

**BEFORE THE
FLORIDA PUBLIC SERVICE COMMISSION**

**DOCKET NO. 080407-EG
FLORIDA POWER & LIGHT COMPANY**

**IN RE: FLORIDA POWER & LIGHT COMPANY'S
PETITION FOR APPROVAL OF
NUMERIC CONSERVATION GOALS**

DIRECT TESTIMONY & EXHIBIT OF:

JAMES W. DEAN

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5 **JUNE 1, 2009**

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

8 A. My name is James W. Dean, and my business address is 2227 Shirley Ann
9 Court Tallahassee, Florida 32308.

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

11 A. I am the principal and owner of Weldon-Dean Associates, a consulting
12 firm that provides energy consulting services to electric utilities and
13 private sector firms.

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

15 A. I graduated from Georgia State University in Atlanta in 1973 with a
16 Bachelor's degree in Urban Affairs. In 1976, I earned a Master's degree in
17 Government with a concentration in Public Policy from Florida State
18 University. Between 1977 and 1979, I completed all graduate course
19 requirements and qualifying exams for a Ph.D. in Government except for
20 completing the dissertation. In 1995, I earned a Bachelor's degree in
21 Economics, and in 2001 earned a Master of Business Administration with a
22 concentration in Finance -- both from Florida State University.

1 From 1980 to 1982, I worked with the Power Plant Siting Office in the Florida
2 Department of Community Affairs (DCA). My responsibilities included
3 making determinations as to the suitability of the Ten Year Site Plans
4 submitted by Florida's electric generating utilities and participating on behalf
5 of the DCA in the power plant siting process pursuant to 403.507(2)(a)(1),
6 Florida Statutes.

7
8 In 1982, I was hired by the Florida Public Service Commission ("FPSC" or
9 "Commission") as an Energy Analyst. I served in a variety of technical positions
10 in the Division of Electric and Gas until 1988, when I was promoted to Chief of
11 the Bureau of System Planning and Conservation. My principal duties in that
12 position were to manage the development of staff recommendations on dockets
13 relating to conservation, cogeneration and need determinations for new power
14 plants.

15
16 From 1991 to 1992, I was employed by the City of Tallahassee as the Supervisor
17 of Demand Side Management. In that role I was responsible for developing the
18 City's energy efficiency programs, developing the annual demand and energy
19 forecast, preparing the Ten-Year Site Plan, and managing end use research
20 projects.

1 I returned to the FPSC in 1992 where I served as Chief Advisor to Commissioner
2 Luis Laredo. From 1994 until 2001, I served as a Conservation Technology
3 Specialist, where I worked on special projects as directed by the Executive
4 Director and the Commission Chairman.

5

6 I worked in what became the Commission's Office of Strategic Analysis and
7 Governmental Affairs from 2001 until 2007; I was appointed director of the
8 division in 2004. I was responsible for all liaison activities with the Florida
9 Legislature, Governor's Office, and relevant external entities and managed a
10 team of eight direct report employees. My duties included overseeing the
11 preparation of legislative bill analyses, speaking to Legislative committees and
12 interfacing with legislative staff.

13

14 Since leaving the Commission in 2007, I have been the principal and owner of
15 Weldon-Dean Associates.

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

17 A. Yes. I am sponsoring Exhibit JWD-1, *Adoption of Numeric Conservation Goals*
18 *and Consideration of National Energy Policy Act Standards*, Commission Order
19 No. 94-1313-FOF-EG, issued on October 25, 1994, in Docket No.930548-EG,
20 which is attached to my direct testimony.

1 **Q. What is the scope and purpose of your testimony?**

2 A. The purpose of my testimony is to comment upon three areas in the current
3 Florida Energy Efficiency and Conservation Act (FEECA) goals docket. First,
4 based on my knowledge of and numerous and varied levels of involvement in
5 FEECA proceedings, I offer a perspective on the history and rationale of
6 Commission decisions addressing some of the recurring policy decisions in those
7 dockets and the basis for those decisions. My comments focus on the relevant
8 decisions regarding the appropriateness of the Rate Impact Measurement (RIM)
9 test and why Florida Power & Light Company's (FPL's) proposed E-RIM goals
10 are appropriate.

11
12 Second, I offer my opinion on how the recent amendments to FEECA contained
13 in HB 7135 and codified at Section 366.82(3)(b), Florida Statutes, mesh with the
14 Commission's established cost-effectiveness tests. Specifically, based on my
15 extensive familiarity with the Commission's cost-effectiveness tests, I conclude
16 that the language of Section 366.82(3)(b), is more compatible and consistent with
17 using the RIM and Participant tests rather than the Total Resource Cost (TRC)
18 test.

19
20 Finally, I provide an independent review of the processes FPL used to develop its
21 demand and energy goals in this docket and offer opinions on: (1) the objectivity
22 and rigor of these processes, (2) the compatibility of FPL's goals process with

1 FEECA and the DSM Goals rule and (3) the reasonableness of FPL's resulting
2 DSM goals.

3 **Q. Please summarize your testimony.**

4 A. There is a long and rich regulatory history of Commission decisions
5 implementing FEECA. Through its implementation of FEECA, the Commission
6 has been a national leader in establishing a constructive regulatory framework for
7 implementing DSM. The Commission has consistently and aggressively
8 implemented FEECA, encouraging Florida utilities to acquire cost-effective
9 DSM that fulfilled specific resource needs. Over this 29-year period, the
10 Commission has deliberated and resolved the vexing issues that were raised by
11 FEECA, and on five separate occasions has declined to establish TRC-based
12 DSM goals, opting instead for RIM-based goals. Thus, the issues the
13 Commission will be considering in this current docket are not novel.

14
15 Over the many years and numerous FEECA proceedings, the Commission has
16 steadfastly maintained that DSM goals be established that minimize rate impacts,
17 minimize cross-subsidies between customers, and integrates with utility-
18 identified capacity needs. Since the most recent DSM goals rule was adopted in
19 1993, the Commission has consistently concluded that using both the RIM and
20 Participant tests rather than the TRC test is the appropriate standard to use in
21 setting DSM goals and approving utility DSM programs. The Commission has
22 been acutely aware of and at every opportunity has taken a position to minimize

1 customer rates and minimize income transfers between customers (i.e., subsidies)
2 associated with TRC programs. Commission orders have repeatedly recognized
3 and required that the economic benefits of DSM should accrue to all utility
4 customers – those that participate in DSM programs as well as those who do not
5 participate. The Commission has never mandated – except for residential audits
6 which are required by law – that utilities be required to deliver energy efficiency
7 programs which on their face fail the RIM test.

8
9 In all five FEECA goals-setting proceedings, the Commission has recognized the
10 desirability of establishing DSM goals based upon the utilities' planning
11 processes and has used the measures of avoided costs from those processes as the
12 basis for measuring customer benefits. The Commission has shown consistent
13 sensitivity to minimizing free-riders so that customer provided funds that pay for
14 utility incentives would be offered only to optimize participation in DSM
15 programs. The Commission has also recognized that the energy and demand
16 goals established in these proceedings have increased and decreased depending
17 on a number of economic parameters such as: the cost, timing and type of new
18 generating resources, the projected resource needs of the utilities, the cost and
19 performance of energy efficiency and DSM measures and economic conditions
20 existing at the time, always with a keen eye on the rate impact on all ratepayers.
21 In this docket, FPL is proposing goals that integrate DSM in a cost-effective
22 manner with FPL's capacity needs and forecasted load growth.

1 Given current economic circumstances, particularly the increased real price of
2 electricity and the economic demands faced by customers in this significant
3 economic downturn, now is not the time to disregard the lessons of the past.
4 Indeed, sensitivity to rate impacts, acquiring only the DSM needed to meet
5 resource needs and maximizing customer provided incentive dollars make as
6 much or more sense now than they have in any prior DSM goals proceeding.

7
8 The Commission is faced with additional statutory language regarding cost-
9 effectiveness, but as my testimony shows, this new language is more compatible
10 with the RIM and Participant tests than it is with the TRC test. The Commission
11 is instructed to “take into consideration” all costs and benefits, something the
12 TRC test fails to do, and it is told to consider a specific cost – utility incentives to
13 customers – that is not a part of the TRC test. In contrast, the RIM and
14 Participant tests, when used together, capture all relevant costs and benefits.

15
16 Finally, I have conducted an independent review of FPL’s process and
17 methodology in developing its DSM goals for 2010 through 2019. FPL has gone
18 beyond the requirements of FEECA and the Commission’s DSM goals rule. It
19 has participated in a collaborative effort that captured the full technical potential
20 of DSM and then assessed alternative scenarios of achievable potential. Most
21 importantly, it has integrated its achievable potential assessment with its resource

1 needs, assuring that FPL's customers are not asked to acquire more DSM than is
2 needed to serve them. FPL's proposed DSM goals should be adopted.

3
4 **I. THE FLORIDA ENERGY EFFICIENCY AND CONSERVATION ACT**
5 **AND THE FPSC**

6
7 **Q. When did Florida begin focusing on conservation?**

8 A. As a result of the increase in crude oil prices following the Iranian revolution in
9 1979, the 1980 Florida Legislature passed FEECA. The broad intent of this
10 legislation was to place a continuous obligation on electric utilities to develop
11 programs and tactics to manage the growth in energy consumption and demand
12 and to target reductions in the use of petroleum-derived fuels for electric
13 generation. FEECA required the Commission to adopt goals by September 1,
14 1980 for a five-year period.

15
16 The legislative intent of FEECA placed special importance on reducing weather
17 sensitive peak demand over simply reducing growth rates of electric
18 consumption. This indicates that the legislative authors were particularly focused
19 on slowing the growth in peak demand, which defers the need for new capacity
20 and offers other benefits besides managing fuel costs. This enables all customers
21 to benefit, not just the program participants.

1 **Q. Is capacity deferral addressed elsewhere in FEECA?**

2 A. Yes. A determination of need was included in the FEECA statute. It provided,
3 among other things, that the Commission, when assessing the need for electrical
4 power plants, was to “expressly consider the conservation measures taken by or
5 reasonably available to the applicant or its members, which may mitigate the
6 need for the proposed plant....” Thus, before a new power plant can be built in
7 Florida, utilities have to show that conservation could not avoid or defer the
8 need for it.

9 **Q. Did the Commission address rate impacts in its initial implementation of**
10 **FEECA?**

11 A. Not explicitly, but it did address the potential problem of cross-subsidization
12 among customers. The Commission’s rules implementing FEECA contained both
13 broad general goals and specific numeric goals providing numeric reduction
14 targets in peak demand growth, electric consumption growth, and the use of
15 petroleum fuels. It also prescribed a specific number of residential audits to be
16 performed. The Commission’s interpretation of FEECA was that controlling
17 demand (kW) growth was a higher priority than controlling energy (kWh)
18 growth.

19

20 In Rule 25-17.01(2), Florida Administrative Code (F.A.C.), of the original rule,
21 the FPSC addressed the issue of equity impacts from implementing conservation
22 programs. The initial language read:

1 Reducing weather sensitive peak demand on the electric system to
2 the extent cost-effective is the first priority. Reducing weather
3 sensitive peak demand benefits not only the individual customer
4 who reduces his demand, but also all other customers on the
5 system, both of whom realize the immediate benefits of reducing
6 the fuel costs of the most expensive form of generation and the
7 longer term benefits of deferring additional higher cost capacity.

8
9 Thus, even in these very first rules implementing FEECA, the Commission was
10 cognizant of the potential cost-shifting (i.e., rate) impacts of conservation
11 programs, the need to tie conservation to the utility's resource planning process
12 and the principle that avoided costs should be considered customer benefits.
13 Even after several revisions, similar language remains in the current rule.

14 **Q. Did the Commission prescribe a cost-effectiveness test that it would use in**
15 **approving DSM programs?**

16 A. Not in the initial rules. Using DSM as part of utility resource plans was
17 completely novel at that time. In fact, California and Florida are acknowledged
18 pioneers in requiring DSM as part of a utility's resource plan. However, the
19 Commission was concerned about over-incenting customers and funding free-
20 riders -- customers who should have an economic incentive to participate without
21 being paid a utility incentive. From the onset, the Commission acted to avoid
22 free-riders. While the Commission did not tie itself to any particular cost-

1 effectiveness test, it concluded that only DSM justified as passing a cost/benefit
2 analysis should be advanced. (Order No. 9672, issued on November 26, 1980, in
3 Docket No. 800662-EG).

4 **Q. When did the Commission adopt the first conservation cost-effectiveness**
5 **rule?**

6 A. In November 1982, the Commission adopted a cost-effectiveness reporting
7 format rule. This initial rule outlined the reporting format to be used for each
8 program to represent the various year-by-year streams of costs and benefits. In
9 this initial format, the Commission envisioned three perspectives on cost-
10 effectiveness. The reporting forms were designed to report cost-effectiveness
11 from the perspectives of the participating customers, the individual utility, and
12 the state of Florida as a whole. The Florida perspective was largely viewed as a
13 means to capture inter-utility impacts of changes in wholesale purchases of
14 capacity and energy when non-generating utilities offered DSM programs.

15 **Q. When did the Commission adopt its current conservation or DSM cost-**
16 **effectiveness reporting rule?**

17 A. In July 1991, in Docket No. 891324-EU, the Commission adopted its current
18 *Conservation and Self Service Wheeling Cost-effectiveness Data Reporting*
19 *Format*. These reporting requirements were codified in Rule 25-17.008, F.A.C.

1 **Q. Did the Commission make a finding as to what test would be used to**
2 **approve DSM programs and self-service wheeling requests at that time?**

3 A. No. However, the Commission acknowledged that self-service wheeling has
4 identical impacts on a utility system as energy efficiency programs; they reduce
5 demand and energy. The Commission acknowledged the tension between
6 FEECA's mandate to encourage cogeneration (of which self-service wheeling is
7 a component) and the language in Section 366.051, Florida Statutes, that required
8 public utilities to wheel power for retail customers to another location, "if the
9 Commission finds that the provision of this service, and the charges, terms, and
10 other conditions associated with the provision of this service are not likely to
11 result in higher cost electric service to the utility's general body of retail and
12 wholesale customers or adversely affect the adequacy or reliability of electric
13 service to all customers." (Order No. 24745, issued on July 2, 1991, in Docket
14 No. 891324-EU) (emphasis added).

15
16 In the order adopting the rule, the Commission stated, "The tension in these two
17 statutes is not resolved in this rule. The rule and the manual provide a neutral
18 reporting format. It does not automatically bounce or reject a program ---
19 conservation or self-service wheeling. Instead, it provides a fair, rational
20 judgment call." However, despite the Commission's assertion of no preference,
21 the fact is the rule only permits approval of self-service wheeling requests which
22 are not likely to result in higher costs to the general body of retail customers.

1 Thus, the standard embodied in Section 366.051, F.S. and the implementing Rule
2 25-17.0883, F.A.C. is a de facto RIM test. This rule aligns with the
3 Commission's position that neither DSM nor self-service wheeling would have
4 an adverse effect on the general body of customers.

5 **Q. Please continue with your recap of the Commission's consideration of DSM**
6 **cost-effectiveness tests.**

7 A. The Commission thoroughly considered DSM cost-effectiveness in the 1994
8 goals-setting process. That process began with an extensively contested
9 rulemaking proceeding in 1993 that modified the DSM goals rule into what is
10 largely its present form, and ended with an appeal and affirmance of the
11 Commission's DSM goals decision by the Florida Supreme Court.

12
13 In 1993, the four investor-owned utilities, municipal utilities and electric
14 cooperatives as well as a number of consumer groups, environmental
15 organizations and solar industry representatives participated in DSM goals
16 rulemaking that modified the DSM goals rule into what is largely its present
17 form. Environmental groups argued for a rule that (a) prescribed the TRC test as
18 the governing cost-effectiveness test, (b) required decoupling of utility revenues
19 and (c) proposed incentives to utilities to overcome any disincentives to perform
20 DSM. They argued that Florida was lagging behind other "leading" DSM states,
21 even though the Governor's Energy Office had recently issued an independent
22 report concluding that Florida utilities had been "extremely successful in

1 reducing peak demand requirements” and had also been “among the leaders in
2 achieving energy savings.”

3 **Q. Did the Commission’s 1993 rule prescribe a cost-effectiveness test?**

4 A. No. Despite the spirited push from environmentalists, the Commission chose not
5 to (1) prescribe a cost-effectiveness test in its DSM goals rule, (2) adopt a
6 program specific goals rule, (3) adopt a rule that required decoupling, (4) adopt a
7 rule with an incentive mechanism, or (5) adopt a rule that required utilities to
8 acquire DSM that was not needed or cost-effective.

9 **Q. Was the 1994 DSM goals proceeding as contentious as the 1993 rulemaking
10 proceeding?**

11 A. Yes. As was the case in the preceding DSM goals rule amendment process, a
12 wide variety of parties participated. Twenty-five parties were represented at the
13 hearing. The prehearing order issued by Commissioner Deason was 135 pages.
14 Sixty witnesses filed testimony in direct and rebuttal. The hearing took
15 seventeen days spread out over two months. At the time, it was the longest
16 hearing ever conducted before the Commission. The transcript numbered more
17 than 10,000 pages in thirty-seven volumes.

18
19 The Department of Community Affairs Secretary and the Governor’s Energy
20 Office, acting as Executive agencies, in collaboration with environmental groups
21 such as the Legal Assistance Environmental Foundation (LEAF), and the United
22 States Department of Energy were major participants in this proceeding. They

1 collectively argued that the Commission should depart from its historical RIM
2 position and adopt the TRC standard.

3 **Q. Did the Commission determine the appropriate cost-effectiveness tests to be**
4 **used in developing DSM goals?**

5 A. Yes. This was the single most contentious issue before the Commission and the
6 most eagerly awaited for resolution. After consideration of all the evidence, the
7 Commission decided to base DSM goals on measures that passed both the RIM
8 and Participant tests rather than measures that pass the TRC test. The
9 Commission stated, in pertinent part:

10 We will set overall conservation goals for each utility based on
11 measures that pass both the participant and RIM tests. The record
12 in this Docket reflects that the difference in demand and energy
13 savings between the RIM and TRC portfolios are negligible. We
14 find that goals based on measures that pass the TRC but not RIM
15 would result in increased rates and would cause customers who do
16 not participate in a utility DSM measure to subsidize customers
17 who do participate. Since the record reflects that the benefits of
18 adopting TRC goals are minimal, we do not believe that
19 increasing rates, even slightly, is justified. (Order No. 94-1313-
20 FOF-EG, issued on October 25, 1994, in Docket No. 930548-EG).

1 The Commission also addressed the benefits to low income customers of using the
2 RIM standard as the controlling one for adopting goals:

3 All customers, including low income customers should benefit
4 from RIM-based programs. This is because RIM-based programs
5 insure that both participating and non-participating customers
6 benefit from utility sponsored conservation programs. Additional
7 generating capacity is deferred and the rates paid by low income
8 customers are less than they otherwise would be. (Order No. 94-
9 1313-FOF-EG, issued on October 25, 1994, in Docket No.
10 930548).

11 **Q. Was the Commission's decision to reject the TRC standard**
12 **protested?**

13 A. Yes. LEAF requested reconsideration of the final order. LEAF argued that the
14 TRC standard should be used in lieu of the RIM standard. After hearing LEAF's
15 arguments on why TRC should be the approved standard, the Commission
16 articulated a policy preference to keep rates as low as possible and to retain
17 flexibility in application of the Rule "by mandating analyses under three
18 methodologies and allowing other cost-effectiveness analyses without a stated
19 preference for any approach." (Order No. PSC-95-0075-FOF-EG, issued on
20 January 12, 1995, in Docket No. 930548-EG.) The Commission rejected LEAF's
21 argument that it had failed to consider costs. The Commission stated as follows,
22 "[t]here has been no Commission failure to consider bill impact. We have

1 chosen to keep rates lower for all customers, lowering bills for non-participants
2 and participants.” (Order No. PSC-95-0075-FOF-EG, issued on January 12,
3 1995, in Docket No. 930548-EG).

4 **Q. Did LEAF’s protest end with its request for reconsideration?**

5 A. No. LEAF appealed the Commission’s decision to the Florida Supreme Court.
6 The sole issue on appeal related to the TRC versus RIM argument. In rejecting
7 LEAF’s argument on appeal, the court spoke directly to the fact that the
8 difference between the two tests was given “a complete and balanced view” by
9 staff as part of the recommendation and by the Commission at the Special
10 Agenda. The Court stated:

11 In instructing the Commission to set conservation goals for
12 increasing energy efficiency and conservation, the legislature
13 directed the Commission to not approve any rate or rate structure
14 which discriminates against any class of customer. The
15 Commission was therefore compelled to determine the overall
16 effect on rates, generation expansion, and revenue requirements.
17 Based on our review of the record, we find ample support for the
18 Commission’s determination to set conservation goals using RIM
19 measures. Accordingly, we affirm the orders of the Commission.

20 *Legal Environmental Assistance Foundation Inc. v. Clark*, 668 So.2d 982 (Fla.
21 1996).

1 **Q. Have the Commission's decisions reflected awareness that goals should**
2 **be established based on contemporary economic parameters?**

3 A. Yes. The Commission in 1994 recognized that cost-effective FEECA goals were
4 dependent on a variety of economic parameters and would change over time. In
5 the 1994 goals docket the Commission established zero goals for Gulf Power
6 Company for the Commercial/Industrial sector. Likewise, in the 1999 goals
7 docket, the Commission acknowledged that the targeted goals were less
8 aggressive than previous goals due to the lower capital costs of new power
9 plants.

10 **Q. Have DSM Goals proceedings since 1994 been contested?**

11 A. Relatively speaking, no. LEAF attempted in the 1999 goals proceeding to
12 resurrect the TRC vs. RIM debate and have the Commission require the
13 development of a TRC portfolio. The Commission declined, stating that TRC-
14 based goals did not comport with Commission policy:

15 Pursuant to FEECA and precedent, utilities may propose for
16 Commission approval, any program it wishes to offer its
17 customers. In some, LEAF's argument that we have a policy of
18 requiring TRC portfolios in these goals dockets is incorrect and
19 merely attempts to reargue matters of which are stare decisis.
20 (Order No. PSC-98-1435-PCO-EG, issued on October 26, 1998,
21 in Docket No. 971004-EG).

1 As a result of this order essentially holding that the RIM vs. TRC debate
2 had been resolved, subsequent DSM goals proceedings in 1999 and 2004
3 were not contentious.

4 **Q. Are there other dockets where the Commission has articulated a**
5 **policy position that the RIM standard is the appropriate criteria to**
6 **use in approving programs?**

7 A. Yes, there are several. For example, in Order No. 21317, issued June 2, 1989, in
8 Docket No. 890002-EG, when reviewing Florida Power Corporation's
9 commercial/industrial load control program as part of a conservation cost
10 recovery hearing, the Commission stated:

11 All conservation programs involve some form of subsidy in the
12 form of a cost recovery charge. Not everyone directly participates
13 in these programs but all customers pay for them. We allow this
14 recovery if benefits accrue to the general body of ratepayers. That
15 is demand and energy savings associated with the program should
16 defer capacity and avoid fuel to afford residual benefits to all
17 ratepayers. We have adopted a form cost-effectiveness test to
18 perform such evaluations.

19 Of course, the cost-effectiveness test to which the Commission referred is the
20 RIM test.

1 The RIM test was also accepted as the appropriate cost-effectiveness test in
2 Order No. PSC-04-0359-PAA-EG, issued on April 5, 2004, in Docket No.
3 040049-EG, where the Commission rejected a proposed FPL program targeted
4 toward low income customers that did not pass the RIM test. RIM was again
5 upheld in a challenge to an FPL new home construction program. (Order No.
6 PSC-06-0025-FOF-EG, issued on January 10, 2006, in Docket 040660-EG).

7
8 There are also a host of need determination cases where the utilities presented
9 RIM-based DSM plans and the Commission determined that no cost-effective
10 DSM reductions were reasonably available to mitigate the need for the proposed
11 generating plant. In several of these need determination cases, TRC-based DSM
12 portfolio alternatives were proposed and rejected.

13 **Q. What conclusions do you reach from the Commission's FEECA decisions on**
14 **cost-effectiveness over these past 29 years?**

15 A. The Commission has consistently required aggressive goals while balancing this
16 policy objective with sensitivity that rates should not be increased relative to
17 supply-side alternatives. The Commission's actions over the years have
18 confirmed the RIM standard is the appropriate standard to establish utility end-
19 use goals and DSM programs. While the Commission has offered utilities the
20 flexibility to implement programs that are not cost-effective under the RIM test,
21 it has not mandated such programs.

1 In addition, it is clear that the Commission believes DSM goals should be
2 integrated in a cost-effective manner with the utility's load and energy forecast
3 and the generation expansion plan. The Commission has never prescribed goals
4 for the sake of having goals. On the contrary, it has always treated energy and
5 demand reductions on a level playing field with supply side options. The
6 Commission has not prescribed excess DSM goals that result in unnecessary
7 expenditures borne by the general body of customers

8
9 Finally, by using economic analyses that properly balance demand-side and
10 supply-side resources and relying on the RIM standard that benefits all
11 customers, the Commission has declined to mandate that one group of customers
12 subsidize another group. Consequently, the utilities have consistently
13 implemented programs enabling the State of Florida to be a recognized leader in
14 achieving results while avoiding undue rate impacts.

15 **Q. Are there reasons for the Commission to change its policy and require TRC**
16 **programs in this goals-setting docket?**

17 **A.** No. To the contrary, the historical reasons for requiring integrated DSM and
18 supply-side resources without subsidization are even more applicable in today's
19 environment. Electric customers in Florida are facing some significant economic
20 challenges. For the past couple of years, real electric prices have risen for
21 Florida customers. This has been the only multi-year increase in real electric
22 prices since the early 1980s. Obviously, the economic environment for

1 consumers with respect to wages and employment is decidedly negative.
2 Governmental and philanthropic organizations are all reducing services. Given
3 current conditions, now is not the time for the Commission to abandon the RIM
4 and Participant tests standard and raise rates by imposing additional costs on
5 Florida consumers simply for the sake of implementing more DSM programs.

6 **Q. Are there reasons for the Commission to retain its current RIM-only goals**
7 **setting policy?**

8 A. Yes. In addition to the benefits cited above, RIM-based goals provide the
9 Commission with a complete picture of all the costs of offering DSM programs.
10 By this I mean, the program incentive payments that are collected from all
11 customers are explicitly accounted for when comparing a RIM-based DSM
12 portfolio to a supply-side option. Program incentive costs are excluded when
13 comparing a TRC-based portfolio to a supply-side alternative. Just as the
14 Commission would insist that all relevant costs be included in the proposed
15 supply-side option, the Commission should insist that all DSM-related costs be
16 included in DSM options. As FPL witness Sim discusses in detail in his
17 testimony, only the RIM test includes all DSM-related costs. The TRC test does
18 not include all DSM-related costs and, therefore, it is a fundamentally flawed
19 test. Only with the full disclosure of all relevant costs would the Commission
20 have all the necessary information to make a fully informed decision.

1 **II. HOW THE COMMISSION'S COST-EFFECTIVENESS TESTS**
2 **CONFORM TO RECENT FEECA AMENDMENTS**

3
4 **Q. Has FEECA recently been amended?**

5 A. Yes. Changes to FEECA occurred as a result of HB 7135 being enacted in 2008.
6 For purposes of my testimony, I focus on new statutory language requiring the
7 Commission in adopting goals to consider costs and benefits to participating
8 customers and "to the general body of ratepayers as a whole, including utility
9 incentives and participant contributions." Section 366.82(3)(b), F.S.

10 **Q. Based on your familiarity with the Commission's DSM cost-effectiveness**
11 **tests, which test(s) consider the costs and benefits to the general body of**
12 **ratepayers as a whole?**

13 A. Both the TRC test and the RIM test consider benefits to the general body of
14 customers. What distinguishes the two tests is that not all utility costs and
15 impacts are considered in the TRC calculation, but all are included in the RIM
16 test.

17 **Q. Which of the Commission's cost-effectiveness tests considers utility**
18 **incentives paid to customers?**

19 A. Both the RIM and the Participant tests account for utility incentives paid to
20 customers. The RIM test treats these incentives as a cost; the Participant test
21 treats these incentives as a benefit. The TRC test totally disregards incentives
22 paid to customers.

1 **Q. In your opinion, what cost-effectiveness test or tests is/are the appropriate**
2 **regulatory standard to use for approving utility goals and DSM programs?**

3 A. The Participant test and RIM test. The Participant test is required to identify
4 whether program participation is economically beneficial to the customer that the
5 program targets. The RIM test determines whether the program is economically
6 beneficial to the entire body of customers, including non-participating customers.
7 On the other hand, if the regulatory objective is to reduce energy consumption
8 without regard to cross-subsidies and equitable treatment for all customers, then
9 the TRC test could be considered.

10 **Q. What are some of the advantages of the RIM test over the TRC test?**

11 A. First, the RIM standard aligns the interests of both utilities and customers. By
12 this I mean utilities must manage their capital expenditures between rate cases.
13 Avoiding construction of new power plants that can be deferred more cost-
14 effectively with RIM-based DSM is consistent with this goal. Under the RIM
15 test, utilities defer or postpone new plant construction costs, which results in
16 lower rates than otherwise would have been incurred. All customers benefit.
17 Participating customers will enjoy both lower rates and bills, than if the utility
18 had built. Non-participating customers will benefit from lower rates due to the
19 avoided capital expenditures. This results in what is sometimes called a “no
20 losers” test. No individual is worse off as a result of the program. The utility is
21 better off, the program participants are better off, and the non-program

1 participants are better off. This outcome avoids the difficult regulatory decision
2 of transferring wealth between customers.

3
4 Compare this to the case where the TRC standard is used. In this situation, the
5 objectives of customers and utilities are not aligned. Under the TRC standard,
6 some customers are “winners” and some are “losers” with respect to the
7 economic impact of the programs. For example, for those who participate in
8 programs, non-participants subsidize the program costs. In any given program,
9 there are typically more non-participants than participants. While there may be
10 some reduction in future capital expenditures by avoiding power plants, these
11 capital savings are less than the cost of the DSM programs. Thus, non-
12 participants are financially worse off under TRC programs. Requiring TRC
13 programs places the Commission in the position of making decisions about
14 redistributing income between customers or customer classes and producing
15 “winners” and “losers” among the customers of utilities.

16 **Q. Are certain customers disproportionately affected by the cross-subsidization**
17 **that occurs with TRC?**

18 A. Yes. By definition, rates are higher with TRC programs than under RIM
19 programs. Electric rates tend to be regressive. By this I mean that lower income
20 users who are less likely to participate in DSM programs will pay more for their
21 utility bills as a percentage of their disposable income than higher income users.
22 In addition, most DSM programs require that program participants pay some

1 amount of the program costs up front. Since lower income customers are more
2 likely to be renters and have less investable capital, they are less likely to
3 participate in DSM programs. In sum, they subsidize program participants who
4 have the financial resources to take advantage of utility DSM programs. The
5 regressive nature of these programs is also discussed in the testimony of FPL
6 witness Sim, when he discusses the cost of various system expansion plans.

7 **Q. With respect to the Commission's cost-effectiveness reporting rule, which of**
8 **the tests, the TRC or RIM, incorporates environmental benefits?**

9 A. They both do. Some DSM advocates probably believe that only the TRC test
10 includes environmental externalities and the RIM test excludes such costs, but that
11 is inaccurate. The Commission's reporting form, PSC Form CE 2.5, as required
12 by Rule 25-17.008 contains provisions to include environmental costs as part of
13 both the RIM and TRC analyses. In FPL's filing in this docket and in recent need
14 determinations before the Commission, the Company has included both existing
15 and proposed environmental costs as part of the E-RIM, E-TRC and supply option
16 analyses. Including such costs places demand-side and supply-side resource
17 options on a level playing field. There is no valid economic reason why a
18 regulatory body would require additional DSM reductions with the attendant cost
19 increases, economic inefficiencies and cross-subsidies if all relevant quantifiable
20 costs and benefits have been included in the RIM analysis.

1 **III. REVIEW OF FPL'S DSM GOALS-SETTING PROCESS**

2

3 **Q. Please describe your independent review of the process used by FPL to**
4 **determine the technical and achievable demand and energy reductions**
5 **submitted as the Company's goals in this docket.**

6 A. FPL requested that an independent third party evaluate the processes and
7 analytical approaches the Company used to derive its 2009 FEECA demand and
8 energy goals. I was engaged for this purpose, and I first met with FPL's
9 technical staff in December 2008. At that time, they described to me the process
10 that they were using to develop the technical potential and the process planned to
11 be used for development of the achievable potential for the 2009 DSM goals
12 docket.

13

14 Since that initial meeting, I have reviewed FPL's load forecast and examined the
15 underlying assumptions used in the development of the load and energy forecast.
16 I have read Itron's *Technical Potential for Electric Energy Peak Demand Savings*
17 *in Florida*. I have reviewed the major assumptions incorporated into FPL's
18 system-wide goals assessment. I have reviewed the methodology used by FPL to
19 develop these goals, and I have analyzed the final results as submitted in this
20 docket.

1 **Q. What is your conclusion about the process and methods used by FPL to**
2 **develop the 2009 DSM Goals filing?**

3 A. I believe the Company has used a methodologically correct process. The
4 assumptions underlying the models are appropriate, and the proposed goals
5 appear reasonable given the economic conditions which exist today and are
6 anticipated to exist in the future.

7 **Q. What is the basis for your conclusion?**

8 A. FPL along with other utilities engaged Itron, a well-respected outside consulting
9 firm, to perform the statewide technical assessment study. Itron has performed
10 similar studies for other clients including performing the *2006 California Energy*
11 *Efficiency Potential* Study. The study Itron conducted for the Florida utilities
12 was the first statewide utility-sponsored, collaborative DSM technical potential
13 assessment since the Synergistic Resource Corporation performed the 1992
14 study. The Itron study was a product of a collaborative of utilities and
15 environmental groups and open to Commission staff. To the extent possible, it
16 utilized consistent assumptions for the technical potential assessment. It
17 incorporated into the analysis the most recent demographic information with
18 respect to housing stocks, existing appliance efficiencies, current building code
19 standards, and federally mandated appliance efficiency and lighting standards.
20 The study assumptions included realistic, current estimates of the demand and
21 energy reductions associated with a very large number of efficiency and demand
22 response measures and realistic estimates of the costs of such measures. The

1 study appropriately looked at incremental DSM reductions instead of treating
2 each measure as discrete. This is a new approach for Florida, but it has been
3 used in other regions. Basically, when doing a statewide potential study, this
4 approach assumes that the most cost-effective measures are installed first and
5 then each less cost-effective incremental measure is installed with
6 commensurately fewer energy and demand savings. In essence, DSM reductions
7 are treated as a supply curve with each incremental measure having a longer
8 payback than the previous measure. This approach gives a more accurate picture
9 of the potential savings.

10
11 FPL's internal processes built upon Itron's technical potential study by focusing
12 on FPL's specific market characteristics and evaluating what combination of
13 customer incentives and administrative costs could be spent to achieve the
14 maximum level of program participation. FPL then ran a series of scenarios
15 under both the E-TRC and E-RIM tests. FPL witnesses Sim and Haney provide
16 more details on this part of the analysis in their testimony.

17 **Q. Please comment on the appropriateness of FPL's decision to use a two-year**
18 **payback criterion for estimating its achievable DSM potential.**

19 A. I believe this is a reasonable criterion to use in balancing program administrative
20 costs and the level of customer incentives used to encourage participation
21 regardless of whether a TRC or a RIM standard is used. The reason a two-year
22 payback is reasonable is that we know from many years of research on individual

1 investment behavior with respect to installing energy efficiency measures that
2 individuals have extremely high discount rates. A discount rate is essentially the
3 minimum percentage earnings an individual must make on an investment to be
4 willing to give up current consumption (i.e., spend the money now) versus
5 spending it to make a future return. While most individuals certainly cannot
6 articulate this exact percentage return, economists have estimated ranges from
7 observed energy efficiency purchasing behavior. The estimates range from a low
8 of around 26 percent (essentially a four-year payback) to more than 100 percent
9 returns (essentially a one-year payback). Most studies tend to be in the 40 to 60
10 percent range, which implies a payback period of slightly less than two years up
11 to three years. While certainly not an exact science, it would appear that a two-
12 year payback would fit well within the academic literature. Thus, the benefit of
13 a two-year payback is that it addresses the issue of free-riders.

14 **Q. Please explain why the free-rider issue is important?**

15 A. Free-riders are those individuals who would of their own volition install an
16 energy efficiency measure without being paid an incentive by a utility. The free-
17 rider issue is important for two reasons. First, given that funds for utility DSM
18 programs are limited and a program design should not incent participants who
19 would install the measure on their own without an incentive payment, then a
20 utility must find a balance between paying too much in incentives and thus
21 paying unnecessarily for free-riders or paying too little and not meeting the goals.
22 Second, Commission Rule 25-17.0021(3) F.A.C., which prescribes how goals

1 shall be determined, requires the utility to account for the impact of free-riders
2 when developing its FEECA goals.

3 **Q. In your opinion, do FPL's proposed E-RIM based goals adequately account**
4 **for the impact of free-riders?**

5 A. Yes, I believe FPL's decision to use a two-year payback criterion is reasonable
6 and appropriate for the reasons discussed above.

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

8 A. Yes.

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In Re: Adoption of Numeric Conservation Goals and Consideration of National Energy Policy Act Standards (Section 111) by FLORIDA POWER AND LIGHT COMPANY.)	DOCKET NO. 930548-EG
_____)	
In Re: Adoption of Numeric Conservation Goals and Consideration of National Energy Policy Act Standards (Section 111) by FLORIDA POWER CORPORATION.)	DOCKET NO. 930549-EG
_____)	
In Re: Adoption of Numeric Conservation Goals and Consideration of National Energy Policy Act Standards (Section 111) by GULF POWER COMPANY.)	DOCKET NO. 930550-EG
_____)	
In Re: Adoption of Numeric Conservation Goals and Consideration of National Energy Policy Act Standards (Section 111) by TAMPA ELECTRIC COMPANY.)	DOCKET NO. 930551-EG ORDER NO. PSC-94-1313-FOF-EG ISSUED: OCTOBER 25, 1994
_____)	

The following Commissioners participated in the disposition of this matter:

J. TERRY DEASON, Chairman
SUSAN F. CLARK
JULIA L. JOHNSON
DIANE K. KIESLING

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GLOSSARY OF ACRONYMS

C/I Commercial/Industrial

CAAClean Air Act

CCCombined Cycle

CEGRRCost-Effectiveness Goals Results Report

CEPACompetitive Energy Producers Association

CTCombustion Turbine

CUECode Utility Evaluation

DCADepartment of Community Affairs

DEPDepartment of Environmental Protection

DSMDemand Side Management

EPACTEnergy Policy Act of 1992

F.A.C.Florida Administrative Code

FCCFlorida Client Council

FEECAFlorida Energy Efficiency and Conservation Act

FlaSEIAFlorida Solar Energy Industries Association

FMEAFlorida Municipal Electric Association

FPCFlorida Power Corporation

FPLFlorida Power and Light Company

FPSCFlorida Public Service Commission

GULFGulf Power Company

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GWHGigawatt-hour

IRPIntegrated Resource Planning

KWKilowatt

KWHKilowatt-hour

LEAFLegal Environmental Assistance Foundation

MWMegawatt

MWHMegawatt-hour

NLRANet Lost Revenue Adjustment

PURPAPublic Utilities Regulatory Policy Act

PVRRPresent Value of Revenue Requirements

RIMRate Impact Measure

SRCSynergic Resources Corporation

T&DTransmission and Distribution

TECOTampa Electric Company

TMPRRTechnical Market Potential Results Report

TRCTotal Resource Cost

UPUtility Program

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ORDER SETTING CONSERVATION GOALS

BY THE COMMISSION:

I. CASE BACKGROUND

Docket Nos. 930548-EG, 930549-EG, 930550-EG, and 930551-EG were opened to implement Rules 25-17.001-.005, Florida Administrative Code. These rules require the setting of numeric demand side management (DSM) goals for electric utilities subject to the Florida Energy Efficiency and Conservation Act (FEECA), 366.80-366.85 and 403.519, Florida Statutes. In this proceeding, we also considered implementation of two standards set forth in the Public Utilities Regulatory Policy Act of 1978 (PURPA) as amended by Subtitle B, Section 111, of the Energy Policy Act of 1992 (EPACT). These standards are commonly referred to as the "Integrated Resource Planning" and the "Income Neutrality" standards.

The Prehearing Order for this proceeding was issued on May 26, 1994 (Order No. PSC-94-0652-PHO-EG). The hearing was held on the following days: June 1-4, 6-10, 17-18, 20-21, 27, 29-30, and July 12, 1994. These dates included service hearings that were held in the evenings for the public in Tallahassee on June 1, in Miami on June 30, and in Tampa on July 12, 1994. Briefs and Posthearing Statements were filed on August 22, 1994. A special agenda conference to decide the issues was held on October 3, 1994.

II. POST HEARING MOTIONS

A. THE LEGAL ENVIRONMENTAL ASSISTANCE FOUNDATION INC.'S OBJECTIONS TO LATE-FILED EXHIBITS.

The Legal Environmental Assistance Foundation, Inc. (LEAF) has filed objections to Late Filed Exhibits 55, 56 and 164 in this docket. It is our longstanding policy that late-filed exhibits are taken subject to objection of the parties of record. LEAF has filed

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a timely objection to the late-filed exhibits. In its objection, LEAF specifically cites its inability to conduct cross-examination on the documents, and complains that the documents did not strictly conform to the terms of the request for late filed exhibits. LEAF also contends that the late-filed exhibits contain new information that was not contemplated or envisioned when the exhibits were requested, and that this new information could prejudice its case and violate its due process rights. LEAF has stated legitimate grounds for exclusion of these documents. Late-filed exhibits 55, 56, 141 and 164 shall therefore be excluded from the record in this docket since they do not explicitly conform to the terms of the requested information.

B.THE DEPARTMENT OF COMMUNITY AFFAIRS' MOTION FOR RECONSIDERATION OF NON-FINAL ORDER.

The Florida Department of Community Affairs (DCA) seeks reconsideration of the ruling at the hearing to exclude redirect testimony of DCA witness Rick Dixon regarding the "Errata and Additions Sheet" that had previously been excluded from evidence. The "Errata and Additions Sheet" was essentially new or supplemental testimony that was handed to the parties on the morning on which Dixon was called to the witness stand. The exhibit was excluded from evidence because it contravened our procedural orders and was fundamentally unfair. (Tr. 3407-14) The DCA then sought to elicit the same information contained on the "Errata and Additions Sheet" from its witness through redirect testimony, claiming that Tampa Electric Company (TECO) had asked questions on cross to "open the door" to this line of questioning. We ruled that the narrow questions asked by TECO did not open the door, and that no further questions could be asked about the document.

The DCA now argues that its witness should have been permitted to refresh his memory by inspecting the document, and then permitted to testify about its contents. This is not a new argument. It was made at the hearing and rejected by the Commission. (Tr. 3542)

The DCA has failed to raise any point or contention that the Commission overlooked or failed to consider at the hearing below. See Diamond Cab Co. of Miami v King, 146 So 2d 889 (Fla 1962). In

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fact, we properly ruled to exclude the exhibit below on two occasions. Where all parties were required by Commission Order to prefile testimony weeks before the hearing, and where DCA made no request or motion to file supplemental testimony, it was entirely proper to exclude supplemental testimony cloaked in the guise of an "Errata and Additions Sheet". The DCA's Motion for Reconsideration of Non-Final Order is therefore denied.

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C. THE DEPARTMENT OF COMMUNITY AFFAIRS' MOTION TO ADMIT EXHIBIT 90.

At the hearing, Florida Power and Light Company (FPL) objected to the new analysis contained in DCA's exhibit 90, and asked for additional time to review the document. We reserved ruling on DCA's request to have the document admitted into the record. On August 9, 1994, DCA filed a written motion to admit exhibit 90. On August 19, 1994, FPL filed a response to DCA's motion enumerating several errors that FPL believes exist in exhibit 90, but withdrawing FPL's objection to the exhibit with the understanding that FPL's "withdrawal should not be viewed as an endorsement of the exhibit."

FPL was the only party to object to exhibit 90. With the withdrawal of FPL's objection, the exhibit shall be admitted into the record.

III. METHODOLOGY/PROCESS

A. FPL'S METHODOLOGY/PROCESS

FPL's planning process and data are reasonable for purposes of evaluating DSM measures and establishing numeric goals. The company incorporated a relatively robust planning process that evaluates all required measures and FPL specific DSM measures. Several parties disagree in whole or in part with FPL's analysis and planning assumptions. While we find that certain elements of FPL's evaluation and data could be improved, such as its failure to reflect the cost of sulfur dioxide trading allowances, questionable gas analysis data, and failure to establish goals for the years 2001-2003, we detect no fatal flaws in FPL's process that would significantly alter the outcome.

FPL calculated the achievable market potential for each measure by incorporating a screening analysis with both the RIM and TRC tests, using a 1997 CT avoided unit. This type of unit appears only in FPL's base case supply side plan. Input assumptions regarding cost and performance of the measures were updated to reflect those specific to FPL's service territory. FPL mapped measures into competing and complementary groupings to identify interrelationships.

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Market potential estimates were calculated for each measure. Two lists were created, one with all programs passing RIM, and one with all programs passing TRC regardless of whether RIM was passed. The two lists were then examined in FPL's IRP process, which screened the measures with a more detailed cost-effectiveness model. Measures which passed this screening were then run through a linear programming model to create optimal packages of DSM measures that were then incorporated into the long term resource plan. (Ex. 3)

FPL developed three plans to analyze its need for DSM programs: a Supply Only plan, a DSM RIM plan, and a DSM TRC plan. (Ex. 3, Tr. 44) FPL compared the Present Value Revenue Requirements (PVR) of each plan and the annual rate impacts in cents/Kwh of each plan prior to selecting the DSM RIM plan as the least cost plan of maintaining the lowest possible system rates. (Tr. 60)

CEPA argues that FPL's analysis includes too much DSM in its resource plan at the expense of competitively bid supply options. CEPA asserts that true integrated resource planning requires a year by year simultaneous comparison of both supply and demand side options. (Tr. 3334-36)

CEPA asserts that FPL's plan is not optimal because the production costing model Electric Generation Expansion Analysis System (EGEAS) was not allowed to select the most economic units when capacity additions were identified in the reliability studies. (Tr. 3342) The 1997 CT avoided units were not selected on the basis of cost. Rather they were placed in the plan due to construction timing concerns. (Ex. 3 p. 66) FPL's witness Dr. Sim explained that combustion turbines were selected in 1997, not because they produced the lowest average levelized rate, or lowest Present Value Revenue Requirements (PVR), but because they were the only type of unit that FPL could permit and build in the limited time frame. (Tr. 410) Additionally, FPL used a string of pulverized coal units as a proxy for new units in the years 2002 forward. FPL's planning assumptions drew criticism from CEPA's witness Mr. Slater, who stated that FPL's IRP process is not optimal if measured by the criteria of the Energy Policy Act Section 111, because it should not produce a string of the same type capacity in future years. (Ex.3 67-73, Tr. 3343)

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CEPA argues that FPL used different methods to project generating unit outages for existing units and new capacity additions, which affect system reliability indices such as LOLP, and ultimately overestimate the amount of capacity needed for the system by 140-265 MW. (Tr. 404-06) Mr. Slater calculated 265 MW of extra capacity in the Supply Only plan by 2003. Without that extra capacity, the plan would have included two, not three, combustion turbine units in 1997. (Tr. 3359-60, 3395) FPL's witness Dr. Sim agreed with CEPA's theory about the 140 MW, but noted that FPL could not have constructed any less capacity, because generating plants come in discreet sizes. (Tr. 406)

LEAF, in contrast to CEPA's position, believes that FPL's planning process is inadequate and biased against DSM because it did not produce an optimal least cost supply plan. (Tr. 1787) FPL's Supply Only plan resulted in a 42 MW shortage in 2001. The company chose to accept the reliability risk rather than include a new unit that introduces a bias against DSM. (Tr. 1787) LEAF also takes issue with FPL's use of a 2 year-payback criterion to screen DSM measures. (Tr. 1746) FPL responds that the screen was an attempt to estimate free riders, as required by the Commission Rule 25-17.0021, Florida Administrative Code. (Tr. 4284)

LEAF takes issue with FPL's use of the revenue requirements method to evaluate a measure's cost-effectiveness where the life of the measure was less than the avoided unit life. This requires the installation of a second measure to match or exceed the avoided unit life. (Tr. 1751-52) LEAF witness Chernick testified that FPL should either have included the full life cycle cost of the reinstallation or credited back the installation cost for those years past the avoided unit's life. (Tr. 1883) We agree that a mismatch between the measure's life and the avoided unit's life would lead to end-effects not recognized in the analysis. End-effects would allow a comparison of the two plans based on differences in critical indicators such as installed capacity, reserve margins, and reliability indices at the end of the planning period. We do not believe the end-effects mismatch has a material impact because the end-effects are minimized by present value discounting.

Mr. Chernick also testified that FPL understated its avoided cost by not including the proper cost of avoided capacity, energy,

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transmission and distribution, environmental externalities, and recognition of Clean Air Act Compliance costs in its plan. (Tr. 1761-81)

FPL asserts that avoided costs were not understated, because the avoided unit, a 1997 CT chosen due to construction time constraints, causes higher total system cost and more cost-effective DSM-RIM than the preferred economic choice, a 1997 Combined Cycle. (Tr. 4598) The cost-effectiveness of any DSM program is dependent on the total system cost of new capacity options to which the DSM is compared. (Tr. 4598)

Mr. Chernick testified that FPL should use \$400/KW for the avoided distribution costs when evaluating DSM measures rather than the \$30-50/KW range that the company used. (Tr. 4606) LEAF asserts that 93% of FPL's total distribution cost (\$431/KW) are avoidable through DSM options. (Tr. 1775) FPL argues that LEAF's analysis incorrectly includes the cost of maintaining the existing distribution system and the cost of adding new customers. (Tr. 4604)

FPL cites two separate studies to support its current estimate of \$50/KW. (Tr. 4604) FPL's first study separated total distribution cost into three types. (Tr. 4606) Type I costs (\$241/KW) are required to connect new subdivisions and new customers. These costs include new underground and overhead feeders, transformers, and meters. Type II costs (\$46/KW) are growth related expenditures to upgrade primary feeders and substations. Type III costs (\$141/KW) are for asset replacement maintenance of existing equipment at accepted standards. (Tr. 4605)

FPL concluded that DSM options have a significant impact on Type II costs only, because Type I and II costs are incurred to serve new customers on the system. Type I and III costs do not vary significantly with reductions in customer's load as LEAF alleges. (Tr. 4605)

Mr. Chernick criticized FPL for not assigning a cost in its planning process for possible future costs of air toxic requirements. (Tr. 1869-70) Under cross examination, Mr. Chernick testified that he wanted FPL's current forecast to assume that air toxic controls would be in place in the future. Mr. Chernick believes that FPL

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should make resource choices today as if those controls will be in place in the future. (Tr. 1873) FPL asserts that LEAF's recommendation goes well beyond the EPA definition of system costs, which include all direct and quantifiable net costs for environmental compliance. (Tr. 4579) FPL does not believe that it is appropriate to include cost projection or estimates for compliance with environmental laws that do not yet exist. (Tr. 4579)

FPL did not conduct an optimization on units past the year 2002. FPL's primary focus is on the next avoidable unit, a 1997 CT. (Ex. 3 p. 69-70) FPL did identify three types of capacity in its Supply Only plan; a CT in 1997, a CC in 1998-99, and a PC in 2002. (Ex. 3 p. 73) Since the goals will be revisited every five years, this appears to be reasonable, particularly since this is our first attempt to set numeric goals since 1980. FPL used a string of coal units to indicate a base load need. FPL chose to optimize its resource plan based on rate minimization, not on lowest system cost or lowest present worth revenue requirements.

FPL contends that since its DSM-RIM plan cannot fully defer the 340 MW resource need in 2002, 210 MW of remaining cost-effective DSM-RIM should not be included in the Company's goal for the years 2001-2002. We believe that FPL's planning process should have demonstrated more flexibility in the latter years of the planning process by incorporating 130 MW (340-210) of other supply options along with the 210 MW of DSM-RIM potential previously deleted from its proposal to meet the 2002 need. (Ex. 3 p. 61, 71) As discussed herein, we believe a combination of supply and DSM is appropriate for this period.

B. FLORIDA POWER CORPORATION'S (FPC) METHODOLOGY/PROCESS

FPC first identified the avoided unit to which potential demand-side measures are compared for cost-effectiveness. FPC did this by "freezing" existing levels of DSM, so that no DSM programs were added or removed from FPC's existing plan, and no new participants were added to existing programs. FPC then determined its future resource plan as strictly a supply-side plan. The first generating unit in that plan was FPC's avoided unit.

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FPC analyzed all of the measures characterized as "utility program" (UP) measures in our Fourth Order Establishing Procedure (Order No. PSC-93-1679-PCO-EG, November 19, 1993). All UP measures that passed the Participant and RIM tests were compared against supply-side measures for inclusion in FPC's resource plan.

The cost-effectiveness methodology used by the utilities to evaluate demand-side measures was a point of contention at the hearing. In FPC's planning process, a demand-side measure is cost-effective only if it produces a lower rate impact than a competing supply-side resource; that is, the measure must pass the Rate Impact Measure (RIM) test. LEAF, FCC, FlaSEIA, and DCA advocate use of the Total Resource Cost (TRC) test over RIM.

LEAF generally agreed that FPC's planning process and the resulting data are reasonable and appropriate for use in setting numeric conservation goals. LEAF's disagreement with FPC was not over its planning process but rather over the fact that FPC screened DSM programs with the RIM test rather than TRC.

We reject Florida Solar Energy Industries Association, Inc.'s (FlaSEIA) assertion that FPC's planning process failed to consider purchased power. The record reflects that FPC purchases firm capacity, through short-term and long-term contracts, from the Southern Company. (Ex. 39) These and other firm purchases are projected to decline over the next ten years because there will be less capacity available from FPC's neighbors to purchase.

We also reject FlaSEIA's contention that FPC's planning process failed to consider cogeneration. The record reflects that FPC currently purchases 473 MW of firm capacity from cogenerators, and has contracted to purchase an additional 661 MW of firm capacity over the next ten years (Ex. 39) The record demonstrates that FPC has substantially considered cogeneration.

FlaSEIA's contention that FPC's planning process underestimates avoided costs is not supported by the record. FPC identified a 165 MW advanced combustion turbine unit as the next needed unit in its supply-side only plan. (Ex. 42) The installed cost of the avoided unit has decreased substantially over the past few years, from \$389/KW to \$252/KW. (Tr. 1112) FPC Witness Niekum attributed this

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cost reduction to competition in the generation supply market. Given that the cost of the avoided unit has dropped, so has FPC's avoided cost. We find that FPC reasonably estimated avoided costs.

We do not accept the positions of Florida Client Council (FCC) and Florida Department of Consumer Affairs (DCA) that FPC's planning process is not reasonable because it did not use the TRC test in screening DSM measures. DCA also believes that FPC should consider the "non-quantifiable" benefits of DSM to Florida's economy. (Tr. 2037, 2077-8, 2964-5) This position is not consistent with Rule 25-17.002, Florida Administrative Code, which explicitly states the conditions under which DSM programs are approved. The effects of these non-quantifiable benefits cannot be determined under any test.

By using the RIM test, FPC assures that its DSM measures will result in the lowest possible rates. FPC's use of the RIM test is reasonable. We find that the planning process and data used by FPC in evaluating demand side measures are reasonable.

C. GULF'S METHODOLOGY/PROCESS

The planning process utilized by GULF is deficient. GULF included the incremental savings from its existing programs in its base case plan. Existing programs are thus retained in the base case and integrated plan. This causes existing programs to be winners by default and may reduce the cost-effectiveness of other measures. The other IOU's properly removed the effects of incremental DSM savings from the base case analyses. In addition, GULF did not include the incremental savings from its existing programs in its proposed goals. (Tr. 1282)

GULF's analysis of the DSM measures was contradictory. GULF did not model interactive effects among measures, or bundle direct load control measures. Modelling measures independently can have the effect of a higher goal, while not bundling direct load control measures could result in lower goals. GULF's witness Kilgore testified "as I answered earlier, we did not explicitly analyze those interactive effects..." (Tr. 1250)

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GULF used some of its data incorrectly. On cross-examination, Mr. Kilgore indicated that certain pages were missing from Exhibit 52, the CEGRR summary. (Tr. 1291) Also, certain data inputs to the CEGRR filing were incorrect. Mr. Kilgore testified, "for that measure, that was an error on the input." (Tr. 1295) GULF also used a different coding system to identify the DSM measures, which expanded upon the Synergic Resources Corporation (SRC) coding system.

The first procedural order in this docket required that the results be broken down between residential and commercial/industrial classes. GULF presented only a total number for both classes over the planning horizon. (Ex. 45)

We therefore conclude that the planning process employed by Gulf in this docket is not adequate.

D.TECO'S METHODOLOGY/PROCESS

TECO contracted with Synergic Resources Corporation (SRC) to perform the analysis of DSM measures. (Tr. 1435) Prior to SRC performing its analyses, TECO revised the cost and savings assumptions of several of the DSM measures. Adjustments were made for more recent cost information, and for different savings assumptions that were specific to TECO's service territory. The SRC analyses properly accounted for and treated interactive effects of competing and complementary measures.

TECO's planning process initially removed the effects of all incremental DSM in the planning period. TECO developed a supply only plan against which DSM would be measured for cost-effectiveness. This step properly allowed all DSM measures analyzed to compete to avoid future capacity.

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TECO included five years (1993-1997) of transmission and distribution (T&D) projects in calculating its avoided cost. (Tr. 1335, Ex. 58) DCA points out that no T&D project costs were considered beyond 1997 and contends that by including such costs, more cost effective DSM would be implemented. We question the extent to which DSM avoids T&D. In theory, some transmission projects could be downsized due to reduced peak demand growth caused by DSM programs.

Given that TECO did analyze T&D projects in its planning process, we find that use of a five year planning horizon is reasonable. Because T&D, especially distribution, is driven primarily by the magnitude and location of growth, shorter term planning is reasonable. In addition, no evidence was presented showing additional potential T&D projects that TECO should have analyzed, or the impact on the cost-effectiveness of DSM measures.

DCA argues that TECO did not consider other societal benefits from DSM programs. Pursuant to Rule 25-17.008, Florida Administrative Code, utilities and other parties may include other benefits and other costs in the calculation of the TRC test, resulting in a societal test. No party in these dockets has quantified the suggested environmental and economic benefits of DSM programs. The Department of Environmental Protection has no plans to assign costs to environmental factors in the immediate future. (Tr. 3050) Therefore we have little basis upon which to consider the impacts of these effects on the cost-effectiveness of the DSM measures evaluated.

We find that TECO's planning process and data utilized in evaluating the DSM measures was reasonable for the purposes of this docket.

IV. DATA USED IN ESTABLISHING CONSERVATION GOALS

Except for the data and analyses for gas substitution, we rely heavily on the data contained in each utility's Cost-Effectiveness Goals Results Report (CEGRR) to establish conservation goals.

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It is our desire to set achievable goals that incorporate the utility's planning process analysis as Rule 25-17.0021(3), Florida Administrative Code, provides. We do not place a great deal of reliance on SRC's Best Practices Scenario. The Best Practices Scenario contains some extremely optimistic assumptions, such as the removal of all investment cost barriers to conservation. It was initially portrayed by SRC as the epitome of what could be achieved if money were no object. (Tr. 2818, 4297) The Best Practices Scenario lacks utility specific planning information. For example, demand savings through 2003 (2120 MW) exceed FPL's resource needs of 1646 MW through 2003. (Tr. 4297) DCA witness McDonald, the principal in charge of the SRC study, agreed that a utility specific analysis, with assumptions specific to its service territory, would be a more accurate estimate of the cost-effective potential of a conservation measure than the more generalized SRC study. (Tr. 2722-24) There is no information in the record regarding the rate impact of the Best Practices Scenario.

We have considered the entire record from this proceeding in establishing conservation goals for Florida's investor-owned utilities. For the reasons mentioned above, we have relied on the data contained in each utility's Cost-Effectiveness Goals Results Report (CEGRR), with the exception of data for end-use natural gas. As further discussed herein, the utilities should obtain better data on end-use natural gas through demonstration projects. Finally, as set forth below, we have made several adjustments in the data submitted by Gulf in order to compensate for deficiencies in Gulf's planning process.

A.FPL'S ASSESSMENT OF THE MARKET SEGMENTS AND MAJOR END-USE CATEGORIES.

Rule 25-17.0021(3), Florida Administrative Code, requires the utilities to assess certain end-uses in the residential and commercial/industrial sectors. These end-uses encompass all electricity consuming areas of a residence and a commercial/industrial facility. The rule ensures that the goals set are the result of an assessment of a comprehensive list of DSM measures.

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FPL evaluated a total of 217 measures, including the entire list of potential utility programs (UP) as directed by Order No. PSC-93-1679-PCO-EG and individual utility specific measures. (Ex. 3) FPL evaluated the residential measures in single family, multi-family and mobile home segments. (Ex. 16) Additionally, FPL evaluated commercial/industrial measures in three different building types. (Ex. 16) FPL evaluated new and existing construction in accord with Order No. PSC-93-1679-PCO-EG. FPL also evaluated natural gas measures and measures that were identified for possible inclusion in building codes. (Tr. 4278)

We find that in the preparation of its proposed goals, FPL adequately assessed the end-uses listed in the rule, except for natural gas substitution measures.

While we find that FPL performed an adequate assessment of the market segments and major end-use categories, we are concerned with FPL's conclusion that no cost-effective opportunities exist in the residential market segment for water heating measures. FPL has historically been involved in this market segment with DSM programs for alternate source water heating measures such as heat recovery units and solar water heaters. We instruct FPL to reassess residential water heating measures when it proposes programs to meet its goals during the program implementation segment of these proceedings.

B.FPC'S ASSESSMENT OF THE MARKET SEGMENTS AND MAJOR END-USE CATEGORIES.

FPC analyzed over 110 measures contained in the SRC Report to determine the technical market potential of the measures. These measures cover multiple market segments and end-use categories (residential/commercial/industrial, new and existing structures). FPC evaluated the cost-effectiveness of all measures classified as potential utility programs (UP) in Order No. PSC-93-1679-PCO-EG, issued November 19, 1993. (Ex. 37) FPC also analyzed the natural gas substitution measures. (Ex. 36)

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As discussed herein, FPC did not adequately assess natural gas substitution measures. FPC should obtain better data on end-use natural gas substitution measures through demonstration projects. With this exception, FPC adequately assessed the major end-use categories contained in Rule 25-17.0021(3), Florida Administrative Code

C.GULF'S ASSESSMENT OF THE MARKET SEGMENTS AND MAJOR END-USE CATEGORIES.

As we indicated above, Rule 25-17.0021(3), Florida Administrative Code requires the utilities to assess certain end-uses in the residential and commercial/industrial sectors. The rule ensures that the goals set are the result of an assessment of a comprehensive list of DSM measures. We find that Gulf's assessment of market segments and major end-use categories was not adequate.

GULF's only assessment of the market segments and major end-use categories took place during the TMPRR period of this docket. After that, GULF did not present any data or analyses that met the requirements of the rule. GULF's proposed goals were presented by GULF's witness Kilgore as a total number in exhibit 45. The number did not include a breakdown between residential and commercial/industrial, nor did exhibit 45 provide a further breakdown within the residential and commercial/industrial market segments to reflect existing and new construction as the rule requires. In addition, GULF's assessment did not separate the data into major end-use categories as the rule directs. We find that Gulf's assessment of the market segments and major end-use categories was clearly inadequate.

D.TECO'S ASSESSMENT OF THE MARKET SEGMENTS AND MAJOR END-USE CATEGORIES.

TECO evaluated the entire list of potential utility programs in compliance with Order No. PSC-93-1679-PCO-EG. TECO evaluated the residential measures in single family, multi-family and mobile home segments. (Tr. 1441) TECO also evaluated commercial/industrial measures in ten different building types for new and existing

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construction. (Tr. 1441) TECO also evaluated natural gas measures.
(Ex. 156)

We find that in the preparation of its proposed goals, TECO adequately assessed the end-uses listed in the rule, except for the gas substitution measures discussed herein.

V. GENERIC METHODOLOGY/PROCESS

A. DEFINITION OF AVOIDED COST IN EVALUATION OF DEMAND-SIDE MANAGEMENT MEASURES AND ESTABLISHMENT OF NUMERIC GOALS.

"Avoided Cost" for use in evaluation of DSM measures and the establishment of numeric conservation goals is that cost which the utility could reasonably expect to incur in the form of some other supply-side resources in the absence of DSM conservation measures. We decline to adopt a single detailed description of all the factors to be considered in the term "cost". We will evaluate each utility filing for reasonableness on a case-by-case basis.

B. COST EFFECTIVENESS CRITERIA

We will set overall conservation goals for each utility based on measures that pass both the participant and RIM tests. The record in this docket reflects that the difference in demand and energy saving between RIM and TRC portfolios are negligible. We find that goals based on measures that pass TRC but not RIM would result in increased rates and would cause customers who do not participate in a utility DSM measure to subsidize customers who do participate. Since the record reflects that the benefits of adopting a TRC goal are minimal, we do not believe that increasing rates, even slightly, is justified.

Although we are setting goals based solely on RIM measures, we encourage utilities to evaluate implementation of TRC measures when it is found that the savings are large and the rate impacts are

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small. Some measures that may fall into this category are solar water heating, photovoltoics, high efficiency on-site cogeneration, renewable resources, end-use natural gas and commercial lighting.

Upon petition from a utility, lost revenue recovery and stockholder incentives shall be considered on a case-by-case basis for such TRC measures that result in large savings and small rate impacts. We are not implying that lost revenue recovery or incentives will be approved across the board for all such programs. Rather, each program or program portfolio will be considered on a case-by-case basis for incentives and lost revenue recovery.

Utilities are free to file whatever portfolio of programs they wish, including TRC programs, in order to meet their goals. Demand and energy savings achieved through Commission approved TRC programs (including programs approved for incentives and lost revenue recovery) shall be counted toward each utility's RIM based goal.

Each utility's RIM based conservation goal shall be considered to be a minimum, pass/fail goal. We are not setting aspirational goals in this docket. Each utility shall be expected to achieve its goal. Any utility that does not achieve its goal shall be either penalized or have programs prescribed to it in a manner to be determined by this Commission on a case-by-case basis.

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VI. ENERGY POLICY ACT

A. CONSIDERATION OF THE INTEGRATED RESOURCE PLANNING STANDARD SET FORTH IN THE PUBLIC UTILITIES REGULATORY POLICY ACT (PURPA) AS AMENDED BY THE ENERGY POLICY ACT OF 1992.

In compliance with the Public Utilities Regulatory Policy Act (PURPA) as amended by the Energy Policy Act of 1992, we have considered the integrated resource planning standard set forth in the Act. We have carefully reviewed the integrated resource planning processes employed by each utility in these dockets. We find that the process employed by each utility is consistent with the intent embodied in the federal standard and that our review process has been in furtherance of the intent of the Act. We embrace the concept of integrated resource planning that in general utilities should incorporate both demand-side and supply-side resources (including non-utility resources) into their plans to the extent they are cost effective. We do not adopt the federal IRP standard because of definitional uncertainties associated with the standard and uncertainties as to the role of the Federal government in interpretation and enforcement of the standards.

B. THE INVESTMENTS IN CONSERVATION AND DEMAND MANAGEMENT STANDARD IN THE PUBLIC UTILITY REGULATORY POLICY ACT AS AMENDED BY THE ENERGY POLICY ACT OF 1992.

We embrace the concept of the Investments In Conservation and Demand Management standard as set forth in the Energy Policy Act, but do not adopt the Federal standard. Uncertainty exists as to the effect of adopting the Federal standard, and as to the role of the Federal government in interpretation and enforcement of the Federal standard for those states adopting it.

Upon petition from a utility, lost revenue recovery and stockholder incentives shall be considered on a case-by-case basis for solar, renewables, natural gas substitution, high efficiency

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cogeneration and other measures or programs that may have high savings and negligible rate impacts.

After goals are adopted, the utilities shall be allowed to propose selected programs that fail RIM for lost revenue recovery and stockholder incentives. Utilities have ample incentives to pursue programs that pass RIM. (Tr. 2551) The decision to allow incentives and recovery of lost revenues shall be made on a case-by-case basis. As stated by Dr. Fox-Penner, a net lost revenue adjustment procedure (NLRA) is less likely to shift risks from shareholders to ratepayers than some forms of decoupling. (Tr. 821)

VII. GENERIC NUMERIC GOALS

A.COMMISSION AUTHORITY TO SET END-USE GOALS

The electric utilities and Florida Municipal Electric Association contend that FEECA and Rule 25-17.0021, Florida Administrative Code, only require the Commission to set overall goals and that end-use goals are not permitted under the rules or statutes. LEAF/Evans, DCA, FCC, FlASEIA, and the gas utilities contend that FEECA gives the Commission broad authority to set "appropriate" goals; calls for "...the use of solar energy, renewable energy sources, highly efficient systems, cogeneration, and load control systems"; and is to be liberally construed. They assert that FEECA's intent can only be implemented effectively through end-use goals.

FEECA and Rule 25-17.0021, Florida Administrative Code, require the Commission to set overall goals. Overall goals are mandatory and must be set. It does not follow however, that end-use goals are not permitted under FEECA or Rule 25-17.0021, Florida Administrative Code. FEECA gives the Commission broad authority to carry out its intent to accomplish energy-efficiency and conservation. FEECA specifically instructs that it is to be liberally construed. If we find that end-use goals are an appropriate means to accomplish the intent of FEECA, we clearly have broad discretion to implement those goals.

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The fact that we chose in our rule to require overall goals does not in any way prohibit us from establishing end-use goals. End-use goals are neither mandated nor prohibited. They are neither encouraged nor discouraged by FEECA or Rule 25-17.0021, Florida Administrative Code. While end-use goals may not be established in lieu of overall goals, they may be established in addition to overall goals, if we deem them appropriate and they are consistent with the overall goals.

B. SHOULD END-USE GOALS BE SET?

Various intervening parties such as LEAF, FCC, DCA, and FlaSEIA advocate establishing end-use goals for particular market segments. These parties advocate specific programs addressing solar and renewable energy, natural gas, low income, and new construction market segments.

DCA witness McDonald acknowledged that overall goals are preferable to end-use goals because they reduce the risk to the utility of realizing projected market penetrations, in addition to energy and demand savings from individual end-use programs. (Tr. 2747) Overall goals provide the utility with flexibility to trade off energy and demand savings from other measures in meeting an overall goal. (Tr. 2747) Mr. McDonald testified that flexibility affords the utility the opportunity to take advantage of changes in costs and technology, which help to minimize the cost of the demand-side management options. (Tr. 2748)

FPL witness Hugues also testified that overall goals provide flexibility to a utility. A shortfall in one end use can be compensated for by success in another. (T. 483) FPL witness Dr. Sim testified that end-use goals are the very antithesis of integrated resource planning and lead to sub-optimal, cost-ineffective plans. (Tr. 4565)

We do not find it appropriate to set numeric goals for each major end-use category at this time. DCA witness McDonald testified

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that it is important that goals be set on an aggregate basis and not by end-use. (TR. 2649, 2719) Overall goals will give the electric utilities flexibility to respond to changing technologies and economic circumstances. We will therefore set overall numeric goals for the residential and commercial/industrial sectors consistent with Rule 25-17.0021, Florida Administrative Code. We will not set end-use goals at this time for any end-use category, including solar and renewable energy, natural gas substitution, low income or new construction market segments.

VIII. SOLAR AND RENEWABLES

A. FPL

Green Pricing is a relatively new concept. Customers voluntarily choose to donate money on their monthly bills for the utility to engage in the procurement and implementation of renewable technologies. FPL should consider this option to promote the installation of solar water heating and other renewable measures during the program development and submittal stage of the conservation goals process.

In response to DCA witness Nelson's testimony regarding guidelines for acquisition of renewable resources, FPL witness Hugues testified that renewables should only be pursued if they are cost-effective to all of FPL's customers. (Tr. 4312) He also testified that FPL would cooperate with the Commission and the solar energy industry in trying a different approach than a set-aside to the promotion of renewables. (Tr. 4313) Mr. Hugues suggested voluntary Green Pricing as one option to allow customers to contribute to a fund to be used for the installation of renewables on the FPL system. (Tr. 4313)

Various intervenors correctly point out numerous references in the Florida Statutes, where the Legislature encourages the development and use of solar and renewable energy sources to meet the complex energy needs of Florida. (Tr. 2619) FPL opposes solar due to lost revenues resulting from energy savings, and proposes to discontinue the existing program after the goals agenda. (Tr. 724) FPL reports

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a negative cost-benefit ratio of 0.8 and 0.26 under the RIM and TRC tests respectively. (Ex. 14)

In FPL's December 1990 revised petition to continue its residential solar water heating program, the Company recognized the program as being in the best interest of its customers and the state of Florida. (Tr. 2620) FPL stated that by continuing the program, the Company could continue assisting the development of a renewable energy source within its service territory, which would help advance the policy objectives set forth in Rule 25-17.001, Florida Administrative Code and FEECA. The Company also recognized a potential negative effect upon the solar industry if this program was discontinued. (Tr. 2620) The Commission's order approving FPL's program recognized the program's contribution to the advancement of the FEECA policy objectives regarding renewable resources. (Tr. 2621)

We believe that Green Pricing options should be considered in the repackaging of FPL's existing solar water heating program. FPL's primary reason to discontinue this program is the estimated cumulative lost revenues of approximately \$1,000,000 for the four year period 1990-1993. (Ex. 24) In light of the Legislative intent to encourage solar resources, this is a small price to pay to decrease Florida's dependence on fossil fuels, and to assist in the sustainment of the solar water heating industry in Florida. FPL shall therefore develop alternate funding sources such as (but not limited to) voluntary green pricing to promote the installation of solar water heating and other renewable measures. Any demand or energy savings achieved through implementation of solar or other renewable measures shall be counted toward accomplishment of FPL's conservation goal.

B.FPC, GULF AND TECO

FPC, GULF and TECO shall explore the development of alternate funding sources such as voluntary Green Pricing to promote the installation of solar water heating and other renewable measures. FPC, GULF and TECO shall evaluate voluntary Green Pricing in conjunction with the development of DSM programs designed to meet the

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utilities' numeric goals. FPC, GULF and TECO shall consider this option during the program development and submittal stage of this docket to encourage the development of solar and renewable energy resources. Any demand or energy savings achieved through implementation of solar or other renewable measures shall be counted toward accomplishment of the utilities' conservation goal.

IX. NATURAL GAS SUBSTITUTION

We will not set specific end-use goals for natural gas substitution for electricity. The utilities' analyses indicate a lack of sufficiently accurate information upon which we could set specific goals.

Electric utilities should continue to consider measures to reduce electric energy end use without regard to the input fuel used to reduce electricity demand. The Commission has long advocated and recognized the prudence of natural gas use as a means to mitigate volatility of winter peak demands in Florida. After our investigation into the cold weather emergency that occurred in peninsular Florida on December 23-25, 1989 we stated:

Utilities are encouraged to continue to develop and implement cost-effective conservation programs approved by the Commission, including those that promote the cost-effective use of natural gas to moderate Florida's dependence on electric heating. Docket No. 900071-EG, Order No. 22798 at 7. Issued March 20, 1990.

Witnesses for the electric utilities in this docket supported the use of measures that passed the RIM and the participant tests. If a measure is cost-effective, whether it be gas substitution or any other measure, the utility should adopt its use. According to FPL's Dr. Sims; "From our standpoint we believe that if a gas measure passes both the RIM and participants' test, that it's cost-effective for all of our customers, then we won't have a concern with that measure being implemented." (Tr. 547) FPL's Mr. Hugues followed with; "We would recommend to our customers any measure, regardless of

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whether it's gas or any other measure, that it's cost effective for both the participants and nonparticipant alike. So it would have to pass both the RIM and the participants test." (Tr. 665) Mr. Jacob for FPC supported the RIM and participant tests for measures to be considered cost-effective for conservation. (Tr. 986-987) Mr. Kilgore for GULF recommended RIM because it yields the correct conclusions for GULF and its customers. (Tr. 1203) Mr. Currier for TECO encouraged the Commission to support RIM and the Participant test as the standard for adopting DSM measures. He called it a "no-loser practice."

We have previously determined that we will not set specific end-use goals for natural gas substitution for electricity. However, each electric utility shall be required to conduct research and demonstration 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. Each utility shall be required to file, within six months, in a separate docket, its plans for these research and development projects in accord with the provisions of Rule 25-17.001(5)(f), Florida Administrative Code. We encourage and will consider rewarding electric utilities that cooperatively develop joint projects with gas utilities to produce measurable conservation savings.

We will not order the electric utilities to conduct joint utility pilot programs with any gas utilities, because it does not appear that Commission-ordered cooperation will be productive. During this docket, City Gas and FPL attempted to negotiate a cooperative gas pilot project. (Tr. 3174) They have been unable to reach an agreement on the project. FPL and City Gas have an unending dispute over appropriate inputs to the cost-effectiveness tests. (Tr. 3174-75) FPL is unsure of current data available on gas measures, and wants actual field data. (Tr. 669) FPL has agreed with the concept of demonstration projects, but raised objections as to how such program were to be conducted. While recognizing that it is the input values that are in dispute, FPL insisted on prescreening the demonstration measures prior to implementation. (Tr. 4472-73) City Gas believes that prescreening by FPL is an attempt to prejudge the demonstration project. (Tr. 4476)

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We are not finding fault or judging the merits of the dispute between City Gas and FPL. The information is provided to demonstrate the difficulties of a demonstration project based upon mandated cooperation. We are concerned that we may be forced to referee every detail of each project for all the utilities if we order the electric utilities to do demonstration gas projects with gas utilities. The ill will from a forced marriage between utilities, and the inevitable and costly litigation, resulting in data that will possibly remain in dispute, is not beneficial for utilities or customers.

The electric utilities' calculations of cost-effectiveness are quite inconsistent and they demonstrate the need for accurate data. Their evaluations of the eleven gas technologies in this docket varied immensely due to inconsistent assumptions for input data. (Tr. 1563-64, 2329, 3653, 3665, 3668, 3675, 4188, 4377) Mr. German, witness for PGS, cited several examples of unreasonable assumptions in the electric utilities' evaluations of the eleven gas technologies. (Tr. 2327-32) GULF's assumptions for the eleven gas technologies for the base year totaled 577 pages.

Not considering cogeneration, which might be considered a demand-side alternative, the conclusions of all four electric utilities were that only one gas technology, desiccant dehumidifying, passed both the RIM and participant test. (Tr. 2329) (Ex. 6, 36, 51, 156) FPL's evaluation showed that nine of the eleven technologies passed the electric RIM test. (Ex. 6) FPC's evaluation showed that only one passed the RIM test, but two others have ratios of 0.99 and 0.91. The failure of most of the technologies to pass FPC's RIM test probably was caused by the loading of an incentive amount to the participant test to bring it up to 1.0 benefit/cost ratio. (Ex. 36) GULF's evaluation had no measure passing any of the tests. (Ex. 51) TECO's evaluation showed that eight of eleven passed the RIM test. (Tr. 156)

The nearly total failure of the gas technologies to pass the electric utilities' calculation of the participant test is difficult to accept. We do not believe that approximately 600,000 existing Florida gas customers have made a mistake in their economic decision, nor that the manufacturers of gas technologies would commit resources to develop and market new gas technologies if they are all destined to be market failures. (Tr. 3668, 3673, 3675)

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The unusually diverse results of electric utilities' evaluations appear to be based on input assumptions not grounded in Florida-specific applications. We therefore require electric utilities to develop Florida-specific data through research and demonstration projects on gas technologies. (Tr. 669) Rule 25-17.001(5)(f), Florida Administrative Code, requires that aggressive research and development projects be "... an ongoing part of the practice of every well managed electric utility's programs ...". The data to be gathered shall be for the performance and cost-effectiveness of gas technologies for heating, cooling, dehumidification and water heating. (Tr. 1563-64, 2327-32, 3174-75, 3653, 3653, 3665, 3668, 3675, 4188, 4377) (Ex. 6, 36, 51, 156)

The following compilation of the electric utilities' evaluations of the eleven gas technologies illustrates the great disparity in the results obtained by each utility. Those technologies passing a test for any particular utility are highlighted with double outlines. Those above 0.84, but less than 1.0, per the RIM test are shaded.

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GAS TECHNOLOGIES												
		1	2	3	4	5	6	7	8	9	10	11
Participant Test	FPC	1.00	1.00	1.00	1.00	1.00	1.00	1.77	1.00	1.00	2.12	1.00
	FP&L	.22	.31	.54	.46	.42	.28	.41	.53	.21	.45	.49
	GULF	(.01)	.15	.42	.35	.18	.19	.07	.57	.17	.37	.22
	TECO	(39,267)	(20,024)	(378)	(5,923)	(7,039)	(118)	- a -	(47)	(1,169)	(64,240)	(17,043)
RIM Test	FPC	.22	.35	.62	.48	.68	.99	1.06	.52	.15	.91	.58
	FP&L	1.01	1.02	1.03	1.03	1.04	1.03	1.01	.84	1.02	1.00	.91
	GULF	(.02)	.29	.31	.45	.57	.58	.39	.66	.33	.69	.57
	TECO	1.00	1.00	1.00	.80	1.00	1.10	- a -	.90	1.00	1.20	1.00
TRC Test	FPC	.22	.35	.62	.48	.68	1.00	1.88	.50	.15	1.93	.58
	FP&L	.29	.48	.67	.72	.75	.27	.76	.59	.19	.72	.78
	GULF	(.00)	.10	.31	.23	.15	.12	.06	.38	.11	.30	.18
	TECO	.10	.20	.30	.10	.40	.50	- a -	.40	.20	.30	.40

- | | | |
|--|------------------------------------|--|
| 1) Absorption Commercial Single Effect | 5) Gas Engine Driven Water Chiller | 9) New Installation Residential Cogeneration |
| 2) Absorption Commercial Double Effect | 6) Double Integrated Appliance | 10) Commercial/Industrial Cogeneration |
| 3) Residential Gas Heat Pump and Hot Water | 7) Desiccant Dehumidifier | 11) Gas Engine Driven Centrifugal Chiller with Heat Recovery |
| 4) Gas Engine Driven Air Conditioner | 8) New Installation Water Heater | |

- a) TECO - Not a viable DSM measure. Summer peak of measure is higher than electric baseline technology.
 iii) Double-lined cells with bold data passed the test without the addition of incentives.
 Shaded cells nearly passed.

Table developed from exhibits 6, 36, 51 and 156.

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X. UTILITY SPECIFIC NUMERIC GOALS

A. FPL NUMERIC GOALS

Our rules require each utility to propose numeric goals for a ten year horizon period. We accept FPL's RIM based goals for each year during the period 1994-2000. Because FPL proposed a goal of zero for the last three years of the ten year period, staff proposes to set FPL's goals for each of the years 2001-2003 based on the company's proposed incremental goals in 2000 (74 MW Winter, 88 MW Summer, 115 GWH).

FPL's believes that it is premature to set goals for the 2001-2003 period, because the Company's DSM-RIM goals are projected to meet new capacity needs through January 1, 2002, when 340 MW of resource options are required to maintain system reliability criteria. (Tr. 74, Ex. 3, p. 61) FPL excludes 210 MW of cost-effective DSM-RIM in 2001, because FPL's cost-effective DSM-RIM was insufficient to defer in its entirety the 340 MW need in 2002. (Tr. 74) We include the 210 MW of uncommitted DSM-RIM in the Company's goals which may ultimately be combined with additional DSM resources if found, or with a RFP/standard offer for 130 MW (340 MW - 210 MW) to satisfy the 2002 need.

Dr. Sim testified that no decision is currently needed in regard to either building a new unit or increasing the amount of DSM above FPL's RIM goal. (Tr. 74) Dr. Sim testified that FPL would be before the Commission in 1996 requesting a determination of need for a 416 MW combined cycle unit. (Tr. 439, 450) The company's current resource plan indicates that 340 MW of DSM in 2002 would meet the reliability standards, of which 210 MW is projected to be achievable but uncommitted. We disagree with FPL's decision to set seven year goals and exclude 210 MW of cost-effective DSM-RIM. The mismatch in resource need between the 416 MW supply option and the 340 MW DSM option is due primarily to the need to construct additional capacity to compensate for system line losses and generating plant unavailabilities from planned and forced maintenance which are not present in the DSM option.

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FPL witness Mr. Hugues indicated that there is a very good possibility that due to changes in technology, FPL's R&D program might be able to achieve the additional 130 MW of DSM-RIM necessary to defer the 2002 need. (Tr. 620, 4499) FPL's R&D program may result in approved programs producing additional capacity savings in much the same manner as the 1990 DSM Plan produced an additional 342 MW. (Tr. 619-20) The current R&D program is evaluating approximately seven C/I programs and four residential programs. (Tr. 620) Dr. Sim testified that FPL had previously exceeded its internal DSM goals, and that it is possible in the future, although not as likely as in past years, due to a greater understanding of the match between DSM and resource needs. (Tr. 446) It is possible that FPL might exceed its proposed goal, considering its prior history of exceeding internal DSM goals, and the potential for additional contributions from R&D programs and green pricing options.

Several intervening parties advocate the use of Exhibit 90, an updated version summarizing SRC's Best Practice scenario to derive goals for each investor owned utility. The Best Practices scenario contains some very optimistic assumptions such as the removal of all investment cost barriers to conservation, and was initially portrayed by SRC as the upper limit of what could be achieved if money were no object and conservation were sold door to door. (Tr. 2818, 4297) We do not believe SRC's Best Practices scenario would establish meaningful numeric goals due to its lack of utility specific planning information. SRC's Best Practices demand savings of 2120 MW through 2003, exceed FPL's resource needs of 1646 MW through 2003. (Tr. 4297) DCA witness McDonald, the principal in charge of the SRC study agreed that a utility-specific analysis with assumptions specific to its service territory would be a more accurate estimate of the cost-effective potential than the more generalized SRC study. (Tr. 2722-24)

FPL's decision not to propose DSM goals for the period 2001-2003 is contradictory to the intent of our rule, which requires ten years of numeric goals. For this reason, and our belief that various R&D projects, and green pricing options may produce additional energy and demand savings, we set a residential goal of 765 MW Winter, 895 MW Summer, and 1,030 GWH in 2003.

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There will be ample opportunity for us to continually monitor the appropriateness of these goals for the last three years of the planning horizon. If things look as if they are going awry we will have the opportunity to address the situation as the need arises.

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FPL's residential conservation goals shall be set at the levels identified in the FPSC column of the following table.

PROPOSED RESIDENTIAL CONSERVATION GOALS												
	WINTER MW				SUMMER MW				ANNUAL GWH			
	FPL	FPSC	LEAFFS EIA FCC	DCA	FPL	FPSC	LEAF FSEIA FCC	DCA	FPL	FPSC	LEAF FSEIA FCC	DCA
1994	77.1	77.1			88	88			66.5	66.5		
1995	157.4	157.4	196	113	181	181	337	253	149.8	149.8	116	621
1996	236.2	236.2	283	237	272	272	526	531	239.4	239.4	489	1303
1997	314.5	314.5	376	357	362	362	709	800	337.2	337.2	1105	1961
1998	393.6	393.6	464	476	455	455	881	1064	452.8	452.8	1962	2610
1999	467.9	467.9	558	591	543	543	1214	1323	568.2	568.2	3048	3243
2000	542.2	542.2	740	708	631	631	1211	1584	683.6	683.6	3650	3885
2001		616.5	816	823		719	1367	1842		799.0	4244	4517
2002		690.8	752	943		807	1483	2111		914.4	4863	5175
2003		765.1	752	945		895	1483	2115		1029.8	4873	5186

Note: The GWH energy goals for a specific year represent single-year impacts for all installations beginning in 1994 through that year.

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FPL's commercial/industrial conservation goals shall be set at the levels identified in the FPSC column of the following table.

PROPOSED COMMERCIAL/INDUSTRIAL CONSERVATION GOALS												
	WINTER MW				SUMMER MW				ANNUAL GWH			
	FPL	FPSC	LEAFFS EIAFCC	DCA	FPL	FPSC	LEAF FSEIA FCC	DCA	FPL	FPSC	LEAF FSEIA FCC	DCA
1994	9.3	9.3			23	23			66.6	66.6		
1995	69.2	69.2	73	28	111.3	111.3	174	127	138.7	138.7	74	369
1996	92.8	92.8	145	58	166.6	166.6	340	266	211.8	211.8	309	773
1997	114.3	114.3	176	88	223.3	223.3	458	400	292.4	292.4	699	1165
1998	136.1	136.1	190	117	285.2	285.2	557	533	383.3	383.3	1240	1550
1999	157.9	157.9	203	145	352.5	352.5	652	662	473.0	473.0	1927	1927
2000	179.7	179.7	216	174	419.8	419.8	750	793	562.7	562.7	2308	2308
2001		201.5	229	202		487.1	847	922		652.4	2683	2684
2002		223.3	244	232		554.4	956	1057		742.1	3074	3075
2003		245.1	244	232		621.7	956	1059		831.8	3081	3081

Note: The GWH energy goals for a specific year represent single-year impacts for all installations beginning in 1994 through that year.

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B.FPC NUMERIC GOALS

Several parties to this docket advocate numeric DSM goals derived from an adjusted "best practices" scenario. Best practices assumes no administrative, marketing, overhead, equipment, or monitoring costs. No party was able to provide the rate impact of adopting DSM goals based on "best practices". Thus, we decline to set goals based on best practices assumptions.

FPC separated the cost-effective (RIM) demand and energy savings identified on page 32 of its CEGRR report into two categories: dispatchable and non-dispatchable. To account for factors such as free riders, overlapping measures, and interaction with building codes, FPC argued that non-dispatchable demand and energy savings should each be reduced by 25%. (Tr. 986) FPC's proposed goals are the sum of 100% of the dispatchable savings and 75% of the non-dispatchable savings.

We question the validity of FPC's treatment of free riders. (Tr. 1053-55) Various demand-side measures have vastly different free rider impacts. It would have been more appropriate for FPC to address these impacts on an individual measure basis, prior to calculating each measure's cost-effectiveness, rather than apply a blanket 25% reduction to all non-dispatchable measures. We direct FPC to deal with the free rider impacts in its program implementation when FPC files its conservation plan. Witness McDonald testified that programs can be designed in a way that minimizes free riders (Tr. 2646)

The record shows uncertainty in the way that FPC came up with the 25% downward adjustment. (Tr. 1048-49) Although Witness Jacob stated that the effect of free riders was different for the residential class than for the commercial/Industrial class, FPC decreased the demand and energy savings for both classes by the same 25% value to come up with its goals. (Tr. 1050)

We decline to adopt FPC's proposed goals because we find FPC's 25% downward adjustment to be arbitrary and unsupported by competent and substantial evidence. Rather, we set FPC's numeric demand and energy goals at 100% of the total savings of all residential measures that pass the RIM test. These demand and energy goals for FPC are aggressive but reasonable. They represent all cost-effective DSM under the RIM test.

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We set FPC's residential conservation goals at the levels identified in the FPSC column of the following table.

PROPOSED RESIDENTIAL CONSERVATION GOALS												
	WINTER MW				SUMMER MW				ANNUAL GWh			
	FPC	FPSC	LEAFFS EIA FCC	DCA	FPC	FPSC	LEAF FSEIA FCC	DCA	FPC	FPSC	LEAF FSEIA FCC	DCA
1994	40	43	---	---	5	11	---	---	6	12	---	---
1995	81	86	57	50	14	30	20	14	15	24	12	63
1996	125	133	93	94	32	50	36	27	26	38	44	120
1997	171	184	134	157	51	71	54	46	39	60	108	200
1998	218	236	181	234	71	93	75	68	53	78	215	297
1999	266	290	231	322	92	116	98	93	69	100	369	409
2000	314	343	283	419	113	140	122	122	86	127	480	533
2001	362	395	332	495	134	164	146	144	103	145	569	630
2002	408	445	382	579	155	188	170	168	121	169	664	736
2003	444	483	418	630	174	209	192	183	136	184	724	801

Note: The GWh energy goals for a specific year represent single-year impacts for all installations beginning in 1994 through that year.

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We set FPC's commercial/industrial conservation goals at the levels identified in the FPSC column of the following table.

PROPOSED COMMERCIAL / INDUSTRIAL CONSERVATION GOALS												
	WINTER MW				SUMMER MW				ANNUAL GWh			
	FPC	FPSC	LEAFFS EIA FCC	DCA	FPC	FPSC	LEAF FSEIA FCC	DCA	FPC	FPSC	LEAF FSEIA FCC	DCA
1994	0.6	0.05	---	---	3	0.3	---	---	3	2	---	---
1995	4	3	23	32	5	3	31	39	9	19	7	103
1996	7	7	37	62	9	8	54	74	24	40	27	195
1997	12	13	52	101	15	15	80	123	42	71	69	326
1998	18	20	69	150	22	24	108	183	68	110	136	485
1999	25	29	86	206	30	35	139	252	100	155	234	667
2000	33	39	105	268	41	48	172	328	137	207	304	869
2001	41	48	123	317	51	61	204	388	173	255	360	1028
2002	47	56	140	370	60	74	236	453	208	299	420	1200
2003	54	64	155	403	68	84	262	493	239	336	457	1307

Note: The GWh energy goals for a specific year represent single-year impacts for all installations beginning in 1994 through that year.

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C.GULF NUMERIC GOALS

In its testimony, GULF did not differentiate between residential and commercial/industrial numeric goals as they were required to do in our procedural orders. Rather, GULF lumped its recommended goals under one heading. We have been able to allocate GULF's numeric goals under separate headings of residential and commercial/industrial.

As we have previously noted, GULF did not include any of its existing conservation programs in the CEGRR filing or in the final proposed numeric goals. In its brief at page 68 LEAF stated "Moving from the deficient to ridiculous, GULF reduced its meager RIM-based potential by 30%". GULF's own testimony indicated that its two major programs (GULF Express program and GULF's audit program) had exceeded original engineering estimates. (Tr. 1256, lines 4-12 & T-1256, Lines 13-T-1257, Line 11)

Mr. Kilgore was requested to provide, as late filed exhibit Number 54, an analysis of the effect of bundling of four direct load control measures into one measure (air conditioning, water heating, swimming pool pumps & space heating). (Tr. 1296-1299) In that exhibit, GULF did not provide an analysis of the effect of bundling those four direct load control measures, but indicated that it would investigate the matter further. GULF argues that it is a summer peaking utility and therefore would receive little or no economic benefit from deferring water heating and space heating in the winter. We do not accept GULF's argument. During the summer the direct load control of water heating, air conditioning and pool pumps should provide an economic benefit to a summer peaking utility. GULF did state in late filed exhibit 54 that "The bundling of air conditioning and pool pumps appears to be cost effective under certain conditions at the \$349.00/kw value". The \$349.00/kw value mentioned is the cost of the avoided unit used by GULF in this docket.

After reviewing the new allocation, as well as the numeric goals proposed by the intervenors, we set a 100% RIM goal. This is consistent with the other investor-owned utilities on a percentage of system load basis summary and is consistent with other staff analyses in these dockets.

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We set GULF's residential conservation goals at the levels identified in the FPSC column of the following table.

PROPOSED RESIDENTIAL CONSERVATION GOALS												
	WINTER MW				SUMMER MW				ANNUAL GWH			
	GULF	FPSC	LEAFFS EIA FCC	DCA	GULF	FPSC	LEAF FSEIA FCC	DCA	GULF	FPSC	LEAF FSEIA FCC	DCA
1994												
1995	0	0	1	3	1	1	1	5	1	1	6	22
1996	0	0	1	6	1	2	2	10	2	2	20	42
1997	41	59	36	11	26	37	27	17	10	12	52	73
1998	82	117	71	16	51	72	51	27	31	29	107	112
1999	85	121	74	21	60	85	60	34	59	40	170	143
2000	87	125	76	24	72	103	73	40	89	44	199	166
2001	90	129	79	28	83	118	83	46	123	48	229	192
2002	93	133	81	32	86	122	90	52	160	52	260	218
2003	96	137	84	35	88	126	97	57	198	54	286	240

Note: The GWH energy goals for a specific year represent single-year impacts for all installations beginning in 1994 through that year.

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We set GULF's commercial/industrial conservation goals at the levels identified in the FPSC column of the following table.

PROPOSED COMMERCIAL/INDUSTRIAL CONSERVATION GOALS												
	WINTER MW				SUMMER MW				ANNUAL GWH			
	GULF	FPSC	LEAF FSEIA FCC	DCA	GULF	FPSC	LEAF FSEIA FCC	DCA	GULF	FPSC	LEAF FSEIA FCC	DCA
1994												
1995	7	10	12	2	9	13	23	7	(0)	-	3	24
1996	7	10	15	4	9	13	28	14	(1)	-	13	45
1997	7	10	18	8	9	13	34	23	(2)	-	33	77
1998	7	10	21	12	9	13	40	36	(3)	-	67	119
1999	7	11	24	15	10	15	47	46	(3)	-	108	152
2000	8	11	28	17	12	17	55	53	(1)	2	125	177
2001	8	11	32	20	13	19	63	62	2	5	145	204
2002	8	11	35	23	14	20	69	70	7	7	164	231
2003	8	11	39	25	15	22	76	77	13	8	181	255

Note: The GWH energy goals for a specific year represent single-year impacts for all installations beginning in 1994 through that year.

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D.TECO NUMERIC GOALS

Witness McDonald stated that if the goals are intended to be "mandatory", he would not recommend using the "best practices" scenario in setting goals. Mr. McDonald also stated that if the goals are set in terms of "aspirations", he recommends the "best practices" scenario. (Tr. 2765-2766) As we have discussed earlier, the utilities are expected to achieve the goals we set in this docket. We are not setting aspirational goals.

Several intervenors have favored use of the SRC "best practices" scenario, as adjusted, in setting goals. In most cases, this scenario shows demand and energy savings significantly higher than the goals proposed by TECO. As stated by witness McDonald, the "best practices" scenario assumes a "perfect program" where all investment cost barriers are removed. (Tr. 2733) Mr. McDonald testified on cross examination that the ideal circumstances required to make the "best practices" scenario feasible do not exist. (Tr. 2734) In addition, no party was able to provide the rate impacts of adopting goals based on "best practice." We decline to base TECO's goals on the "best practice" scenario.

TECO's proposed goals are derived from a combination of energy savings from current programs and projected savings from additional measures. The savings were adjusted from its "Gross RIM Portfolio." (Ex. 64, Ex. 152) Savings from residential measures were weighted by 17 percent to capture free rider effects. A risk factor of 20 percent was then applied to further reduce the savings. (Tr. 4949, Ex. 152)

We support use of the RIM test as a framework for setting goals. The goals we have set for TECO are identical to TECO's gross RIM portfolio listed in exhibit 64. We disagree with the adjustments TECO has made to its gross RIM portfolio. We find that the 17 percent free rider adjustment to the overall residential savings under the RIM test was arbitrary. We also disagree with the use of the 20 percent risk adjustment to the overall residential savings. These factors and their effect on cost-effectiveness are better addressed at the program development stage of these dockets. Witness McDonald stated that programs can be designed to minimize free riders. (Tr. 2646) We do not believe that a blanket 17 percent reduction in residential savings to assert for free riders is appropriate.

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TECO should evaluate free rider and risk effects on a specific basis in the program development phase and properly apply these effects to the cost effectiveness of the programs it proposes. (Tr. 1456)

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We set TECO's residential conservation goals at the levels identified in the FPSC column of the following table.

PROPOSED RESIDENTIAL CONSERVATION GOALS												
	WINTER MW				SUMMER MW				ANNUAL GWH			
	TECO	FPSC	LEAFFS EIAFCC	DCA	TECO	FPSC	LEAF FSEIA FCC	DCA	IOU	FPSC	LEAF FSEIAF CC	DCA
1995	33	36	23	27	10	12	18	12	16	21	13	49
1995	65	72	47	55	19	23	37	24	30	41	51	99
1996	97	107	70	83	29	35	55	37	45	60	116	150
1998	130	142	92	112	38	46	73	49	59	80	207	201
1999	163	177	115	140	46	57	92	61	74	99	323	251
2000	195	211	138	167	56	68	109	73	88	118	386	300
2001	220	239	156	192	63	77	123	84	101	136	445	347
2002	244	266	174	215	69	85	137	94	115	154	499	388
2003	267	292	190	237	76	93	149	104	128	172	549	427
2004	290	318			82	101			141	189		

Note: The GWH energy goals for a specific year represent single-year impacts for all installations beginning in 1995 through that year.

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We set TECO's commercial/industrial conservation goals at the levels identified in the FPSC column of the following table.

PROPOSED COMMERCIAL/INDUSTRIAL CONSERVATION GOALS												
	WINTER MW				SUMMER MW				ANNUAL GWH			
	TECO	FPSC	LEAF FSEIA FCC	DCA	TECO	FPSC	LEAF FSEIA FCC	DCA	TECO	FPSC	LEAF FSEIA FCC	DCA
1995	1	2	4	13	2	7	15	12	9	29	8	62
1996	1	5	9	27	4	13	31	24	17	59	32	125
1997	2	7	12	41	5	20	48	36	26	90	73	188
1998	3	9	17	55	8	27	66	48	36	120	131	253
1999	4	12	22	69	10	34	82	59	44	151	204	316
2000	5	14	26	82	12	40	98	71	53	181	244	377
2001	5	17	29	95	13	47	114	82	62	211	282	435
2002	6	19	33	106	17	53	127	92	71	240	315	487
2003	6	21	37	117	18	59	138	101	79	267	347	536
2004	7	23			20	65			86	292		

Note: The GWH energy goals for a specific year represent single-year impacts for all installations beginning in 1995 through that year.

XI. MISCELLANEOUS ISSUES

A.LOW INCOME

We have previously decided not to set overall and end-use goals in this docket. In keeping with this decision, we decline to set end-use goals for low income customers. Instead, each utility shall be required to address the availability and saturation of conservation programs by residential low income customers in

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program development. Utilities shall study and report to the Commission the level of benefits available to low income customers from utility conservation efforts. This report should be filed with each utility's DSM Plan.

All customers, including low-income customers, should benefit from RIM-based DSM programs. This is because RIM-based programs insure that both participating and non-participating customers benefit from utility-sponsored conservation programs. Additional generating capacity is deferred and the rates paid by low-income customers are less than they otherwise would be. (Tr. 4311)

Florida's utilities need to work closely with agencies such as housing authorities and other community groups to educate and provide information to low income customers who may be able to take advantage of conservation programs. Utilities are encouraged to participate in community groups that can facilitate communication between the customer and the utility to promote conservation programs that will not only benefit that participant, but also result in lower rates. Utilities are encouraged to conduct outreach programs to facilitate the participation of low income customers. When utilities propose a residential conservation program, the question of how they are going to facilitate the participation of low income customers shall be made part of the narrative describing the program. At reasonable intervals after the program is put in place, the utility shall report back to the Commission on the level of participation from low income customers they have achieved.

We believe that utilities should be sensitive to the special needs and limitations faced by low income customers. Once overall goals have been established in this docket, utilities must develop conservation programs to achieve the goals. Care should be taken during program development to ensure that low income customers have the opportunity to realize savings from participation in conservation programs. Each electric utility shall study and report to the Commission the level of benefits available to low income ratepayers under the utility's DSM portfolio. Each electric utility is encouraged to develop and participate in programs to help implement conservation in low income housing.

B. BUILDING CODE TASK FORCE

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One critical question considered at the hearing relates to enforcement of the Florida Energy Efficiency Code for Building Construction by the local governments, and the appropriate disposition of the 28 Code Utility Evaluation (CUE) measures for inclusion in the code. Our Fourth Order on Procedure classified certain measures as CUE. The utilities were required to evaluate these measures separately from the Utility Program (UP) measures. They were required to perform the Commission's cost-effectiveness test required by Rule 25-17.008, Florida Administrative Code, as well as the DCA's cost-effectiveness test, the Utility Composite Participant test.

Most of the 28 CUE measures did not pass the RIM or the TRC test. Many passed the Utility Composite Participant test. The utilities did not include savings from the CUE measures in their proposed goals. The utilities argue that these measures should be further evaluated by DCA for inclusion in the building code. DCA asserts that although some of the CUE measures are cost-effective to the participant, none are likely to be added to the code as prescriptive (required) measures. (Tr. 3443) Mr. Dixon indicated that a consensus is necessary to include a measure in the code, and at times the political reality presents resistance to promulgating new rules. (Tr. 3464-65) Mr. Dixon also testified that code compliance, not higher performance standards, represent the major opportunity for improvements in building code efficiency. (Tr. 3443, 3448) Mr. Dixon provided examples of utility involvement which could be pursued in Florida, such as: ratepayer incentives, technical assistance/training, and financial assistance to state and local governments for code enforcement. (Tr. 3445, 3460)

DCA witness Dixon testified that it is the responsibility of local government and the building code department and not the responsibility of the utility to ensure code compliance. (Tr. 3430, 3457) We believe that code compliance is a state and local government issue and that DCA should pursue Legislative funding to better accomplish this goal.

We suggest the formation of a task force, consisting of the Commission staff and the staff of the DCA, to evaluate, at a minimum, the cost-effectiveness of the building code, possible revisions to the code including the CUE measures, evaluation of code compliance methodologies, and the possibility of legislation to promote and encourage energy-efficient building procedures. We believe that if the building code is not the most cost-effective to the participant, we should explore reopening the

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service availability charge docket to impose an incrementally higher hook-up charge to the inefficient customer/builder.

We find that DSM costs for new home construction programs which fail the participant test, but pass the RIM test, or involve high thermal efficiency cogeneration, natural gas end-use, renewables or solar, may be recovered through the energy conservation cost recovery clause, along with lost revenue recovery and incentives, after approval by the Commission on a case-by-case basis.

C.LINKAGE BETWEEN BUILDING CODE OPTIONS AND UTILITY PROGRAMS

Compliance with the Florida Energy Efficiency Code for Building Construction is obtained one of two ways. The first way, called performance, requires the calculation of an estimated annual energy target utilizing energy points awarded separately for individual measures recognized in the code. (Tr. 3422) Compliance is achieved when a threshold number of points is not exceeded, typically 100 for residential. Builders are afforded the opportunity to trade-off efficiency points with various building code options for most building components so long as the performance target is met. (Tr. 3422)

The second way, called prescriptive, requires the inspection of prescribed insulation levels, equipment efficiencies, maximum window area, and other standards provided in one of the five or six optional packages. (Tr. 3423) It allows no trade-offs among components to achieve overall efficiency.

The proper linkage of code options with DSM programs is limited primarily to the performance method of code compliance. Unfortunately, the performance code in its present form opens the door for the builder to pick and choose between building components trading the efficiency gains of one measure for a less efficient measure installed elsewhere in the dwelling. Consequently, as a result of this practice, there is not an overall net gain in building performance. (Tr. 3425) Mr. Dixon acknowledged the danger that a utility DSM program might provide an incentive for a high efficiency measure that would be used in combination with other less efficient measures to achieve only minimum compliance with the code, ultimately providing no net gain in energy efficiency. (Tr. 3427)

Currently, two utilities are directly involved in the new home construction market. FPL is evaluating the Build Smart research and development program, which

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has a high probability of being offered in the future after a determination of program cost-effectiveness. (Tr. 4411) GULF continues to operate the Good Cents new construction programs funded out of base rates. Fuel source neutrality has historically been a critical issue of concern with these types of programs, in certain instances these programs may be used to promote one type of technology over the technology of a competing fuel.

Several parties to the docket advocate interaction between the Commission and the DCA. Therefore, we suggest the development of a task force, as previously discussed, to address the complex problems which face the DCA and utilities.

D.DEFINITION OF "REASONABLY ACHIEVABLE"

The term "reasonably achievable" in Rule 25-17.0021, Florida Administrative Code, allows the Commission great discretion and flexibility in setting goals.

It is well settled in Florida that a standard of "reasonableness" does not lend itself to strict definition, but rather entails the exercise of judgement by the finder of fact. For example, "reasonable care" must necessarily vary under different conditions. It cannot be measured or ascertained by any fixed and inflexible standard. Consumers' Electric Light & St. R. Co. v Pryor, 32 So. 797 (Fla. 1902). "Reasonable prudence" cannot be arbitrarily defined. The policy of law has relegated such questions to the jury. It is their province to note the special circumstances and surroundings of each particular case. Hainlin v Budge, 47 So. 825 (Fla. 1908). What is a "reasonable time" to file a pleading cannot be fixed with precision by any general rule. Chabot v Winter Park Co., 15 So. 756 (Fla. 1894). What is a "reasonable time" required to clear title to property depends on the number and complexity of title clouds or defects, taking into account the particular title problems in evidence. Houston v Whiteworth, 444 So. 2d 1095 (Fla. 4DCA, 1984). In determining what constitutes a "reasonable delay" for an incarcerated defendant, the Court must consider all relevant circumstances. There is no bright-line rule; each case must be assessed on its own particular facts. U.S. v Noriega, 746 F. Supp. 1548, 1561 (S.D. Fla. 1990). Since the question of what is "reasonable time" for a Chapter 13 debtor to cure a default is not addressed by the Bankruptcy Code, the determination is left to the discretion of the court and is to be decided based on the facts and equities presented in each case. In re Hickson, Bkrtcy. Fla., 52 B.R. 11, 13 (S.D. Fla. 1991). "Reasonable diligence" on the part of a debtor to uncover the identities and claims of unknown creditors will vary from

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context to context, and may depend on the nature of the property interest held by the debtor. In re Charter Co., 125 B.R. 650, 655 (M.D. Fla. 1985). The word "reasonable" is a generic term, elastic in its nature; it connotes action according to dictates of reason. Ouellet v Shapiro, 212 A.2d 708, (Conn.App. 1965). The question of "reasonable use" should be submitted to the jury. Florida Power Co. v Cason, 84 So. 921 (Fla. 1920).

It is likewise apparent that the term "reasonably achievable" does not lend itself to strict definition, but rather entails the exercise of discretion by the Commission. "Reasonably achievable" goals would not include goals that are impossible to achieve; nor would overall goals requiring no effort to achieve be considered "reasonably achievable" There is a broad range of discretion between these extremes. The term "reasonably achievable" allows us to exercise broad discretion in setting goals appropriate to carry out the intent of FEECA.

We believe the goals we have set in this docket are "reasonably achievable". We expect Florida's investor-owned utilities to meet or exceed these goals.

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XII. COMPARISON OF GOALS FOR THE YEAR 2003

COMPARISON OF RESIDENTIAL GOALS IN 2003								
UTILITY PROPOSED RIM GOALS DISCOUNTED FOR FREE RIDERS								
	FPL		FPC		TECO		GULF	
	MW/GWH	% OF SYS	MW/GWH	% OF SYS	MW/GWH	% OF SYS	MW/GWH	% OF SYS
Summer	631	3.7	174	1.8	76	2.4	88	3.7
Winter	542	3.1	444	4.8	267	7.5	96	4.6
GWH	684	0.7	136	0.3	128	0.7	38	0.4
COMMISSION APPROVED 100% RIM GOALS								
	FPL		FPC		TECO		GULF	
	MW/GWH	% OF SYS	MW/GWH	% OF SYS	MW/GWH	% OF SYS	MW/GWH	% OF SYS
Summer	895	5.2	209	2.6	93	2.9	126	5.3
Winter	765	4.4	483	5.2	292	8.2	137	6.6
GWH	1,030	1.0	184	0.4	172	0.9	54	0.5
UTILITY CALCULATED GOALS BASED ON TRC								
	FPL		FPC		TECO		GULF	
	MW/GWH	% OF SYS	MW/GWH	% OF SYS	MW/GWH	% OF SYS	MW/GWH	% OF SYS
Summer	770	4.5	319	4.0	106	3.4	139	5.9
Winter	629	3.6	743	8.0	309	8.7	143	6.8
GWH	6,319	6.4	1323	3.1	490	2.7	87	0.8
SRC "BEST PRACTICES" GOALS								
	FPL		FPC		TECO		GULF	
	MW/GWH	% OF SYS	MW/GWH	% OF SYS	MW/GWH	% OF SYS	MW/GWH	% OF SYS

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Summer	2,084	12.2	65	0.8	193	6.1	54	2.3
Winter	836	4.8	93	1.0	72	2.1	25	1.2
GWH	4,873	4.9	449	1.0	373	2.1	212	2.0

Note: 1 GWH = 1,000,000 KWH

1 MW = 1,000 KW

Building code effects excluded from above.

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COMPARISON OF COMMERCIAL/INDUSTRIAL GOALS IN 2003									
UTILITY PROPOSED RIM GOALS DISCOUNTED FOR FREE RIDERS									
	FPL		FPC		TECO		GULF		
	MW/GWH	% OF SYS	MW/GWH	% OF SYS	MW/GWH	% OF SYS	MW/GWH	% OF SYS	
Summer	420	2.5	68	0.8	18	0.6	15	0.6	
Winter	179	1.0	54	0.6	6	0.2	8	0.4	
GWH	562	0.6	239	0.6	79	0.4	6	0.06	
COMMISSION APPROVED 100% RIM GOALS									
	FPL		FPC		TECO		GULF		
	MW/GWH	% OF SYS	MW/GWH	% OF SYS	MW/GWH	% OF SYS	MW/GWH	% OF SYS	
Summer	622	2.6	84	1.1	59	1.9	22	0.9	
Winter	245	1.4	64	0.7	21	0.6	11	0.5	
GWH	832	0.8	336	0.8	267	1.4	8	0.08	
UTILITY CALCULATED GOALS BASED ON TRC									
	FPL		FPC		TECO		GULF		
	MW/GWH	% OF SYS	MW/GWH	% OF SYS	MW/GWH	% OF SYS	MW/GWH	% OF SYS	
Summer	853	5.0	347	4.4	97	3.1	76	3.2	
Winter	254	1.4	250	2.7	31	0.9	53	2.5	
GWH	1,339	1.4	671	1.6	436	2.4	128	1.2	
SRC "BEST PRACTICES" GOALS									
	FPL		FPC		TECO		GULF		
	MW/GWH	% OF SYS	MW/GWH	% OF	MW/GWH	% OF	MW/GWH	% OF	

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				SYS		SYS		SYS
Summer	1,059	6.2	178	2.2	181	5.7	77	3.2
Winter	232	1.3	60	0.6	43	1.2	25	1.2
GWH	3,081	3.1	732	1.7	523	2.8	255	2.4

Note: 1 GWH = 1,000,000 KWH
 1 MW = 1,000 KW
 Building code effects excluded from above.

Based on the foregoing, it is,

ORDERED by the Florida Public Service Commission that the annual conservation goals for Florida Power and Light Company, Florida Power Corporation, Tampa Electric Company and Gulf Power Company shall be as set forth in the FPSC column of the utility-specific tables within the body of this order. Each utility is expected to achieve or exceed its conservation goals on an annual basis. It is further

ORDERED that residential conservation goals for Florida Power and Light Company shall be 765 MW Winter, 895 MW Summer, and 1,030 GWH, for the ten year period 1994 through 2003. Residential conservation goals for each year within the ten year period shall be as set forth in the table within the body of this order. It is further

ORDERED that commercial/industrial conservation goals for Florida Power and Light Company shall be 245 MW Winter, 622 MW Summer, and 832 GWH for the ten year period 1994 through 2003. Commercial/industrial conservation goals for each year within the ten year period shall be as set forth in the table within the body of this order. It is further

ORDERED that residential conservation goals for Florida Power Corporation shall be 483 MW Winter, 209 MW Summer, and 184 GWH, for the ten year period 1994 through 2003. Residential conservation goals for each year within the ten year period shall be as set forth in the table within the body of this order. It is further

ORDERED that commercial/industrial conservation goals for Florida Power Corporation shall be 64 MW Winter, 84 MW Summer, and

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336 GWH for the ten year period 1994 through 2003. Commercial/industrial conservation goals for each year within the ten year period shall be as set forth in the table within the body of this order. It is further

ORDERED that residential conservation goals for Tampa Electric Company shall be 292 MW Winter, 93 MW Summer, and 172 GWH, for the ten year period 1994 through 2003. Residential conservation goals for each year within the ten year period shall be as set forth in the table within the body of this order. It is further

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ORDERED that commercial/industrial conservation goals for Tampa Electric Company shall be 21 MW Winter, 59 MW Summer, and 267 GWH for the ten year period 1994 through 2003. Commercial/industrial conservation goals for each year within the ten year period shall be as set forth in the table within the body of this order. It is further

ORDERED that residential conservation goals for Gulf Power Company shall be 137 MW Winter, 126 MW Summer, and 283 GWH, for the ten year period 1994 through 2003. Residential conservation goals for each year within the ten year period shall be as set forth in the table within the body of this order. It is further

ORDERED that commercial/industrial conservation goals for Gulf Power Company shall be 11 MW Winter, 22 MW Summer, and 18 GWH for the ten year period 1994 through 2003. Commercial/industrial conservation goals for each year within the ten year period shall be as set forth in the table within the body of this order. It is further

ORDERED that Florida Power and Light Company, Florida Power Corporation, Tampa Electric Company and Gulf Power Company shall achieve or surpass the annual conservation goals set forth in this order. Any utility that does not achieve its annual conservation goals shall be subject to penalty. It is further

ORDERED that upon petition from a utility, lost revenue recovery and stockholder incentives shall be considered by the Commission on a case-by-case basis for measures such as solar water heating, photovoltaics, high efficiency on-site cogeneration, renewable resources, end-use natural gas, and commercial lighting, that pass the total resource cost test and result in large savings and small rate impacts. It is further

ORDERED that Florida Power and Light Company, Florida Power Corporation, Tampa Electric Company, and Gulf Power Company shall consider the development of alternate funding sources, such as voluntary "green pricing", to promote the installation of solar water heating and other renewable measures, and submit alternate funding proposals to the Commission during the program development and submittal stage of the conservation goals process. It is further

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ORDERED that Florida Power and Light Company, Florida Power Corporation, Tampa Electric Company and Gulf Power Company shall conduct natural gas research and demonstration projects in the functional areas of heating, cooling, dehumidification, and water heating, and shall submit project plans for Commission approval within six months of the issuance of this order. It is further

ORDERED that Florida Power and Light Company, Florida Power Corporation, Tampa Electric Company and Gulf Power Company shall study and report to the Commission on the level of benefits available to low income ratepayers under the utility's DSM portfolio and outlining the efforts the utility will take to facilitate participation of low income ratepayers in utility conservation programs. This report shall be filed with each utility's DSM plan during the program development and submittal stage of the conservation goals process. It is further

ORDERED that a task force shall be created, consisting of staff of the Florida Public Service Commission and staff of the Florida Department of Community Affairs, to evaluate the cost-effectiveness of the building code, possible revisions to the building code, evaluation of code compliance methodologies and the possibility of legislation to promote and encourage energy-efficient building procedures. It is further

ORDERED that Florida Power and Light Company, Florida Power Corporation, Tampa Electric Company and Gulf Power Company shall conduct themselves in accordance with any and all requirements set forth in the body of this order. It is further

ORDERED that these dockets shall be closed.

By ORDER of the Florida Public Service Commission, this 25th day of October, 1994.

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BLANCA S. BAYÓ, Director
Division of Records and Reporting

(S E A L)

MAP

NOTICE OF FURTHER PROCEEDINGS OR JUDICIAL REVIEW

The Florida Public Service Commission is required by Section 120.59(4), Florida Statutes, to notify parties of any administrative hearing or judicial review of Commission orders that is available under Sections 120.57 or 120.68, Florida Statutes, as well as the procedures and time limits that apply. This notice should not be construed to mean all requests for an administrative hearing or judicial review will be granted or result in the relief sought.

Any party adversely affected by the Commission's final action in this matter may request: 1) reconsideration of the decision by filing a motion for reconsideration with the Director, Division of Records and Reporting within fifteen (15) days of the issuance of this order in the form prescribed by Rule 25-22.060, Florida Administrative Code; or 2) judicial review by the Florida Supreme Court in the case of an electric, gas or telephone utility or the First District Court of Appeal in the case of a water or sewer utility by filing a notice of appeal with the Director, Division of Records and Reporting and filing a copy of the notice of appeal and the filing fee with the appropriate court. This filing must be completed within thirty (30) days after the issuance of this order, pursuant to Rule 9.110, Florida Rules of Civil Procedure. The notice of appeal must be in the form specified in Rule 9.900 (a), Florida Rules of Appellate Procedure.