2003	6	19	8	0	33	0	0	0	8	17	14	39	-6
2004	8	22	6	0	36	0	0	0	8	16	16	40	-4
2005	32	26	16	0	74	0	0	0	7	14	18	39	35
2006	9	28	14	0	51	0	0	0	6	12	20	38	13
2007	9	30	16	0	55	0	0	0	5	10	22	37	18
2008	10	32	19	0	61	0	0	0	4	8	24	36	25
2009	10	32	18	0	60	0	0	0	0	0	24	24	36
2010	11	32	20	0	63	0	0	0	0	0	24	24	39
2011	11	32	19	0	62	0	0	0	0	0	25	25	37
2012	11	32	22	0	65	0	0	0	0	0	25	25	40
2013	11	32	21	0	64	0	0	0	0	0	26	26	38
2014	11	32	23	0	66	0	0	0	0	0	26	26	40
2015	12	32	22	0	66	0	0	0	0	0	26	26	40
2016	12	32	23	0	67	0	0	0	0	0	27	27	40
2017	12	32	23	0	67	0	0	0	0	0	27	27	40
2018	12	32	26	0	70	0	0	0	0	0	28	28	42
2019	13	32	25	0	70	0	0	0	0	0	28	28	42
2020	12	32	26	0	70	0	0	0	0	0	29	29	41
2021	13	32	26	0	71	0	0	0	0	0	29	29	42
2022	13	32	29	0	74	0	0	0	0	0	30	30	44
2023	14	32	28	0	74	0	0	0	0	0	30	30	44
2024	14	32	30	0	76	0	0	0	0	0	31	31	45
2025	14	32	30	0	76	0	0	0	0	0	31	31	45
2026	15	32	33	0	80	0	0	0	0	0	32	32	48
2027	15	32	32	0	79	0	0	0	0	0	32	32	47
2028	0	0	0	0	0	0	0	0	0	0	0	0	0
NOMINAL	319	801	564	0	1684	0	0	0	68	146	670	884	800
NPV	103	260	155	0	518	0	0	0	0	0	205	205	314

UTILITY DISCOUNT RATE: 8.53%
BENEFIT/COST RATIO (COL. 5/COL. 12): 1.44

Florida Power Corporation
Docket No. 971005-EG
Witness: M.F. Jacob
Exhibit No.__ (MFJ-3)
Page 84 of 90

INPUT DATA

Base Code: N/A

Measure Name: Residential Energy Management - Winter Only DLC

Vintage: New

		Year	Cumulative Participation
Incremental Participant Cost:	$0.00	2000	5,000
Utility Annual O&M Cost:	$145,000.00	2001	10,625
Recurring Incentive per Participant:	$24.80	2002	16,875
Utility Non-Recurring Cost per Participant:	$132.56	2003	23,750
Utility Recurring Cost per Participant:	$4.56	2004	31,250
Annual KWH Reduction:	0	2005	38,750
Peak Winter KW Reduction:	2.110	2006	45,625
Peak Summer KW Reduction:	0.000	2007	51,875
Life of Measure (years):	20	2008	57,500
		2009	62,500

MEASURE or PROGRAM: LM-WNTR

PARTICIPANT TEST

	BENEFITS				COSTS			
YEAR	(1) SAVINGS IN PARTICIPANT'S BILL $(000)	(2) INCENTIVE PAYMENTS $(000)	(3) OTHER PARTICIPANT BENEFITS $(000)	(4) TOTAL BENEFITS $(000)	(5) PARTICIPANT'S COSTS $(000)	(6) PARTICIPANT'S BILL INCREASE $(000)	(7) TOTAL COSTS $(000)	(8) NET BENEFITS TO PARTICIPANTS $(000)
1999	1	124	0	125	0	0	0	125
2000	3	264	0	267	0	0	0	267
2001	2	419	0	421	0	0	0	421
2002	3	589	0	592	0	0	0	592
2003	13	775	0	788	0	0	0	788
2004	9	961	0	970	0	0	0	970
2005	37	1132	0	1169	0	0	0	1169
2006	28	1287	0	1315	0	0	0	1315
2007	35	1426	0	1461	0	0	0	1461
2008	40	1550	0	1590	0	0	0	1590
2009	54	1550	0	1604	0	0	0	1604
2010	41	1550	0	1591	0	0	0	1591
2011	33	1550	0	1583	0	0	0	1583
2012	43	1550	0	1593	0	0	0	1593
2013	34	1550	0	1584	0	0	0	1584
2014	44	1550	0	1594	0	0	0	1594
2015	35	1550	0	1585	0	0	0	1585
2016	45	1550	0	1595	0	0	0	1595
2017	39	1550	0	1589	0	0	0	1589
2018	46	1550	0	1596	0	0	0	1596
2019	45	1550	0	1595	0	0	0	1595
2020	52	1550	0	1602	0	0	0	1602
2021	45	1550	0	1595	0	0	0	1595
2022	53	1550	0	1603	0	0	0	1603
2023	48	1550	0	1598	0	0	0	1598
2024	55	1550	0	1605	0	0	0	1605
2025	48	1550	0	1598	0	0	0	1598
2026	57	1550	0	1607	0	0	0	1607
2027	55	1550	0	1605	0	0	0	1605
2028	0	0	0	0	0	0	0	0
NOMINAL	1043	37977	0	39020	0	0	0	39020
NPV	294	0	0	294	0	0	0	294

UTILITY DISCOUNT RATE: 8.53%

BENEFIT/COST RATIO (COL. 4/COL. 7): 9999.00

Florida Power Corporation
Docket No. 971005-EG
Witness: M.F. Jacob
Exhibit No.__ (MFJ-3)
Page 86 of 90

MEASURE or PROGRAM: LM-WNTR

TOTAL RESOURCE COST TEST

	BENEFITS					COSTS						
YEAR	(1) TOTAL FUEL & O&M SAVINGS $(000)	(2) AVOIDED T&D CAP. COSTS $(000)	(3) AVOIDED GEN. CAP. COSTS $(000)	(4) OTHER PARTICIPANT BENEFITS $(000)	(5) TOTAL BENEFITS $(000)	(6) PARTICIPANT'S COSTS $(000)	(7) TOTAL FUEL & O&M INCREASE $(000)	(8) INCREASED T&D CAP. COSTS $(000)	(9) INCREASED GEN. CAP. COSTS $(000)	(10) UTILITY PROGRAM COSTS $(000)	(11) TOTAL COSTS $(000)	(12) NET BENEFITS $(000)
1999	2	90	0	0	92	0	0	0	0	976	976	-884
2000	7	192	0	0	199	0	0	0	0	1087	1087	-888
2001	0	305	826	0	1131	0	724	0	0	1203	1927	-796
2002	0	430	945	0	1375	0	1164	0	0	1324	2488	-1113
2003	0	565	1790	0	2355	0	1500	0	0	1450	2950	-595
2004	0	701	1659	0	2360	0	837	0	0	1496	2333	27
2005	0	825	2615	0	3440	0	1906	0	0	1459	3365	75
2006	0	939	2692	0	3631	0	495	0	0	1420	1915	1716
2007	0	1040	3422	0	4462	0	677	0	0	1381	2058	2404
2008	0	1131	3923	0	5054	0	696	0	0	1340	2036	3018
2009	0	1131	4051	0	5182	0	659	0	0	692	1351	3831
2010	0	1131	4175	0	5306	0	628	0	0	708	1336	3970
2011	0	1131	4151	0	5282	0	585	0	0	724	1309	3973
2012	0	1131	4433	0	5564	0	606	0	0	741	1347	4217
2013	0	1131	4416	0	5547	0	553	0	0	758	1311	4236
2014	0	1131	4718	0	5849	0	567	0	0	777	1344	4505
2015	0	1131	4690	0	5821	0	494	0	0	796	1290	4531
2016	0	1131	5009	0	6140	0	517	0	0	815	1332	4808
2017	0	1131	5024	0	6155	0	478	0	0	836	1314	4841
2018	0	1131	5331	0	6462	0	467	0	0	857	1324	5138
2019	0	1131	5338	0	6469	0	406	0	0	879	1285	5184
2020	0	1131	5660	0	6791	0	423	0	0	902	1325	5466
2021	0	1131	5676	0	6807	0	360	0	0	926	1286	5521
2022	0	1131	6023	0	7154	0	369	0	0	953	1322	5832
2023	0	1131	6031	0	7162	0	296	0	0	981	1277	5885
2024	0	1131	6395	0	7526	0	310	0	0	1010	1320	6206
2025	0	1131	6413	0	7544	0	231	0	0	1040	1271	6273
2026	0	1131	6805	0	7936	0	269	0	0	1071	1340	6596
2027	0	1131	6862	0	7993	0	177	0	0	1104	1281	6712
2028	0	0	0	0	0	0	0	0	0	0	0	0
NOMINAL	9	27707	119073	0	146789	0	16394	0	0	29706	46100	100689
NPV	6	8768	32530	0	41304	0	7505	0	0	0	7505	33799

UTILITY DISCOUNT RATE: 8.53%
BENEFIT/COST RATIO (COL. 5/COL. 11): 2.01

Florida Power Corporation
Docket No. 971005-EG
Witness: M.F. Jacob
Exhibit No.__ (MFJ-3)
Page 87 of 90

MEASURE or PROGRAM: LM-WNTR

RATE IMPACT MEASURE TEST

YEAR	BENEFITS (1) FUEL & O & M SAVINGS $(000)	(2) AVOIDED T&D CAP. COSTS $(000)	(3) AVOIDED GEN. CAP. COSTS $(000)	(4) REVENUE GAINS $(000)	(5) TOTAL BENEFITS $(000)	COSTS (6) FUEL & O & M INCREASE $(000)	(7) INCREASED T&D CAP. COSTS $(000)	(8) INCREASED GEN. CAP. COSTS $(000)	(9) UTILITY PROGRAM COSTS $(000)	(10) INCENTIVE PAYMENTS $(000)	(11) REVENUE LOSSES $(000)	(12) TOTAL COSTS $(000)	(13) NET BENEFITS TO ALL CUSTOMERS $(000)
1999	2	90	0	0	92	0	0	0	976	124	1	1101	-1009
2000	7	192	0	0	199	0	0	0	1087	264	3	1354	-1155
2001	0	305	826	0	1131	724	0	0	1203	419	2	2348	-1217
2002	0	430	945	0	1375	1164	0	0	1324	589	3	3080	-1705
2003	0	565	1790	0	2355	1500	0	0	1450	775	13	3738	-1383
2004	0	701	1659	0	2360	837	0	0	1496	961	9	3303	-943
2005	0	825	2615	0	3440	1906	0	0	1459	1132	37	4534	-1094
2006	0	939	2692	0	3631	495	0	0	1420	1287	28	3230	401
2007	0	1040	3422	0	4462	677	0	0	1381	1426	35	3519	943
2008	0	1131	3923	0	5054	696	0	0	1340	1550	40	3626	1428
2009	0	1131	4051	0	5182	659	0	0	692	1550	54	2955	2227
2010	0	1131	4175	0	5306	628	0	0	708	1550	41	2927	2379
2011	0	1131	4151	0	5282	585	0	0	724	1550	33	2892	2390
2012	0	1131	4433	0	5564	606	0	0	741	1550	43	2940	2624
2013	0	1131	4416	0	5547	553	0	0	758	1550	34	2895	2652
2014	0	1131	4718	0	5849	567	0	0	777	1550	44	2938	2911
2015	0	1131	4690	0	5821	494	0	0	796	1550	35	2875	2946
2016	0	1131	5009	0	6140	517	0	0	815	1550	45	2927	3213
2017	0	1131	5024	0	6155	478	0	0	836	1550	39	2903	3252
2018	0	1131	5331	0	6462	467	0	0	857	1550	46	2920	3542
2019	0	1131	5338	0	6469	406	0	0	879	1550	45	2880	3589
2020	0	1131	5660	0	6791	423	0	0	902	1550	52	2927	3864
2021	0	1131	5676	0	6807	360	0	0	926	1550	45	2881	3926
2022	0	1131	6023	0	7154	369	0	0	953	1550	53	2925	4229
2023	0	1131	6031	0	7162	296	0	0	981	1550	48	2875	4287
2024	0	1131	6395	0	7526	310	0	0	1010	1550	55	2925	4601
2025	0	1131	6413	0	7544	231	0	0	1040	1550	48	2869	4675
2026	0	1131	6805	0	7936	269	0	0	1071	1550	57	2947	4989
2027	0	1131	6862	0	7993	177	0	0	1104	1550	55	2886	5107
2028	0	0	0	0	0	0	0	0	0	0	0	0	0
NOMINAL	9	27707	119073	0	146789	16394	0	0	29706	37977	1043	85120	61669
NPV	6	8768	32530	0	41304	7505	0	0	0	0	294	7799	33505

UTILITY DISCOUNT RATE: 8.53%
BENEFIT/COST RATIO (COL. 5/COL. 12): 1.25

Florida Power Corporation
Docket No. 971005-EG
Witness: M.F. Jacob
Exhibit No.__ (MFJ-3)
Page 88 of 90

INPUT DATA

Base Code: N/A

Measure Name: Walk-Through Audits

Vintage: Existing

Incremental Participant Cost:	$0.00
Incremental Annual O&M Cost:	$0.00
Non-Recurring Incentive per Participant:	$0.00
Utility Non-Recurring Cost per Participant:	$65.00
Utility Recurring Cost per Participant:	$0.00
Annual KWH Reduction:	330
Peak Winter KW Reduction:	0.100
Peak Summer KW Reduction:	0.100
Life of Measure (years):	5

Year	Cumulative Participation
2000	18,000
2001	36,000
2002	54,000
2003	72,000
2004	90,000
2005	108,000
2006	126,000
2007	144,000
2008	162,000
2009	180,000

INPUT DATA

Base Code: N/A

Measure Name: Mail-In Audits

Vintage: Existing

		Year	Cumulative Participation
Incremental Participant Cost:	$0.00	2000	6,500
Incremental Annual O&M Cost:	$0.00	2001	1,300
Non-Recurring Incentive per Participant:	$0.00	2002	19,500
Utility Non-Recurring Cost per Participant:	$30.00	2003	2,600
Utility Recurring Cost per Participant:	$0.00	2004	32,500
Annual KWH Reduction:	83	2005	39,000
Peak Winter KW Reduction:	0.025	2006	45,500
Peak Summer KW Reduction:	0.025	2007	52,000
Life of Measure (years):	5	2008	58,500
		2009	65,000

FLORIDA POWER CORPORATION
DOCKET NO. 971005-EG
EXHIBIT NO. ___ (MFJ-2)

EXHIBITS TO THE TESTIMONY OF
MICHAEL F. JACOB

TEN-YEAR PROJECTIONS OF DSM SAVINGS

Florida Power Corporation
Docket No. 971005-EG
Witness: M. F. JACOB
Exhibit No. ____, (MFJ-2)
Sheet 1 of 1

FPC's Ten-Year Projections of DSM Savings

	Total FPC System					
	Winter Peak MW Demand Savings		**Summer Peak MW Demand Savings**		**GWh Energy Savings**	
Year	Annual	Cumulative	Annual	Cumulative	Annual	Cumulative
2000	34	34	13	13	18	18
2001	38	72	14	28	19	36
2002	41	113	16	43	20	56
2003	44	157	16	60	21	76
2004	47	204	17	77	21	98
2005	47	251	17	94	22	119
2006	46	297	17	112	22	141
2007	45	342	17	129	21	162
2008	43	385	17	146	21	183
2009	41	426	16	162	21	204

FLORIDA POWER CORPORATION
DOCKET NO. 971005-EG
EXHIBIT NO. ___ (MFJ-3)

EXHIBITS TO THE TESTIMONY OF
MICHAEL F. JACOB

DETAILS OF CONSERVATION MEASURES SELECTED

Unable to include with initial filing
To be provided by separate submittal

971004-EG, Jal 5
Florida Power Corp.
8-17-99

Florida Public Service Commission
Docket No. 970006-EG
Gulf Power Company
Witness: Margaret D. Neyman
Exhibit No. ___ (MDN-1)

INDEX

GULF POWER COMPANY
Total Residential, Commercial and Industrial Goals
New and Existing Structures

Year	Annual Summer kW		Annual Winter kW		Annual kWh Savings (000)		
	Meter	Generator	Meter	Generator	Customer	Generation	Cumulative Generation
2000	(52,822)	(68,399)	(47,988)	(62,140)	(17,476)	(18,822)	(18,822)
2001	(69,879)	(90,487)	(67,404)	(87,282)	(33,373)	(35,943)	(54,765)
2002	(90,055)	(116,612)	(90,477)	(117,158)	(51,989)	(55,992)	(110,757)
2003	(107,400)	(139,072)	(110,271)	(142,790)	(68,287)	(73,545)	(184,302)
2004	(122,658)	(158,830)	(127,654)	(165,299)	(82,899)	(89,283)	(273,585)
2005	(135,830)	(175,886)	(142,627)	(184,688)	(95,825)	(103,204)	(376,788)
2006	(146,026)	(189,089)	(154,133)	(199,586)	(106,233)	(114,413)	(491,202)
2007	(156,223)	(202,293)	(165,639)	(214,485)	(116,644)	(125,626)	(616,827)
2008	(163,444)	(211,643)	(173,677)	(224,894)	(124,538)	(134,127)	(750,954)
2009	(170,665)	(220,994)	(181,716)	(235,304)	(132,433)	(142,631)	(893,585)

Florida Public Service Commission
Docket No. 971006-EG
GULF POWER COMPANY
Witness: Margaret D. Neyman
Exhibit No. ____ (MDN-1)
Schedule 1
Page 1 of 6

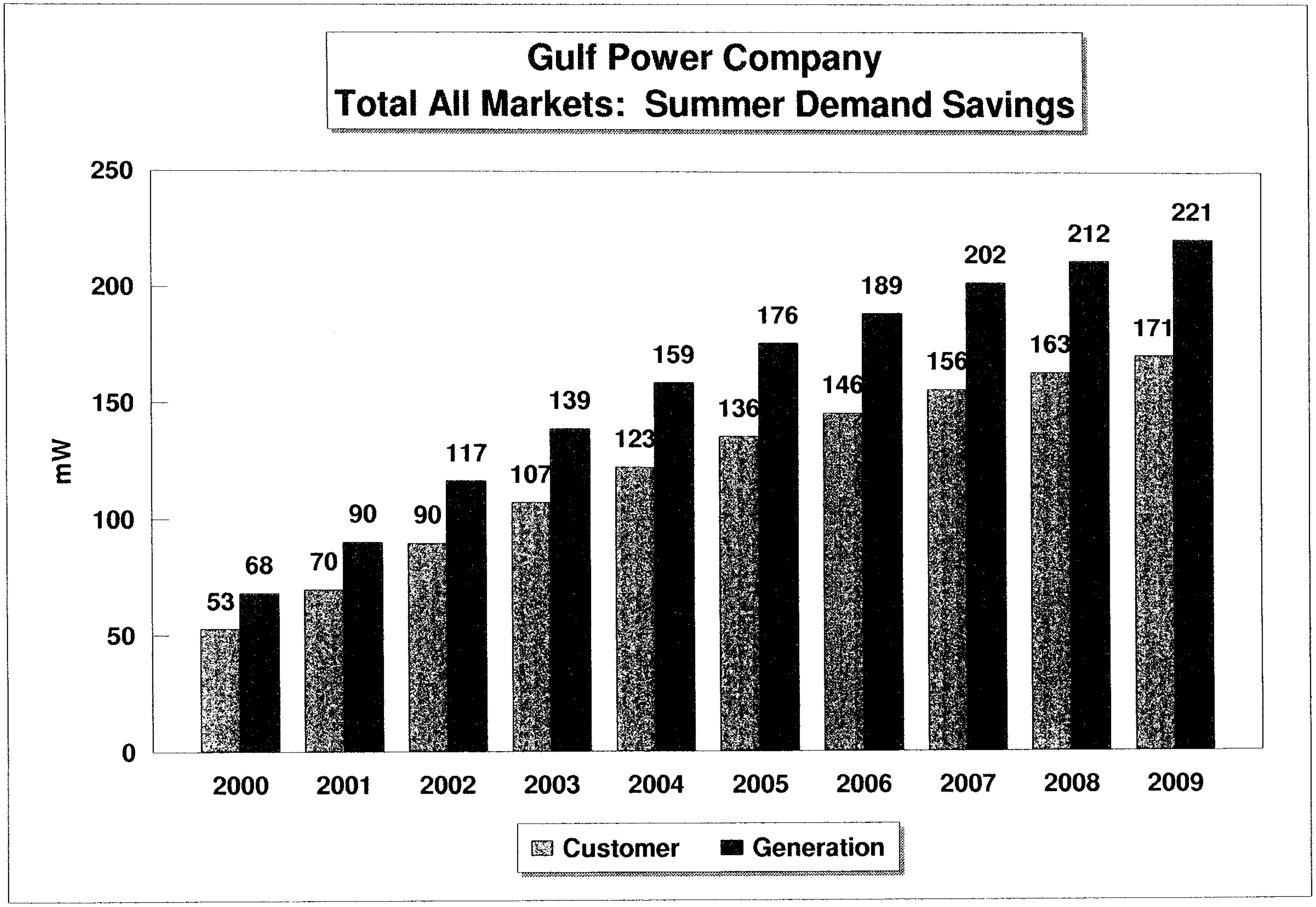
GULF POWER COMPANY
Residential Goals
New and Existing Structures

Year	Annual Summer kW		Annual Winter kW		Annual kWh Savings (000)		
	Meter	Generator	Meter	Generator	Customer	Generation	Cumulative Generation
2000	(17,245)	(22,331)	(20,086)	(26,009)	(15,524)	(16,719)	(16,719)
2001	(33,278)	(43,092)	(38,619)	(50,008)	(29,499)	(31,770)	(48,489)
2002	(52,432)	(67,894)	(60,811)	(78,744)	(46,196)	(49,753)	(98,242)
2003	(68,755)	(89,031)	(79,724)	(103,234)	(60,574)	(65,238)	(163,480)
2004	(82,991)	(107,465)	(96,226)	(124,603)	(73,263)	(78,904)	(242,384)
2005	(95,140)	(123,197)	(110,318)	(142,850)	(84,263)	(90,751)	(333,135)
2006	(104,313)	(135,075)	(120,941)	(156,606)	(92,743)	(99,885)	(433,020)
2007	(113,486)	(146,953)	(131,564)	(170,363)	(101,224)	(109,018)	(542,038)
2008	(119,683)	(154,977)	(138,720)	(179,628)	(107,184)	(115,437)	(657,475)
2009	(125,880)	(163,002)	(145,875)	(188,894)	(113,144)	(121,857)	(779,332)

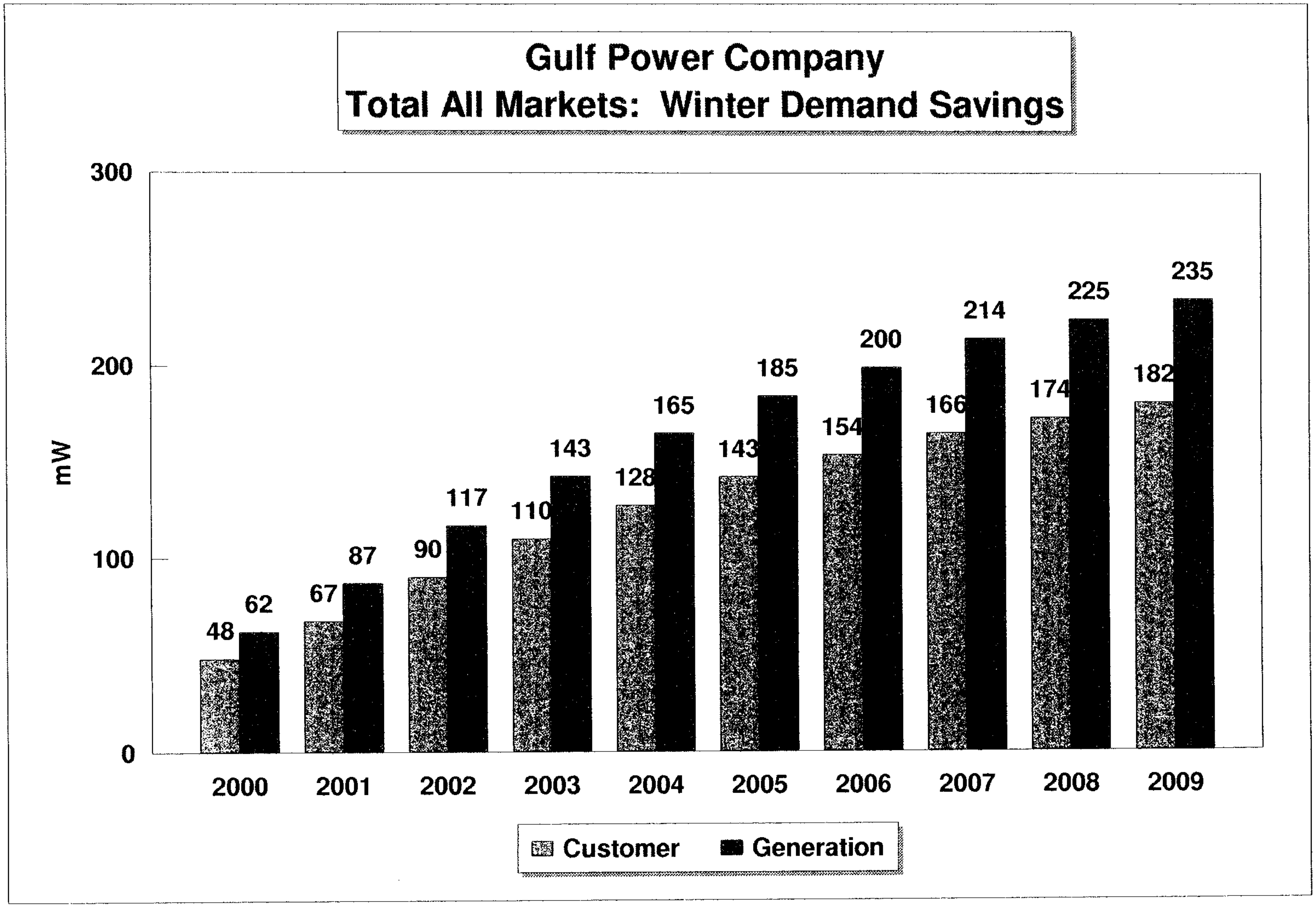
GULF POWER COMPANY
Commercial and Industrial Goals
New and Existing Structures

Year	Annual Summer kW		Annual Winter kW		Annual kWh Savings (000)		
	Meter	Generator	Meter	Generator	Customer	Generation	Cumulative Generation
2000	(35,577)	(46,069)	(27,902)	(36,130)	(1,953)	(2,103)	(2,103)
2001	(36,601)	(47,395)	(28,785)	(37,274)	(3,874)	(4,172)	(6,276)
2002	(37,623)	(48,718)	(29,666)	(38,415)	(5,793)	(6,239)	(12,515)
2003	(38,645)	(50,041)	(30,547)	(39,555)	(7,713)	(8,307)	(20,822)
2004	(39,667)	(51,365)	(31,428)	(40,696)	(9,636)	(10,378)	(31,200)
2005	(40,690)	(52,689)	(32,310)	(41,838)	(11,562)	(12,452)	(43,653)
2006	(41,713)	(54,014)	(33,192)	(42,980)	(13,490)	(14,529)	(58,181)
2007	(42,737)	(55,340)	(34,074)	(44,123)	(15,420)	(16,608)	(74,789)
2008	(43,761)	(56,666)	(34,957)	(45,266)	(17,353)	(18,690)	(93,479)
2009	(44,785)	(57,993)	(35,841)	(46,410)	(19,289)	(20,774)	(114,253)

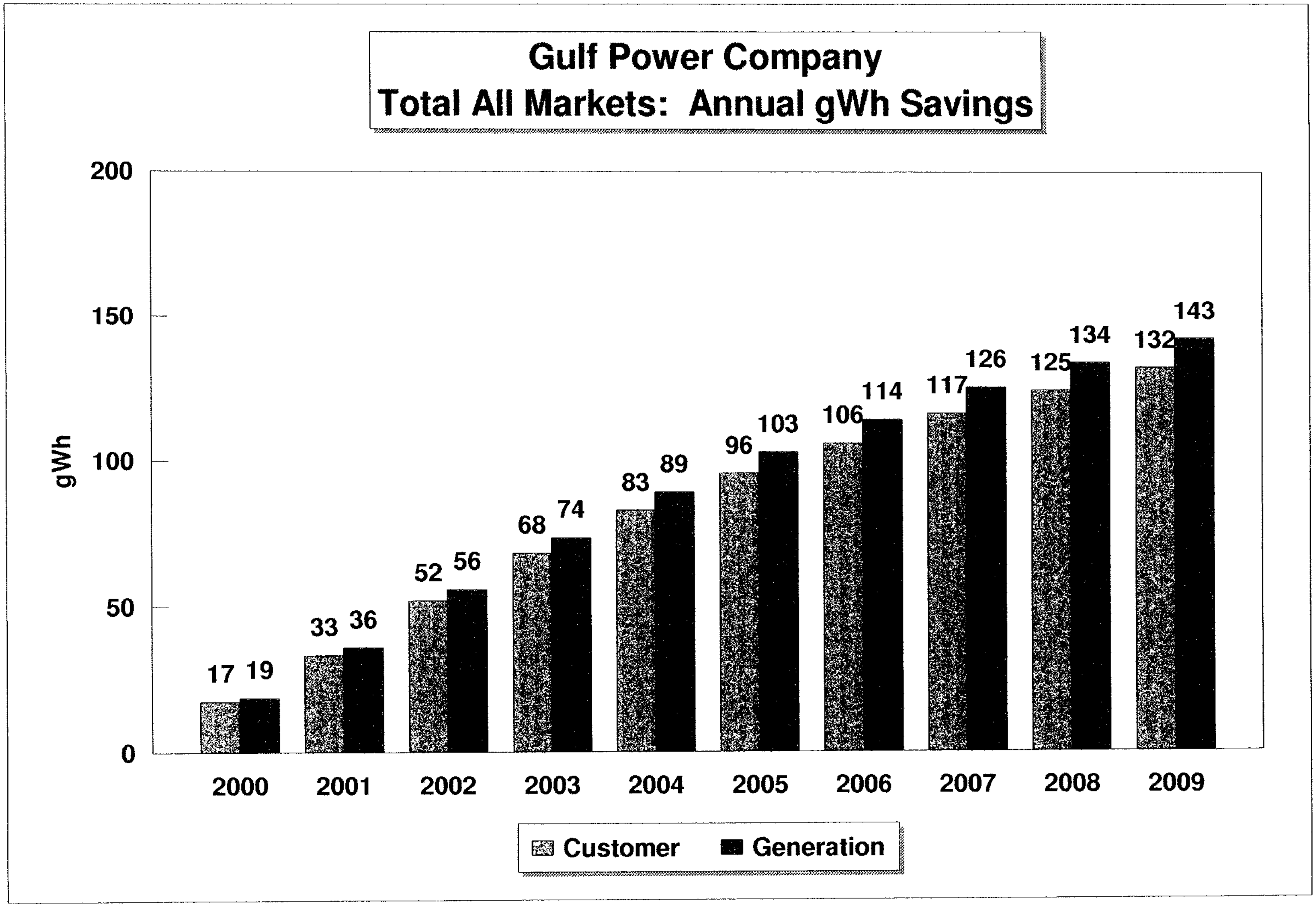
Florida Public Service Commission
Docket No. 971006-EG
GULF POWER COMPANY
Witness: Margaret D. Neyman
Exhibit No. ____ (MDN-1)
Schedule 1
Page 3 of 6



Florida Public Service Commission
Docket No. 971006-EG
GULF POWER COMPANY
Witness: Margaret D. Neyman
Exhibit No. ___ (MDN-1)
Schedule 1
Page 4 of 6



Florida Public Service Commission
Docket No. 971006-EG
GULF POWER COMPANY
Witness: Margaret D. Neyman
Exhibit No. ____ (MDN-1)
Schedule 1
Page 5 of 6



Florida Public Service Commission
Docket No. 971006-EG
GULF POWER COMPANY
Witness: Margaret D. Neyman
Exhibit No. ___ (MDN-1)
Schedule 1
Page 6 of 6

Gulf Power Company

Comparison of Current Goals and Proposed Goals

Residential Summer Peak KW Reduction / Residential Winter Peak KW Reduction / Residential Annual MWH Reduction

	Residential Summer Peak KW Reduction			Residential Winter Peak KW Reduction			Residential Annual MWH Reduction		
	Current	Proposed	Difference	Current	Proposed	Difference	Current	Proposed	Difference
2000	103,000	22,331	(80,669)	125,000	26,009	(98,991)	44,000	16,719	(27,281)
2001	118,000	43,092	(74,908)	129,000	50,008	(78,992)	48,000	31,770	(16,230)
2002	122,000	67,894	(54,106)	133,000	78,744	(54,256)	52,000	49,753	(2,247)
2003	126,000	89,031	(36,969)	137,000	103,234	(33,766)	54,000	65,238	11,238
2004	130,000	107,465	(22,535)	141,000	124,603	(16,397)	56,000	78,904	22,904

	Com/Ind Summer Peak KW Reduction			Comm/Ind Winter Peak KW Reduction			Comm/Ind Annual MWH Reduction		
	Current	Proposed	Difference	Current	Proposed	Difference	Current	Proposed	Difference
2000	17,000	46,069	29,069	11,000	36,130	25,130	2,000		(2,000)
2001	19,000	47,395	28,395	11,000	37,274	26,274	5,000		(5,000)
2002	20,000	48,718	28,718	11,000	38,415	27,415	7,000		(7,000)
2003	22,000	50,041	28,041	11,000	39,555	28,555	8,000		(8,000)
2004	24,000	51,365	27,365	11,000	40,696	29,696	9,000		(9,000)

	Total Summer Peak KW Reduction			Total Winter Peak KW Reduction			Total Annual MWH Reduction		
	Current	Proposed	Difference	Current	Proposed	Difference	Current	Proposed	Difference
2000	120,000	68,400	(51,600)	136,000	62,139	(73,861)	46,000	16,719	(29,281)
2001	137,000	90,487	(46,513)	140,000	87,282	(52,718)	53,000	31,770	(21,230)
2002	142,000	116,612	(25,388)	144,000	117,159	(26,841)	59,000	49,753	(9,247)
2003	148,000	139,072	(8,928)	148,000	142,789	(5,211)	62,000	65,238	3,238
2004	154,000	158,830	4,830	152,000	165,299	13,299	65,000	78,904	13,904

Florida Public Service Commission
Docket No. 971006-EG
GULF POWER COMPANY
Witness: Margaret D. Neyman
Exhibit No. ____ (MDN-1)
Schedule 2
Page 1 of 1

Comparison of Achieved kW and kWh Reductions
With Public Service Commission Established Goals (1)

Utility: GULF POWER COMPANY

Residential

	Winter Peak mW Reduction			Summer Peak mW Reduction			gWh Energy Reduction		
	Total Achieved	Com. Appr. Goal	% Variance	Total Achieved	Com. Appr. Goal	% Variance	Total Achieved	Com. Appr. Goal	% Variance
1995	0.98	0	N/A	0.78	1	-22%	0.71	1	-29.00%
1996	2.34	0	N/A	1.59	2	-21%	1.65	2	-17.50%
1997	3.15	59	-95%	2.07	37	-94%	2.25	12	-81.25%
1998	3.57	117	-97%	2.23	72	-97%	2.81	29	-90.31%
1999									
2000									
2001									
2002									
2003									
2004									

Commercial/Industrial

	Winter Peak mW Reduction			Summer Peak mW Reduction			gWh Energy Reduction		
	Total Achieved	Com. Appr. Goal	% Variance	Total Achieved	Com. Appr. Goal	% Variance	Total Achieved	Com. Appr. Goal	% Variance
1995	0.87	10	-91%	10.00	13	-23%	0.00	-----	N/A
1996	1.75	10	-83%	25.07	13	93%	3.33	-----	N/A
1997	3.40	10	-66%	28.65	13	120%	7.25	-----	N/A
1998	17.98	10	80%	33.14	13	155%	21.76	-----	N/A
1999									
2000									
2001									
2002									
2003									
2004									

Florida Public Service Commission
Docket No. 971006-EG
GULF POWER COMPANY
Witness: Margaret D. Neyman
Exhibit No. ___ (MDN-1)
Schedule 3
Page 1 of 1

(1) These results are tentative. The 1998 final report will be filed March 1, 1999.

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Florida Public Service Commission
Docket No. 971006-EG
Gulf Power Company
Witness: Michael J. McCarthy
Exhibit No. ________(MJM-1)

INDEX

FLORIDA PUBLIC SERVICE COMMISSION
DOCKET NO. 971004-EG: Gal EXHIBIT NO. 7
COMPANY/ WITNESS: Gulf Power Company
DATE: 8-17-99

GULF POWER COMPANY
Total Residential, Commercial & Industrial Markets
New and Existing Structures

Demand Side Measure	Year	Annual Summer kW at Meter	Annual Summer kW at Generator	Annual Winter kW at Meter	Annual Winter kW at Generator	Annual kWh Savings (000) Customer	Annual kWh Savings (000) Generation	Annual kWh Savings (000) Cumulative Generation
Total All Markets	2000	(52,822)	(68,399)	(47,988)	(62,140)	(17,476)	(18,822)	(18,822)
Total All Markets	2001	(69,879)	(90,487)	(67,404)	(87,282)	(33,373)	(35,943)	(54,765)
Total All Markets	2002	(90,055)	(116,612)	(90,477)	(117,158)	(51,989)	(55,992)	(110,757)
Total All Markets	2003	(107,400)	(139,072)	(110,271)	(142,790)	(68,287)	(73,545)	(184,302)
Total All Markets	2004	(122,658)	(158,830)	(127,654)	(165,299)	(82,899)	(89,283)	(273,585)
Total All Markets	2005	(135,830)	(175,886)	(142,627)	(184,688)	(95,825)	(103,204)	(376,788)
Total All Markets	2006	(146,026)	(189,089)	(154,133)	(199,586)	(106,233)	(114,413)	(491,202)
Total All Markets	2007	(156,223)	(202,293)	(165,639)	(214,485)	(116,644)	(125,626)	(616,827)
Total All Markets	2008	(163,444)	(211,643)	(173,677)	(224,894)	(124,538)	(134,127)	(750,954)
Total All Markets	2009	(170,665)	(220,994)	(181,716)	(235,304)	(132,433)	(142,631)	(893,585)

	RIM	Participant	TRC
NPV Benefits ($000s)	$148,557	$103,102	$139,203
NPV Costs ($000s)	$122,111	$79,374	$89,029
NPV Net Benefits ($000s)	$26,446	$23,728	$50,174
Benefit/Cost Ratio	1.217	1.299	1.564

GULF POWER COMPANY
Residential Measures
Total New and Existing Structures

Demand Side Measure	Year	Annual Summer kW at Meter	Annual Summer kW at Generator	Annual Winter kW at Meter	Annual Winter kW at Generator	Annual kWh Savings (000) Customer	Annual kWh Savings (000) Generation	Annual kWh Savings (000) Cumulative Generation
Residential Measures	2000	(17,245)	(22,331)	(20,086)	(26,009)	(15,524)	(16,719)	(16,719)
Residential Measures	2001	(33,278)	(43,092)	(38,619)	(50,008)	(29,499)	(31,770)	(48,489)
Residential Measures	2002	(52,432)	(67,894)	(60,811)	(78,744)	(46,196)	(49,753)	(98,242)
Residential Measures	2003	(68,755)	(89,031)	(79,724)	(103,234)	(60,574)	(65,238)	(163,480)
Residential Measures	2004	(82,991)	(107,465)	(96,226)	(124,603)	(73,263)	(78,904)	(242,384)
Residential Measures	2005	(95,140)	(123,197)	(110,318)	(142,850)	(84,263)	(90,751)	(333,135)
Residential Measures	2006	(104,313)	(135,075)	(120,941)	(156,606)	(92,743)	(99,885)	(433,020)
Residential Measures	2007	(113,486)	(146,953)	(131,564)	(170,363)	(101,224)	(109,018)	(542,038)
Residential Measures	2008	(119,683)	(154,977)	(138,720)	(179,628)	(107,184)	(115,437)	(657,475)
Residential Measures	2009	(125,880)	(163,002)	(145,875)	(188,894)	(113,144)	(121,857)	(779,332)

	RIM	Participant	TRC
NPV Benefits ($000s)	$114,261	$80,212	$115,264
NPV Costs ($000s)	$91,319	$67,001	$79,112
NPV Net Benefits ($000s)	$22,942	$13,211	$36,153
Benefit/Cost Ratio	1.251	1.197	1.457

Florida Public Service Commission
Docket No. 971006-EG
Gulf Power Company
Witness: Michael J. McCarthy
Exhibit No. _____ (MJM-1)
Schedule 2
Page 1 of 6

GULF POWER COMPANY
RSC - 2
Ground Source Heat Pump

Demand Side Measure	Year	Annual Summer kW at Meter	Annual Summer kW at Generator	Annual Winter kW at Meter	Annual Winter kW at Generator	Annual kWh Savings (000) Customer	Annual kWh Savings (000) Generation	Annual kWh Savings (000) Cumulative Generation
RSC - 2	2000	(1,834)	(2,375)	(2,404)	(3,112)	(2,545)	(2,741)	(2,741)
RSC - 2	2001	(2,704)	(3,502)	(3,544)	(4,588)	(3,752)	(4,041)	(6,782)
RSC - 2	2002	(3,719)	(4,816)	(4,874)	(6,311)	(5,161)	(5,558)	(12,341)
RSC - 2	2003	(4,879)	(6,318)	(6,394)	(8,279)	(6,770)	(7,292)	(19,632)
RSC - 2	2004	(6,184)	(8,008)	(8,104)	(10,493)	(8,581)	(9,242)	(28,874)
RSC - 2	2005	(7,634)	(9,886)	(10,004)	(12,954)	(10,593)	(11,409)	(40,283)
RSC - 2	2006	(9,084)	(11,763)	(11,904)	(15,414)	(12,605)	(13,576)	(53,859)
RSC - 2	2007	(10,534)	(13,641)	(13,804)	(17,874)	(14,617)	(15,743)	(69,602)
RSC - 2	2008	(11,984)	(15,518)	(15,704)	(20,334)	(16,629)	(17,910)	(87,511)
RSC - 2	2009	(13,434)	(17,396)	(17,604)	(22,795)	(18,641)	(20,077)	(107,588)

	RIM	Participant	TRC
NPV Benefits ($000s)	$16,687	$27,280	$17,690
NPV Costs ($000s)	$12,819	$28,266	$14,808
NPV Net Benefits ($000s)	$3,868	($985)	$2,883
Benefit/Cost Ratio	1.302	0.965	1.195

Florida Public Service Commission
Docket No. 971006-EG
Gulf Power Company
Witness: Michael J. McCarthy
Exhibit No. ____ (MJM-1)
Schedule 2
Page 2 of 6

GULF POWER COMPANY
RSC - 24A
High Efficiency Room Air Conditioner

Demand Side Measure	Year	Annual Summer kW at Meter	Annual Summer kW at Generator	Annual Winter kW at Meter	Annual Winter kW at Generator	Annual kWh Savings (000) Customer	Annual kWh Savings (000) Generation	Annual kWh Savings (000) Cumulative Generation
RSC - 24A	2000	(230)	(297)	0	0	(119)	(129)	(129)
RSC - 24A	2001	(459)	(595)	0	0	(239)	(257)	(386)
RSC - 24A	2002	(689)	(892)	0	0	(358)	(386)	(772)
RSC - 24A	2003	(918)	(1,189)	0	0	(478)	(514)	(1,286)
RSC - 24A	2004	(1,148)	(1,487)	0	0	(597)	(643)	(1,929)
RSC - 24A	2005	(1,378)	(1,784)	0	0	(716)	(772)	(2,700)
RSC - 24A	2006	(1,607)	(2,081)	0	0	(836)	(900)	(3,600)
RSC - 24A	2007	(1,837)	(2,378)	0	0	(955)	(1,029)	(4,629)
RSC - 24A	2008	(2,066)	(2,676)	0	0	(1,075)	(1,157)	(5,786)
RSC - 24A	2009	(2,296)	(2,973)	0	0	(1,194)	(1,286)	(7,072)

	RIM	Participant	TRC
NPV Benefits ($000s)	$1,570	$633	$1,570
NPV Costs ($000s)	$684	$310	$362
NPV Net Benefits ($000s)	$886	$322	$1,208
Benefit/Cost Ratio	2.294	2.039	4.338

Florida Public Service Commission
Docket No. 971006-EG
Gulf Power Company
Witness: Michael J. McCarthy
Exhibit No. ____ (MJM-1)
Schedule 2
Page 3 of 6

GULF POWER COMPANY
RF - 1
Best Current Refrigerator (Frost-Free)

Demand Side Measure	Year	Annual Summer kW at Meter	Annual Summer kW at Generator	Annual Winter kW at Meter	Annual Winter kW at Generator	Annual kWh Savings (000) Customer	Annual kWh Savings (000) Generation	Annual kWh Savings (000) Cumulative Generation
RF - 1	2000	(25)	(32)	(25)	(32)	(45)	(48)	(48)
RF - 1	2001	(50)	(65)	(50)	(65)	(90)	(96)	(145)
RF - 1	2002	(75)	(97)	(75)	(97)	(134)	(145)	(289)
RF - 1	2003	(100)	(129)	(100)	(129)	(179)	(193)	(482)
RF - 1	2004	(125)	(162)	(125)	(162)	(224)	(241)	(723)
RF - 1	2005	(150)	(194)	(150)	(194)	(269)	(289)	(1,012)
RF - 1	2006	(175)	(227)	(175)	(227)	(313)	(337)	(1,349)
RF - 1	2007	(200)	(259)	(200)	(259)	(358)	(386)	(1,735)
RF - 1	2008	(225)	(291)	(225)	(291)	(403)	(434)	(2,169)
RF - 1	2009	(250)	(324)	(250)	(324)	(448)	(482)	(2,651)

5

	RIM	Participant	TRC
NPV Benefits ($000s)	$239	$218	$239
NPV Costs ($000s)	$238	$152	$171
NPV Net Benefits ($000s)	$1	$67	$68
Benefit/Cost Ratio	1.005	1.439	1.396

GULF POWER COMPANY
RF - 2
Best Current Refrigerator (Manual Defrost)

Demand Side Measure	Year	Annual Summer kW at Meter	Annual Summer kW at Generator	Annual Winter kW at Meter	Annual Winter kW at Generator	Annual kWh Savings (000) Customer	Annual kWh Savings (000) Generation	Annual kWh Savings (000) Cumulative Generation
RF - 2	2000	(28)	(37)	(28)	(37)	(4)	(5)	(5)
RF - 2	2001	(57)	(73)	(57)	(73)	(8)	(9)	(14)
RF - 2	2002	(85)	(110)	(85)	(110)	(13)	(14)	(27)
RF - 2	2003	(113)	(147)	(113)	(147)	(17)	(18)	(45)
RF - 2	2004	(142)	(184)	(142)	(184)	(21)	(23)	(68)
RF - 2	2005	(170)	(220)	(170)	(220)	(25)	(27)	(95)
RF - 2	2006	(198)	(257)	(198)	(257)	(29)	(32)	(126)
RF - 2	2007	(227)	(294)	(227)	(294)	(33)	(36)	(162)
RF - 2	2008	(255)	(330)	(255)	(330)	(38)	(41)	(203)
RF - 2	2009	(284)	(367)	(284)	(367)	(42)	(45)	(248)

	RIM	Participant	TRC
NPV Benefits ($000s)	$171	$49	$171
NPV Costs ($000s)	$59	$43	$53
NPV Net Benefits ($000s)	$112	$6	$118
Benefit/Cost Ratio	2.886	1.143	3.217

Florida Public Service Commission
Docket No. 971006-EG
Gulf Power Company
Witness: Michael J. McCarthy
Exhibit No. ____ (MJM-1)
Schedule 2
Page 5 of 6

GULF POWER COMPANY
AEM
Advanced Energy Management

Demand Side Measure	Year	Annual Summer kW at Meter	Annual Summer kW at Generator	Annual Winter kW at Meter	Annual Winter kW at Generator	Annual kWh Savings (000) Customer	Annual kWh Savings (000) Generation	Annual kWh Savings (000) Cumulative Generation
AEM	2000	(15,128)	(19,589)	(17,629)	(22,828)	(12,810)	(13,796)	(13,796)
AEM	2001	(30,008)	(38,857)	(34,969)	(45,281)	(25,410)	(27,367)	(41,163)
AEM	2002	(47,864)	(61,979)	(55,777)	(72,226)	(40,530)	(43,651)	(84,814)
AEM	2003	(62,744)	(81,247)	(73,117)	(94,679)	(53,130)	(57,221)	(142,035)
AEM	2004	(75,392)	(97,625)	(87,856)	(113,765)	(63,840)	(68,756)	(210,790)
AEM	2005	(85,808)	(111,113)	(99,994)	(129,482)	(72,660)	(78,255)	(289,045)
AEM	2006	(93,248)	(120,747)	(108,664)	(140,709)	(78,960)	(85,040)	(374,085)
AEM	2007	(100,688)	(130,381)	(117,334)	(151,936)	(85,260)	(91,825)	(465,910)
AEM	2008	(105,152)	(136,161)	(122,536)	(158,672)	(89,040)	(95,896)	(561,806)
AEM	2009	(109,616)	(141,942)	(127,738)	(165,408)	(92,820)	(99,967)	(661,773)

	RIM	Participant	TRC
NPV Benefits ($000s)	$95,594	$52,032	$95,594
NPV Costs ($000s)	$77,518	$38,230	$63,717
NPV Net Benefits ($000s)	$18,075	$13,801	$31,876
Benefit/Cost Ratio	1.233	1.361	1.500

GULF POWER COMPANY
Commercial & Industrial Measures
Total New and Existing Structures

Demand Side Measure	Year	Annual Summer kW at Meter	Annual Summer kW at Generator	Annual Winter kW at Meter	Annual Winter kW at Generator	Annual kWh Savings (000) Customer	Annual kWh Savings (000) Generation	Annual kWh Savings (000) Cumulative Generation
Commercial & Industrial	2000	(35,577)	(46,069)	(27,902)	(36,130)	(1,953)	(2,103)	(2,103)
Commercial & Industrial	2001	(36,601)	(47,395)	(28,785)	(37,274)	(3,874)	(4,172)	(6,276)
Commercial & Industrial	2002	(37,623)	(48,718)	(29,666)	(38,415)	(5,793)	(6,239)	(12,515)
Commercial & Industrial	2003	(38,645)	(50,041)	(30,547)	(39,555)	(7,713)	(8,307)	(20,822)
Commercial & Industrial	2004	(39,667)	(51,365)	(31,428)	(40,696)	(9,636)	(10,378)	(31,200)
Commercial & Industrial	2005	(40,690)	(52,689)	(32,310)	(41,838)	(11,562)	(12,452)	(43,653)
Commercial & Industrial	2006	(41,713)	(54,014)	(33,192)	(42,980)	(13,490)	(14,529)	(58,181)
Commercial & Industrial	2007	(42,737)	(55,340)	(34,074)	(44,123)	(15,420)	(16,608)	(74,789)
Commercial & Industrial	2008	(43,761)	(56,666)	(34,957)	(45,266)	(17,353)	(18,690)	(93,479)
Commercial & Industrial	2009	(44,785)	(57,993)	(35,841)	(46,410)	(19,289)	(20,774)	(114,253)

	RIM	Participant	TRC
NPV Benefits ($000s)	$34,296	$22,890	$23,938
NPV Costs ($000s)	$30,792	$12,374	$9,918
NPV Net Benefits ($000s)	$3,504	$10,517	$14,021
Benefit/Cost Ratio	1.114	1.850	2.414

Florida Public Service Commission
Docket No. 971006-EG
Gulf Power Company
Witness: Michael J. McCarthy
Exhibit No. ____ (MJM-1)
Schedule 3
Page 1 of 7

GULF POWER COMPANY
SC-D-4
High Efficiency Room Air Conditioner - PTAC

Demand Side Measure	Year	Annual Summer kW at Meter	Annual Summer kW at Generator	Annual Winter kW at Meter	Annual Winter kW at Generator	Annual kWh Savings (000) Customer	Annual kWh Savings (000) Generation	Annual kWh Savings (000) Cumulative Generation
SC-D-4	2000	(4)	(5)	0	0	(5)	(5)	(5)
SC-D-4	2001	(7)	(9)	0	0	(8)	(9)	(14)
SC-D-4	2002	(10)	(14)	0	0	(12)	(13)	(27)
SC-D-4	2003	(14)	(18)	0	0	(16)	(17)	(45)
SC-D-4	2004	(17)	(22)	0	0	(20)	(22)	(66)
SC-D-4	2005	(20)	(26)	0	0	(24)	(26)	(92)
SC-D-4	2006	(24)	(31)	0	0	(28)	(30)	(122)
SC-D-4	2007	(27)	(35)	0	0	(32)	(34)	(156)
SC-D-4	2008	(30)	(39)	0	0	(36)	(38)	(195)
SC-D-4	2009	(34)	(43)	0	0	(40)	(43)	(237)

	RIM	Participant	TRC
NPV Benefits ($000s)	$28	$15	$28
NPV Costs ($000s)	$15	$12	$12
NPV Net Benefits ($000s)	$13	$3	$16
Benefit/Cost Ratio	1.832	1.256	2.301

GULF POWER COMPANY
W-D-11
Heat Pump Water Heater

Demand Side Measure	Year	Annual Summer kW at Meter	Annual Summer kW at Generator	Annual Winter kW at Meter	Annual Winter kW at Generator	Annual kWh Savings (000) Customer	Annual kWh Savings (000) Generation	Annual kWh Savings (000) Cumulative Generation
W-D-11	2000	(5)	(6)	(5)	(6)	(25)	(27)	(27)
W-D-11	2001	(9)	(12)	(9)	(12)	(52)	(56)	(83)
W-D-11	2002	(15)	(19)	(15)	(19)	(82)	(89)	(172)
W-D-11	2003	(21)	(27)	(21)	(27)	(115)	(123)	(295)
W-D-11	2004	(27)	(35)	(27)	(35)	(150)	(161)	(456)
W-D-11	2005	(34)	(44)	(34)	(44)	(187)	(201)	(658)
W-D-11	2006	(41)	(53)	(41)	(53)	(227)	(244)	(902)
W-D-11	2007	(49)	(63)	(49)	(63)	(269)	(290)	(1,192)
W-D-11	2008	(57)	(73)	(57)	(73)	(314)	(338)	(1,530)
W-D-11	2009	(65)	(84)	(65)	(84)	(361)	(389)	(1,919)

	RIM	Participant	TRC
NPV Benefits ($000s)	$109	$109	$109
NPV Costs ($000s)	$109	$65	$65
NPV Net Benefits ($000s)	$0	$44	$45
Benefit/Cost Ratio	1.001	1.687	1.689

Florida Public Service Commission
Docket No. 971006-EG
Gulf Power Company
Witness: Michael J. McCarthy
Exhibit No. ____ (MJM-1)
Schedule 3
Page 3 of 7

GULF POWER COMPANY
C-D-19
Energy Efficient Electric Fryers

Demand Side Measure	Year	Annual Summer kW at Meter	Annual Summer kW at Generator	Annual Winter kW at Meter	Annual Winter kW at Generator	Annual kWh Savings (000) Customer	Annual kWh Savings (000) Generation	Annual kWh Savings (000) Cumulative Generation
C-D-19	2000	(35)	(45)	(35)	(45)	(59)	(64)	(64)
C-D-19	2001	(65)	(84)	(65)	(84)	(111)	(119)	(183)
C-D-19	2002	(92)	(119)	(92)	(119)	(158)	(170)	(353)
C-D-19	2003	(119)	(154)	(119)	(154)	(204)	(219)	(572)
C-D-19	2004	(146)	(189)	(146)	(189)	(250)	(269)	(841)
C-D-19	2005	(173)	(224)	(173)	(224)	(296)	(318)	(1,159)
C-D-19	2006	(200)	(259)	(200)	(259)	(342)	(368)	(1,527)
C-D-19	2007	(227)	(293)	(227)	(293)	(388)	(417)	(1,944)
C-D-19	2008	(253)	(328)	(253)	(328)	(433)	(467)	(2,411)
C-D-19	2009	(280)	(363)	(280)	(363)	(479)	(516)	(2,928)

	RIM	Participant	TRC
NPV Benefits ($000s)	$268	$140	$268
NPV Costs ($000s)	$140	$56	$56
NPV Net Benefits ($000s)	$128	$85	$212
Benefit/Cost Ratio	1.909	2.516	4.804

Florida Public Service Commission
Docket No. 971006-EG
Gulf Power Company
Witness: Michael J. McCarthy
Exhibit No. ____ (MJM-1)
Schedule 3
Page 4 of 7

GULF POWER COMPANY
GCCOM
GoodCents Commercial Building

Demand Side Measure	Year	Annual Summer kW at Meter	Annual Summer kW at Generator	Annual Winter kW at Meter	Annual Winter kW at Generator	Annual kWh Savings (000) Customer	Annual kWh Savings (000) Generation	Annual kWh Savings (000) Cumulative Generation
GCCOM	2000	(1,000)	(1,295)	(860)	(1,114)	(1,864)	(2,008)	(2,008)
GCCOM	2001	(1,986)	(2,571)	(1,708)	(2,212)	(3,703)	(3,988)	(5,995)
GCCOM	2002	(2,971)	(3,848)	(2,556)	(3,310)	(5,541)	(5,967)	(11,963)
GCCOM	2003	(3,957)	(5,124)	(3,404)	(4,408)	(7,379)	(7,947)	(19,910)
GCCOM	2004	(4,943)	(6,401)	(4,252)	(5,506)	(9,217)	(9,927)	(29,837)
GCCOM	2005	(5,929)	(7,677)	(5,100)	(6,604)	(11,056)	(11,907)	(41,744)
GCCOM	2006	(6,915)	(8,954)	(5,948)	(7,702)	(12,894)	(13,887)	(55,630)
GCCOM	2007	(7,900)	(10,230)	(6,796)	(8,800)	(14,732)	(15,866)	(71,497)
GCCOM	2008	(8,886)	(11,507)	(7,644)	(9,898)	(16,570)	(17,846)	(89,343)
GCCOM	2009	(9,872)	(12,783)	(8,492)	(10,996)	(18,409)	(19,826)	(109,169)

	RIM	Participant	TRC
NPV Benefits ($000s)	$10,123	$7,239	$10,123
NPV Costs ($000s)	$7,239	$1,883	$1,883
NPV Net Benefits ($000s)	$2,883	$5,356	$8,240
Benefit/Cost Ratio	1.398	3.844	5.376

Florida Public Service Commission
Docket No. 971006-EG
Gulf Power Company
Witness: Michael J. McCarthy
Exhibit No. _____ (MJM-1)
Schedule 3
Page 5 of 7

GULF POWER COMPANY
RTP
Real Time Pricing

Demand Side Measure	Year	Annual Summer kW at Meter	Annual Summer kW at Generator	Annual Winter kW at Meter	Annual Winter kW at Generator	Annual kWh Savings (000) Customer	Annual kWh Savings (000) Generation	Annual kWh Savings (000) Cumulative Generation
RTP	2000	(16,000)	(20,718)	(8,469)	(10,966)	-	-	-
RTP	2001	(16,000)	(20,718)	(8,469)	(10,966)	-	-	-
RTP	2002	(16,000)	(20,718)	(8,469)	(10,966)	-	-	-
RTP	2003	(16,000)	(20,718)	(8,469)	(10,966)	-	-	-
RTP	2004	(16,000)	(20,718)	(8,469)	(10,966)	-	-	-
RTP	2005	(16,000)	(20,718)	(8,469)	(10,966)	-	-	-
RTP	2006	(16,000)	(20,718)	(8,469)	(10,966)	-	-	-
RTP	2007	(16,000)	(20,718)	(8,469)	(10,966)	-	-	-
RTP	2008	(16,000)	(20,718)	(8,469)	(10,966)	-	-	-
RTP	2009	(16,000)	(20,718)	(8,469)	(10,966)	-	-	-

	RIM	Participant	TRC
NPV Benefits ($000s)	$23,769	$15,386	$13,411
NPV Costs ($000s)	$23,288	$10,358	$7,902
NPV Net Benefits ($000s)	$481	$5,028	$5,509
Benefit/Cost Ratio	1.021	1.485	1.697

Florida Public Service Commission
Docket No. 971006-EG
Gulf Power Company
Witness: Michael J. McCarthy
Exhibit No. ____ (MJM-1)
Schedule 3
Page 6 of 7

GULF POWER COMPANY
INT_SRV
Interruptible Service

Demand Side Measure	Year	Annual Summer kW at Meter	Annual Summer kW at Generator	Annual Winter kW at Meter	Annual Winter kW at Generator	Annual kWh Savings (000) Customer	Annual kWh Savings (000) Generation	Annual kWh Savings (000) Cumulative Generation
Interruptible Service	2000	(18,534)	(24,000)	(18,534)	(24,000)	NA	NA	NA
Interruptible Service	2001	(18,534)	(24,000)	(18,534)	(24,000)	NA	NA	NA
Interruptible Service	2002	(18,534)	(24,000)	(18,534)	(24,000)	NA	NA	NA
Interruptible Service	2003	(18,534)	(24,000)	(18,534)	(24,000)	NA	NA	NA
Interruptible Service	2004	(18,534)	(24,000)	(18,534)	(24,000)	NA	NA	NA
Interruptible Service	2005	(18,534)	(24,000)	(18,534)	(24,000)	NA	NA	NA
Interruptible Service	2006	(18,534)	(24,000)	(18,534)	(24,000)	NA	NA	NA
Interruptible Service	2007	(18,534)	(24,000)	(18,534)	(24,000)	NA	NA	NA
Interruptible Service	2008	(18,534)	(24,000)	(18,534)	(24,000)	NA	NA	NA
Interruptible Service	2009	(18,534)	(24,000)	(18,534)	(24,000)	NA	NA	NA

	RIM	Participant	TRC
NPV Benefits ($000s)			
NPV Costs ($000s)			
NPV Net Benefits ($000s)			
Benefit/Cost Ratio			

Information on the cost-effectiveness of interruptible service is considered confidential by Gulf Power. The information has been provided to the FPSC staff.

Florida Public Service Commission
Docket No. 971006-EG
Gulf Power Company
Witness: Michael J. McCarthy
Exhibit No. ____ (MJM-1)
Schedule 3
Page 7 of 7

Tampa Electric Company
Docket No. 971007 - EG
Witness: Bryant
Exhibit No. ____ (HTB - 1)

Tampa Electric Company

Exhibit of

Howard T. Bryant

FLORIDA PUBLIC SERVICE COMMISSION
DOCKET
NO. 971004-EG, et al EXHIBIT NO. 8
COMPANY/
WITNESS: Tampa Electric
DATE: 8-17-99

Tampa Electric Company

Index

DSM MEASURE EVALUATION LIST

RESIDENTIAL NEW CONSTRUCTION

FROM COMMISSION WORKSHOP - JANUARY 7, 1998

CW-1	HIGH EFFICIENCY CLOTHES WASHER
FR-1	BEST CURRENT FREEZER (FROST-FREE)
FR-2	BEST CURRENT FREEZER (MANUAL)
LT-1	COMPACT FLUORESCENT
LT-2	EFFICIENT INCANDESCENT
LT-3	HIGH PRESSURE SODIUM (OUTDOOR)
PP-3	DLC OF POOL PUMPS
RF-1	BEST CURRENT REFRIGERATOR (FROST-FREE)
RF-2	BEST CURRENT REFRIGERATOR (MANUAL)
RSC-1	HIGH EFFICIENCY AIR SOURCE HEAT PUMP
RSC-2	GROUND SOURCE HEAT PUMP
RSC-3	TWO SPEED HEAT PUMP
RSC-7A	SETBACK/PROGRAMMABLE THERMOSTAT
RSC-7B	SETBACK/PROGRAMMABLE THERMOSTAT
RSC-8A	LOAD CONTROL FOR RESIDENTIAL ELECTRIC HEAT
RSC-8B	LOAD CONTROL FOR RESIDENTIAL ELECTRIC HEAT
RSC-21A	HIGH EFFICIENCY CENTRAL AC
RSC-22A	TWO SPEED CENTRAL AC
RSC-24A	HIGH EFFICIENCY ROOM AC
RSC-26A	DLC OF CENTRAL AC
RSC-26B	DLC OF CENTRAL AC
WH-1	HIGH EFFICIENCY ELECTRIC RESISTANCE WATER HEATER
WH-2	INTEGRAL HEAT PUMP WATER HEATER
WH-3	SOLAR WATER HEATER
WH-4	HEAT RECOVERY WATER HEATER (DESUPERHEATER)
WH-5	ADD-ON HEAT PUMP WATER HEATER
WH-6	DHW HEATER TANK INSULATION
WH-10	DLC OF ELECTRIC WATER HEATER

ADDITIONAL RESIDENTIAL NEW CONSTRUCTION

LT-4	MOTION DETECTORS FOR OUTDOOR LIGHTING
RSC-05A	REDUCED DUCT LEAKAGE
RSC-05B	REDUCED DUCT LEAKAGE
RSC-19A	REFLECTIVE ROOF COATINGS
RSC-19B	REFLECTIVE ROOF COATINGS
RSC-29	RESIDENTIAL HIGH EFFICIENCY HEAT PUMP
WH-8	DHW HEAT TRAP
WH-9	LOW FLOW SHOWERHEAD
TECO	LOAD MANAGEMENT

COMMERCIAL NEW CONSTRUCTION

FROM COMMISSION WORKSHOP - JANUARY 7, 1998

CD-18	CONVECTION OVENS
CD-19	ENERGY EFFICIENT ELECTRIC FRYERS
LD-25	COMPACT FLOURESCENT LAMPS (15/18/27W)
LD-26	TWO LAMP COMPACT FLOURESCENT (18W)
SCD-1	HIGH EFFICIENCY CHILLER
SCD-2	HIGH EFFICIENCY CHILLER W/ASD
SCD-3	HIGH EFFICIENCY DX AC
SCD-4	HIGH EFFICIENCY ROOM AC UNITS

COMMERCIAL NEW CONSTRUCTION

FROM COMMISSION WORKSHOP - JANUARY 7, 1998 (CONT.)

SCD-5	COOL STORAGE
VD-8	HIGH EFFICIENCY MOTORS-CHILLERS
VD-9	HIGH EFFICIENCY MOTORS-DX AC
WD-11	HEAT PUMP WATER HEATER
WD-12	SOLAR WATER HEATER
WD-13	HEAT RECOVERY WATER HEATER

ADDITIONAL COMMERCIAL NEW CONSTRUCTION

LD-5	8'-60W FLOUR LAMPS/ELECTRONIC BALLASTS (#1)
LD-8	T8 LAMPS/ELECTRONIC BALLASTS (#2)
LD-11	REFL/DELAMP INSTALL 8'-75W FLOUR LAMPS/EE BALLAST
LD-12	REFL/DELAMP INSTALL 8'-60W FLOUR LAMPS/EE BALLAST
LD-17	REFL/DELAMP INSTALL 8'-60W FLOUR LAMPS/ELEC BALL
LD-18	REFL/DELAMP INSTALL 8'-60W FLOUR LAMPS/ELEC BALL
LD-21	HIGH PRESSURE SODIUM (70/100/150/250W)
LD-22	HIGH PRESSURE SODIUM (70/100/150/250W -W/ES BALLAST)
LD-23	HIGH PRESSURE SODIUM (35W)
LD-27	ENERGY MANAGEMENT SYSTEM FOR LIGHTING
LD-28	OCCUPANCY SENSORS
LD-29	DAYLIGHTING DESIGN
RD-1	MULTIPLEX AIR-COOLED/NO SUBCOOLING
RD-2	MULTIPLEX AIR-COOLED/AMBIENT SUBCOOLING
RD-3	MULTIPLEX AIR-COOLED/MECHANICAL SUBCOOLING
RD-4	MULTIPLEX AIR-COOLED/AMBIENT & MECHANICAL SUBCOOL
RD-5	MULTIPLEX AIR-COOLED/EXTERNAL LIQUID SUCTION HX
RD-6	OPEN DRIVE REFRIGERATION SYSTEM (ASD)
RD-7	ANTI-CONDENSATE HEATER CONTROLS
RD-8	HIGH R-VALUE GLASS DOORS
RD-9	REFRIGERATION ENERGY MANAGEMENT SYSTEM (EMS)
RD-10	DUAL PATH AIR CONDITIONING
SCD-8	2-SPEED MOTOR FOR COOLING TOWER
SCD-9	SPEED CONTROL FOR COOLING TOWERS
SCD-12	HVAC AIR DUCT/WATER PIPE INSULATION-CHILLER
SCD-13	HVAC AIR DUCT/WATER PIPE INSULATION-DX AC
SCD-16	TEMPERATURE SETUP/SETBACK-CHILLER
SCD-17	TEMPERATURE SETUP/SETBACK-DX AC
SCD-18	ROOF INSULATION-CHILLER
SCD-19	ROOF INSULATION-DX AC
SCD-26	LIGHT COLORED ROOFS-CHILLER
SCD-27	LIGHT COLORED ROOFS-DX AC
VD-1	LEAK FREE DUCTS DX AC
VD-4	ASD VENTILATION CONTROL W/VAV-DX AC
VD-5	ASD VENTILATION CONTROL W/VAV-CHILLERS
VD-6	TIME/PROGRAM VENTILATION CONTROL-CHILLERS
VD-7	TIME/PROGRAM VENTILATION CONTROL-DX AC
VD-10	SEPARATE MAKEUP AIR/EXHAUST HOODS-CHILLERS
VD-11	SEPARATE MAKEUP AIR/EXHAUST HOODS-DX AC
WD-14	DHW HEATER INSULATION
TECO	COMMERCIAL /INDUSTRIAL LOAD MANAGEMENT
TECO	DX AC REPLACEMENT
TECO	STANDBY GENERATOR

RESIDENTIAL EXISTING CONSTRUCTION

FROM COMMISSION WORKSHOP - JANUARY 7, 1998

CW-1	HIGH EFFICIENCY CLOTHES WASHER
FR-1	BEST CURRENT FREEZER (FROST-FREE)
FR-2	BEST CURRENT FREEZER (MANUAL)
FR-3	REMOVE SECOND FREEZER
LT-1	COMPACT FLUORESCENT
LT-2	EFFICIENT INCANDESCENT
LT-3	HIGH PRESSURE SODIUM (OUTDOOR)
PP-1	HIGH EFFICIENCY POOL PUMP
PP-3	DLC OF POOL PUMPS
RF-1	BEST CURRENT REFRIGERATOR (FROST-FREE)
RF-2	BEST CURRENT REFRIGERATOR (MANUAL)
RF-3	REMOVE SECOND REFRIGERATOR
RSC-1	HIGH EFFICIENCY AIR SOURCE HEAT PUMP
RSC-2	GROUND SOURCE HEAT PUMP
RSC-3	TWO SPEED HEAT PUMP
RSC-05A	REDUCED DUCT LEAKAGE
RSC-05B	REDUCED DUCT LEAKAGE
RSC-07A	SETBACK/PROGRAMMABLE THERMOSTAT
RSC-07B	SETBACK/PROGRAMMABLE THERMOSTAT
RSC-8A	LOAD CONTROL FOR RESIDENTIAL ELECTRIC HEAT
RSC-8B	LOAD CONTROL FOR RESIDENTIAL ELECTRIC HEAT
RSC-10A	CEILING INSULATION (RO-R19)
RSC-10B	CEILING INSULATION (RO-R19)
RSC-11A	CEILING INSULATION (R11-R30)
RSC-11B	CEILING INSULATION (R11-R30)
RSC-12A	CEILING INSULATION (R19-R30)
RSC-12B	CEILING INSULATION (R19-R30)
RSC-13A	CEILING INSULATION (R30-R38)
RSC-13B	CEILING INSULATION (R30-R38)
RSC-15A	WEATHERSTRIP/CAULK W/BLOWER DOOR
RSC-15B	WEATHERSTRIP/CAULK W/BLOWER DOOR
RSC-16A	WINDOW FILM/REFLECTIVE GLASS
RSC-16B	WINDOW FILM/REFLECTIVE GLASS
RSC-17A	LOW EMISSIVTY GLASS
RSC-17B	LOW EMISSIVTY GLASS
RSC-18A	SHADE SCREENS
RSC-18B	SHADE SCREENS
RSC-21A	HIGH EFFICIENCY CENTRAL AC
RSC-22A	TWO SPEED CENTRAL AC
RSC-24A	HIGH EFFICIENCY ROOM AC
RSC-25A	AIR CONDITIONING/HEAT PUMP MAINTENANCE
RSC-25B	AIR CONDITIONING/HEAT PUMP MAINTENANCE
RSC-26A	DLC OF CENTRAL AC
RSC-26B	DLC OF CENTRAL AC
WH-1	HIGH EFFICIENCY ELECTRIC RESISTANCE WATER HEATER
WH-2	INTEGRAL HEAT PUMP WATER HEATER
WH-3	SOLAR WATER HEATER
WH-4	HEAT RECOVERY WATER HEATER (DESUPERHEATER)
WH-5	ADD-ON HEAT PUMP WATER HEATER
WH-6	DHW HEATER TANK INSULATION
WH-7	DHW PIPE INSULATION
WH-8	DHW HEAT TRAP
WH-9	LOW FLOW SHOWERHEAD
WH-10	DLC OF ELECTRIC WATER HEATER

ADDITIONAL RESIDENTIAL EXISTING CONSTRUCTION

LT-4	MOTION DETECTORS FOR OUTDOOR LIGHTING
RSC-19A	REFLECTIVE ROOF COATINGS
RSC-19B	REFLECTIVE ROOF COATINGS
RSC-23A	WHOLE HOUSE FANS
RSC-23B	WHOLE HOUSE FANS
RSC-29	RESIDENTIAL HIGH EFFICIENCY HEAT PUMP
TECO	CEILING INSULATION
TECO	DUCT REPAIR
TECO	HEATING AND COOLING SEER12
TECO	LOAD MANAGEMENT

COMMERCIAL EXISTING CONSTRUCTION

FROM COMMISSION WORKSHOP - JANUARY 7, 1998

CD-18	CONVECTION OVENS
CD-19	ENERGY EFFICIENT ELECTRIC FRYERS
LD-1	4'-34W FLOUR LAMPS/HYBRID BALLASTS (#1)
LD-2	4'-34W FLOUR LAMPS/HYBRID BALLASTS (#2)
LD-3	4'-34W FLOUR LAMPS/ELECTRONIC BALLASTS (#1)
LD-4	4'-34W FLOUR LAMPS/ELECTRONIC BALLASTS (#2)
LD-5	8'-60W FLOUR LAMPS/ELECTRONIC BALLASTS (#1)
LD-6	8'-60W FLOUR LAMPS/ELECTRONIC BALLASTS (#2)
LD-7	T8 LAMPS/ELECTRONIC BALLASTS (#1)
LD-8	T8 LAMPS/ELECTRONIC BALLASTS (#2)
LD-9	REFL/DELAMP INSTALL 4'-40W FLOUR LAMPS/EE BALLAST
LD-10	REFL/DELAMP INSTALL 4'-34&40W FLOUR LAMPS/EE BALLAST
LD-11	REFL/DELAMP INSTALL 8'-75W FLOUR LAMPS/EE BALLAST
LD-12	REFL/DELAMP INSTALL 8'-60W FLOUR LAMPS/EE BALLAST
LD-13	REFL/DELAMP INSTALL 4'-34&40W FLOUR LAMPS/HYBD BALL
LD-14	REFL/DELAMP INSTALL 4'-34&40W FLOUR LAMPS/HYBD BALL
LD-15	REFL/DELAMP INSTALL 4'-34&40W FLOUR LAMPS/ELEC BALL
LD-16	REFL/DELAMP INSTALL 4'-34&40W FLOUR LAMPS/ELEC BALL
LD-17	REFL/DELAMP INSTALL 8'-60W FLOUR LAMPS/ELEC BALL
LD-18	REFL/DELAMP INSTALL 8'-60W FLOUR LAMPS/ELEC BALL
LD-19	4'X34W FLOUR LAMPS/DIMMING BALLAST(#1)
LD-20	4'X34W FLOUR LAMPS/DIMMING BALLAST(#2)
LD-21	HIGH PRESSURE SODIUM (70/100/150/250W)
LD-22	HIGH PRESSURE SODIUM (70/100/150/250W -W/ES BALLAST)
LD-23	HIGH PRESSURE SODIUM (35W)
LD-24	METAL HALIDE (32W)
LD-25	COMPACT FLOURESCENT LAMPS (15/18/27W)
LD-26	TWO LAMP COMPACT FLOURESCENT (18W)
RD-1	MULTIPLEX AIR-COOLED/NO SUBCOOLING
RD-2	MULTIPLEX AIR-COOLED/AMBIENT SUBCOOLING
RD-3	MULTIPLEX AIR-COOLED/MECHANICAL SUBCOOLING
RD-4	MULTIPLEX AIR-COOLED/AMBIENT & MECHANICAL SUBCOOL
RD-5	MULTIPLEX AIR-COOLED/EXTERNAL LIQUID SUCTION HX
RD-6	OPEN DRIVE REFRIGERATION SYSTEM (ASD)
RD-7	ANTI-CONDENSATE HEATER CONTROLS
RD-8	HIGH R-VALUE GLASS DOORS
RD-9	REFRIGERATION ENERGY MANAGEMENT SYSTEM (EMS)
SCD-1	HIGH EFFICIENCY CHILLER
SCD-2	HIGH EFFICIENCY CHILLER W/ASD
SCD-3	HIGH EFFICIENCY DX AC
SCD-4	HIGH EFFICIENCY ROOM AC UNITS
SCD-5	COOL STORAGE

COMMERCIAL EXISTING CONSTRUCTION

FROM COMMISSION WORKSHOP - JANUARY 7, 1998 (CONT.)

SCD-8	2-SPEED MOTOR FOR COOLING TOWER
SCD-9	SPEED CONTROL FOR COOLING TOWER
SCD-10	A/C MAINTENANCE-CHILLER
SCD-11	A/C MAINTENANCE-DX AC
SCD-12	HVAC AIR DUCT/WATER PIPE INSULATION-CHILLER
SCD-13	HVAC AIR DUCT/WATER PIPE INSULATION-DX AC
SCD-18	ROOF INSULATION-CHILLER
SCD-19	ROOF INSULATION-DX AC
SCD-22	WINDOW FILM-CHILLER
SCD-23	WINDOW FILM-DX AC
VD-1	LEAK FREE DUCTS DX AC
VD-8	HIGH EFFICIENCY MOTORS-CHILLERS
VD-9	HIGH EFFICIENCY MOTORS-DX AC
VD-10	SEPARATE MAKEUP AIR/EXHAUST HOODS-CHILLERS
VD-11	SEPARATE MAKEUP AIR/EXHAUST HOODS-DX AC
WD-11	HEAT PUMP WATER HEATER
WD-12	SOLAR WATER HEATER
WD-13	HEAT RECOVERY WATER HEATER
WD-14	DHW HEATER INSULATION
WD-15	DHW HEAT TRAP
WD-16	LOW FLOW VARIABLE FLOW SHOWERHEAD
WD-17	DWH RECIRCULATION PUMPS

ADDITIONAL COMMERCIAL EXISTING CONSTRUCTION

LD-27	ENERGY MANAGEMENT SYSTEM FOR LIGHTING
LD-28	OCCUPANCY SENSORS
RD-10	DUAL PATH AIR CONDITIONING
SCD-6	HEAT PIPE ENHANCED DX AC
SCD-16	TEMPERATURE SETUP/SETBACK-CHILLER
SCD-17	TEMPERATURE SETUP/SETBACK-DX AC
SCD-26	LIGHT COLORED ROOFS-CHILLER
SCD-27	LIGHT COLORED ROOFS-DX AC
VD-3	VAV SYSTEMS W/INLET VANES-DX AC
VD-4	ASD VENTILATION CONTROL W/VAV-DX AC
VD-5	ASD VENTILATION CONTROL W/VAV-CHILLERS
VD-6	TIME/PROGRAM VENTILATION CONTROL-CHILLERS
VD-7	TIME/PROGRAM VENTILATION CONTROL-DX AC
TECO	COMMERCIAL /INDUSTRIAL LOAD MANAGEMENT
TECO	COMMERCIAL /INDUSTRIAL INDOOR LIGHTING
TECO	DX AC REPLACEMENT
TECO	STANDBY GENERATOR

CUE MEASURES EVALUATED

RESIDENTIAL

PP-1	HIGH EFFICIENCY POOL PUMP
PP-2	DOWN-SIZED POOL PUMPS W/OVERSIZED PLUMBING
RSC-06A	REDUCED DUCT HEAT TRANSFER - NEW CONSTRUCTION
RSC-06B	REDUCED DUCT HEAT TRANSFER - NEW CONSTRUCTION
RSC-09A	CEILING INSULATION - NEW CONSTRUCTION
RSC-09B	CEILING INSULATION - NEW CONSTRUCTION
RSC-28A	CEILING FANS
RSC-28B	CEILING FANS

COMMERCIAL

LD-3	MOTION DETECTORS FOR OUTDOOR LIGHTING
RD-1	MULTIPLEX AIR-COOLED/NO SUBCOOLING
RD-2	MULTIPLEX AIR-COOLED/AMBIENT SUBCOOLING
RD-3	MULTIPLEX AIR-COOLED/MECHANICAL SUBCOOLING
RD-4	MULTIPLEX AIR-COOLED/AMBIENT & MECHANICAL SUBCOOL
RD-5	MULTIPLEX AIR-COOLED/EXTERNAL LIQUID SUCTION HX
RD-6	OPEN DRIVE REFRIGERATION SYSTEM (ASD)
RD-7	ANTI-CONDENSATE HEATER CONTROLS
RD-8	HIGH R-VALUE GLASS DOORS
RD-9	REFRIGERATION ENERGY MANAGEMENT SYSTEM (EMS)
SCD-18	ROOF INSULATION-CHILLER
SCD-19	ROOF INSULATION-DX AC
SCD-20	WALL INSULATION-CHILLER
SCD-21	WALL INSULATION-DX AC
SCD-22	WINDOW FILM-CHILLER
SCD-23	WINDOW FILM-DX AC
SCD-24	SPECIALLY SELECTIVE WINDOWS-CHILLERS
SCD-25	SPECIALLY SELECTIVE WINDOWS-DX AC
SCD-8	2-SPEED MOTOR FOR COOLING TOWER
SCD-9	SPEED CONTROL FOR COOLING TOWERS

Proposed Residential Goals

2000 - 2009

Year	Summer Goal (MW)	Winter Goal (MW)	Annual Energy Goal (GWH)
2000	5.8	16.7	10.3
2001	11.1	32.2	20.0
2002	16.1	46.3	29.0
2003	20.7	59.2	37.5
2004	25.0	70.7	45.3
2005	28.8	81.0	52.5
2006	32.2	90.0	59.1
2007	35.3	97.7	65.1
2008	38.0	104.1	70.5
2009	40.3	109.1	75.3

Proposed Commercial Goals

2000 - 2009

Year	Summer Goal (MW)	Winter Goal (MW)	Annual Energy Goal (GWH)
2000	3.5	1.5	12.9
2001	6.9	3.0	25.7
2002	10.4	4.5	38.6
2003	13.5	5.9	50.3
2004	16.7	7.3	61.9
2005	19.9	8.7	73.6
2006	22.8	10.0	84.1
2007	25.8	11.3	94.5
2008	28.4	12.4	104.9
2009	30.8	13.4	114.1

Avoided Cost Assumptions
2000 Base Year

Avoided Unit Cost	
Generating Unit Cost ($/KW)	286
Generator Variable O&M Cost (Cents/KWH)	0.257
Generator Fixed O&M Cost ($/KW/Yr.)	5.10
Generator Unit Fuel Cost (Cents/KWH)	3.906
Generator Cost Escalation Rate	2.4%
Generator Fixed & Variable O&M Escalation Rate	2.7%
Generator Unit Fuel Escalation Rate	3.27%

T&D Costs	
Avoided Transmission Cost ($/KW)	5.36
Avoided Distribution Cost ($/KW)	0.00
Transmission Fixed O&M Cost ($/MWH)	3.47
Distribution Fixed O&M Cost ($/MWH)	13.02
Transmission Cost Escalation Rate	2.4%
Transmission & Distribution Fixed O&M Rate	2.7%

System Avoided Fuel Costs
(Cents/KWH)

Year	Average	Marginal
2000	2.16	2.97
2001	2.18	2.76
2002	2.25	2.85
2003	2.29	2.94
2004	2.37	3.16
2005	2.31	3.42
2006	2.42	3.85
2007	2.50	3.87
2008	2.57	4.10
2009	2.70	4.38
2010	2.82	4.65
2011	2.94	4.92
2012	3.07	5.22
2013	3.17	5.40
2014	3.33	5.85
2015	3.47	6.21
2016	3.61	6.63
2017	3.80	7.08
2018	3.93	7.01
2019	4.04	7.20
2020	4.15	7.40
2021	4.26	7.59
2022	4.37	7.80
2023	4.49	8.01
2024	4.61	8.23
2025	4.74	8.45
2026	4.87	8.68
2027	5.00	8.91
2028	5.13	9.15