

1 **BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION**

2 **FLORIDA POWER & LIGHT COMPANY**

3 **DIRECT TESTIMONY OF J. TERRY DEASON**

4 **DOCKET NO. 130199-EI**

5 **APRIL 2, 2014**

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

8 A. My name is Terry Deason. My business address is 301 S. Bronough Street, Suite
9 200, Tallahassee, FL 32301.

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

11 A. I am a Special Consultant for the Radey Law Firm, specializing in the fields of
12 energy, telecommunications, water and wastewater, and public utilities generally.

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

14 A. I have thirty-seven years of experience in the field of public utility regulation
15 spanning a wide range of responsibilities and roles. I served a total of seven years
16 as a consumer advocate in the Florida Office of Public Counsel (OPC) on two
17 separate occasions. In that role, I testified as an expert witness in numerous rate
18 proceedings before the Florida Public Service Commission (Commission). My
19 tenure of service at OPC was interrupted by six years as Chief Advisor to Florida
20 Public Service Commissioner Gerald L. Gunter. I left OPC as its Chief Regulatory
21 Analyst when I was first appointed to the Commission in 1991. I served as
22 Commissioner on the Commission for sixteen years, serving as its Chairman on two
23 separate occasions. Since retiring from the Commission at the end of 2006, I have
24 been providing consulting services and expert testimony on behalf of various
25 clients. These clients have included public service commission advocacy staff and

1 regulated utility companies, before commissions in Arkansas, Florida, Montana,
2 New York and North Dakota. I have also testified before various legislative
3 committees on regulatory policy matters. I hold a Bachelor of Science Degree in
4 Accounting, summa cum laude, and a Master of Accounting, both from Florida
5 State University.

6 **Q. For whom are you appearing as a witness?**

7 A. I am appearing as a witness for Florida Power & Light Company (FPL or the
8 Company).

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

10 A. The purpose of my testimony is to discuss the history and rationale used by the
11 Commission in implementing the Florida Energy Efficiency and Conservation Act
12 (FEECA) and to provide my perspective on certain policy issues in the current
13 goals-setting docket.

14 **Q. Are you sponsoring any exhibits?**

15 A: Yes. I am sponsoring Exhibit JTD-1, which is my curriculum vitae I am also
16 sponsoring Exhibit JTD-2, which analyzes the economics for participating
17 customers of DSM measures that pass a two-year payback criterion but would fail a
18 three-year criterion. Both exhibits were prepared under my direction and control,
19 and the information contained therein is true and correct to the best of my
20 knowledge and belief.

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

22 A. The Commission has a long and consistent history of implementing FEECA in a
23 manner that works to minimize rate impacts on all customers, does not ask
24 customers to pay incentives to “free rider” participants, and does not ask customers
25 to pay for more Demand Side Management (DSM) than can be used beneficially

1 within each respective utility's recent resource planning process. It has relied
2 primarily on the Rate Impact Measure (RIM) test in order to help ensure these
3 results. This approach has served FPL's customers well for decades -- FPL has
4 achieved significant cumulative DSM savings while keeping customer electric rates
5 low.

6
7 In 2009, the Commission tested another approach: it used the Total Resource Cost
8 (TRC) test to set FPL's goals; it set goals that were "unconstrained" by FPL's
9 recent planning process; and it further increased FPL's goals by including measures
10 that customers could be expected to adopt on their own. When the electric rate
11 impact to customer cost from this approach was recognized in the course of
12 reviewing FPL's DSM Plan for implementation of the goals, however, the
13 Commission ultimately decided the impact was too great. Rather than continuing
14 down the path set by the 2009 DSM goals docket, the Commission required FPL to
15 implement DSM programs that had been determined to be cost-effective under the
16 RIM test in a previous DSM proceeding.

17
18 The 2009 DSM experience supports the return to prior FEECA practices and policy
19 considerations. FPL's proposed DSM goals minimize rate impacts to its customers
20 and avoid cross subsidies between non-participants and participants because they
21 are based on measures that passed the RIM economic screening test and reflect
22 FPL's resource planning process. Additionally, in compliance with the DSM goals
23 Rule, FPL's proposed DSM goals account for free riders by applying a two-year
24 payback criterion. In my opinion, the DSM goals proposed by FPL should be
25 approved by the Commission.

1 While FPL's DSM goals are lower than previous years' goals, there is nothing
2 wrong or inappropriate about this. FEECA goals are not required – nor should they
3 be expected – to increase year over year. The Goals are not an end in and of
4 themselves. FEECA goals are a means to the end of meeting the Commission's
5 overall responsibility to have customers served reliably and cost-effectively. Their
6 absolute level will and should change as considerations of cost-effectiveness,
7 technology, and other economic factors change with time. The end objective is
8 certainly not to have ever increasing conservation goal levels without regard to cost
9 and electric rates. Rather, the objective is to have appropriate goals, regardless of
10 their absolute value.

11
12 **I. HISTORY OF THE COMMISSION'S IMPLEMENTATION OF FEECA**

13
14 **Q. When was FEECA first enacted in Florida and what was its purpose?**

15 A. FEECA was enacted in 1980, primarily in response to concerns over the availability
16 and pricing of crude oil. The purpose of FEECA was to increase the overall
17 efficiency and cost effectiveness of electrical production and use. In the early years
18 after its enactment, there was a particular emphasis on reducing the growth rate of
19 weather-sensitive peak demands and conserving expensive resources, particularly
20 petroleum fuels. FEECA and the Commission's implementation of it laid the
21 foundation for Florida being on the leading edge of energy conservation and set in
22 motion a supportive regulatory environment where cost-effective conservation that
23 benefits all utility customers is pursued.

1 **Q. What were the principles used by the Commission that resulted in a supportive**
2 **regulatory environment and the successful implementation of FEECA?**

3 A. There are many principles that were adopted and adhered to by the Commission as
4 it implemented FEECA. First, the Commission recognized that FEECA and the
5 goals established pursuant to FEECA were not an end result unto themselves, but
6 rather were part of a larger regulatory scheme in Florida. Hence, the Commission
7 implemented FEECA in a manner consistent with and complimentary to the other
8 regulatory requirements in Chapter 366, Florida Statutes. Second, the Commission
9 and consequently the utilities subject to FEECA embraced the principle of
10 conserving resources for the benefit of all utility customers, both participants and
11 non-participants in FEECA programs. This was consistent with the Commission's
12 overall responsibility to regulate utilities in the public interest and was consistent
13 with the regulated utilities' desire to provide quality service in a cost-effective
14 manner. Third, the Commission utilized a "three legs of the stool" approach,
15 wherein conservation measures should be: cost-effective, measurable, and
16 contribute to the attainment of conservation goals. Fourth, the Commission
17 recognized that for conservation measures to be truly effective and in the public
18 interest, the measures needed to compete on an even playing field with supply side
19 alternatives. Hence, the Commission implemented a policy of having DSM
20 evaluated against the costs and attributes of the most cost-effective supply side
21 alternative available, with all of the cost impacts that affect electric rates reflected
22 in the evaluation of both DSM and supply-side alternatives. And fifth, the
23 Commission recognized that the benefits of DSM came with costs and that those
24 costs should be recognized for cost recovery. Hence, the Commission implemented
25 and effectively administered the Energy Conservation Cost Recovery Clause

1 (ECCR).

2 **Q. Did the Commission adopt rules to implement FEECA?**

3 A. Yes, the Commission adopted a number of rules to implement FEECA. The early
4 rules laid the foundation and addressed a number of specific topics such as energy
5 audits, conservation end use data, cost effectiveness data reporting, and the ECCR.
6 However, it was not until 1993 that the Commission adopted a rule addressing the
7 establishment of utility-specific numerical conservation goals for the utilities
8 subject to FEECA, which is the subject of this proceeding. The rule to which I refer
9 is Rule 25-17.0021, F.A.C. Some twenty-one years after its adoption, it remains in
10 place and is the foundation upon which numeric conservation goals have been
11 established in Florida. At the time the Commission was considering the adoption of
12 Rule 25-17.0021, it was described as being a critical “crossroads” in Florida’s
13 continued implementation of FEECA.

14 **Q. What was meant by referring to this time as a critical “crossroads”?**

15 A. The early 1990s was a critical time in the evolution of energy conservation in the
16 nation generally and Florida was squarely at the forefront in the debate. In addition,
17 the Florida Legislature conducted a sunset review of FEECA during the 1989
18 regular session. The major changes made to FEECA were the addition of language
19 to encourage cogeneration and a provision limiting FEECA’s application to only
20 those electric utilities with annual retail sales in excess of 500 gigawatt-hours
21 (GWh). Subsequently, the Commission directed staff to develop a rule to provide
22 for utility- specific numerical goals. The staff conducted a workshop on June 24,
23 1992, followed by a three-day rulemaking hearing which concluded in January,
24 1993. I was a Commissioner at the time and actively involved in this rulemaking
25 proceeding.

1 **Q. Was the setting of utility-specific conservation goals the only matter that was**
2 **the subject of the hearing?**

3 A. No. The hearing on the rule also addressed placing equal emphasis on reducing
4 energy consumption and the cost-effective reduction of weather-sensitive peak
5 demand. This was a material change from the emphasis of the earlier rules, which
6 had focused on the reduction of peak demand. The new emphasis on reducing
7 energy consumption had the potential to significantly reduce revenues and thus
8 highlighted the critical need for more clarity in the use of cost-effectiveness tests in
9 order to address the lost revenues.

10 **Q. Did the issue of which cost-effectiveness tests to use receive attention at the**
11 **rule hearings?**

12 A. Yes. The question of which cost-effectiveness test(s) should be used was front and
13 center during the rule hearings. The Legal Environmental Assistance Foundation
14 (LEAF) intervened and stridently advocated for the exclusive use of the TRC test.
15 LEAF was very clear in its advocacy of TRC that more measures would be found to
16 be cost-effective and that higher goals would be the result. In its advocacy for
17 TRC, LEAF denounced the use of the RIM test, claiming it eliminated programs
18 that should be implemented thus resulting in goals that were set too low. The
19 utilities subject to FEECA took the opposite position and maintained that RIM was
20 the appropriate test because unlike the TRC test it considered lost revenue and all of
21 the program costs that ultimately are recovered from customers, thus ensuring that
22 non-participating customers would not have to pay higher rates due to the
23 conservation goals.

24 **Q. What did the Commission do?**

25 A. The Commission adopted Rule 25-17.0021 without declaring one cost-effectiveness

1 test to be superior to another. The Commission was aware of the mechanics and
2 attributes of the various tests and decided to require the filing of cost-effectiveness
3 data based on three tests: TRC, RIM, and the Participant Test. This essentially
4 teed-up the issue for even greater scrutiny in the first round of goal-setting dockets
5 pursuant to Rule 25-17.0021.

6 **Q. Were there other notable matters addressed by the Commission in its adoption**
7 **of Rule 25-17.0021?**

8 A. Yes, there were at least three notable areas. First, there was a concern for the
9 accuracy of conservation projections (regardless of the cost-effectiveness test used)
10 and how to ensure efficiency in actually achieving the projected savings attributable
11 to the specific programs proposed by utilities. This led to inclusion in the Rule of
12 the following provision: “Each utility’s projection shall reflect consideration of
13 over-lapping measures, rebound effects, free riders, interactions with building codes
14 and appliance efficiency standards, and the utility’s latest monitoring and
15 evaluation of conservation programs and measures.”

16
17 Second, there was a concern that the amount of conservation should be consistent
18 with the real world resource needs of the utility in question. This led to the
19 inclusion in the Rule of the following provision: “In a proceeding to establish or
20 modify goals, each utility shall propose numerical goals for the ten year period and
21 provide ten year projections, based upon the utility’s most recent planning
22 process...” This language was included to ensure that the amount of cost-effective
23 DSM being proposed was actually needed consistent with each utility’s planning
24 process. In other words, the Commission wanted to be sure that the utilities’
25 customers were not asked to pay for more DSM than could be productively

1 deployed on each utility's system. This had the added benefit of providing
2 consistency with the amount of cost-effective DSM that is available to evaluate
3 supply-side alternatives in need determination proceedings. And third, in crafting
4 Rule 25-17.0021, the Commission was cognizant of the need for consistency
5 between its authority to set just and reasonable rates and its responsibility to
6 implement FEECA in a cost-effective manner. This consistency was attained by
7 approving DSM goals and measures that decreased customer rates or held them no
8 higher than they would be had the most cost-effective supply-side resource been
9 pursued instead of the DSM.

10 **Q. What was the next round of goal-setting dockets to which you refer?**

11 A. Docket Nos. 930548-EG through 930551-EG were opened to implement Rules 25-
12 17.001-.005, F.A.C., and to set utility-specific DSM goals for the utilities subject to
13 FEECA. These dockets, which I will refer to collectively as the "Mega Docket,"
14 also considered the implementation of standards set forth in federal legislation: the
15 Public Utility Regulatory Policies Act of 1978, commonly referred to as PURPA,
16 and the Energy Policy Act of 1992, commonly referred to as EPACT. The Mega
17 Docket is the seminal case implementing the framework established by Rule 25-
18 17.0021. The decisions made in the Mega Docket established goal-setting policy in
19 Florida that would be consistently applied for at least the next fifteen years. As with
20 the rulemaking proceeding for Rule 25-17.0021, I actively participated in the Mega
21 Docket as a Commissioner.

22 **Q. Please describe the nature and scope of the hearing in the Mega Docket.**

23 A. Simply put, it was a case of massive proportions. It had twenty separate intervenors
24 and, in addition to regulated utilities, included parties such as LEAF, Florida
25 Department of Community Affairs, United States Department of Energy, Florida

1 Client Council, Competitive Energy Producers Association, Florida Solar Energy
2 Industry Association, and the Center for Energy and Economic Development. The
3 hearings went on for 17 long and contentious days that spanned almost the entire
4 month of June 1994 and continued for one day into July 1994. The Commission
5 heard testimony from some sixty direct and rebuttal witnesses who were subjected
6 to extensive cross examination. From this large expenditure of time and resources
7 on the part of the utilities, intervenors, and the Commission, some very specific and
8 important policies emerged.

9 **Q. Did the Commission finally resolve the issue of the appropriate cost-**
10 **effectiveness test to use to set goals?**

11 A. Yes. While acknowledging that useful information is derived from all three of the
12 cost-effectiveness tests (TRC, RIM and Participant), the Commission determined
13 that goals should be based upon those measures that pass the Participant and RIM
14 tests. The Commission rejected the use of TRC as a primary test.

15 **Q. Why did the Commission reach this conclusion?**

16 A. As I stated previously, the Commission felt it was important to always implement
17 FEECA consistent with its overarching responsibility to regulate in the public
18 interest and with other provisions in Chapter 366. This is the primary reason that
19 the Commission chose to rely primarily on the Participant test and the RIM test (as
20 opposed to the TRC test).

21 **Q. Please explain why the Commission felt it was important to focus on the RIM**
22 **rather than the TRC test.**

23 A. The RIM test accounts both for the cost of incentives paid to program participants
24 and the upward pressure on rates from lost revenues. Incentives paid to program
25 participants are a cost of administering the program and are passed on to the general

1 body of customers through the ECCR. Lost revenues reduce contributions toward
2 covering fixed costs and therefore can also have significant adverse impacts on a
3 regulated utility's ability to earn a reasonable return, which in turn puts upward
4 pressure on rates for the general body of customers. Both of these extremely
5 important considerations/ramifications are ignored by the TRC test. The
6 Commission also recognized that the use of TRC could result in cross subsidies
7 between customers and could disproportionately impact low-income customers. In
8 its Order No. PSC-94-1313-FOF-EG, the Commission stated:

9 We will set overall conservation goals for each utility based on
10 measures that pass both the Participant and RIM tests... We find
11 that goals based on measures that pass TRC but not RIM would
12 result in increased rates and would cause customers who do not
13 participate in a utility DSM measure to subsidize customers who
14 do participate.

15 ***

16 All customers, including low-income customers, should benefit
17 from RIM-based DSM programs. This is because RIM-based
18 programs ensure that both participating and non-participating
19 customers benefit from utility-sponsored conservation programs.
20 Additional generating capacity is deferred and the rates paid by
21 low-income customers are less than they otherwise would be.

22 **Q. Did the Commission foreclose consideration of the TRC test?**

23 A. No. The Commission encouraged utilities to evaluate the implementation of TRC
24 passing measures "when it is found that the savings are large and the rate impacts
25 are small." However, the Commission reiterated that the overall goals would still

1 be based upon RIM-passing measures to help insure that non-participating
2 customers do not have to subsidize the participants. The Commission further
3 acknowledged that a means for lost revenue recovery may be necessary and would
4 be evaluated on a case-by-case basis for measures that passed TRC but not RIM.

5 **Q. Was there a motion for reconsideration of Order No. PSC-94-1313-FOF-EG?**

6 A. Yes, LEAF filed for reconsideration of a number of issues and the motion was
7 joined by the Department of Community Affairs.

8 **Q. Was the issue of the appropriate cost-effectiveness test raised by LEAF on**
9 **reconsideration?**

10 A. Yes, LEAF argued that the Commission made an error in adopting the RIM test and
11 rejecting the TRC test. In its Order No. PSC-95-0075-FOF-EG, the Commission
12 denied LEAF's motion and reaffirmed its use of the RIM test stating:

13 LEAF's argument that Rule 25-17.001(7), Florida Administrative
14 Code, uses the term "cost" in a fashion that mandates the use of the
15 TRC test to the exclusion of the Participant and RIM tests in
16 setting goals is at odds with the flexibility given under FEECA and
17 preserved in our conservation goals and conservation cost-
18 effectiveness rules. LEAF construes the term "cost" as meaning
19 "bills" when the more plausible contextual interpretation is that
20 "cost" means "rates". There has been no Commission failure to
21 consider bill impact. We have chosen to keep rates lower for all
22 customers, lowering bills for non-participants and participants.

23 **Q. Did LEAF appeal the Commission's decision to the Florida Supreme Court?**

24 A. Yes, LEAF raised three issues with the Court. LEAF raised a procedural due
25 process issue, an issue with the Commission's use of a pass/fail goal policy, and the

1 amount of savings attributable to different cost-effectiveness tests. The Court
2 rejected all three arguments and reaffirmed the manner in which the Commission
3 used its discretion to set conservation goals. In relation to the cost-effectiveness
4 question, the Court stated:

5 In instructing the Commission to set conservation goals for
6 increasing energy efficiency and conservation, the legislature
7 directed the Commission to not approve any rate or rate structure
8 which discriminates against any class of customers. See § 366.81,
9 Fla. Stat. (1993). The Commission was therefore compelled to
10 determine the overall effect on rates, generation expansion, and
11 revenue requirements. Based on our review of the record, we find
12 ample support for the Commission's determination to set
13 conservation goals using RIM measures. Accordingly, we affirm
14 the orders of the Commission.

15 Legal Environmental Assistance Foundation Inc. v. Clark, 668 So.2d 982 (Fla.
16 1996).

17 **Q. Were there any other significant policy determinations in the Mega Docket?**

18 A. Yes, there is a notable one dealing with the question of free riders.

19 **Q. What is the meaning and significance of the term free riders?**

20 A. The term free riders refers to the fact that many cost-effective conservation
21 measures will be undertaken on a customer's own volition, without the need for
22 promotion or incentive provided by the customer's utility company. It simply
23 recognizes that rational customers will act in their own economic interest and take
24 measures to reduce energy consumption, if it is sufficiently attractive economically
25 for them to do so. It is an example of a free market economy working as it should –

1 rational economic decisions being made in one's best interest without government
2 intervention through mandates or provision of incentives. A good example would
3 be a customer deciding to install more efficient lighting or a blanket on their hot
4 water heater. They make the economic decision to invest in such measures because
5 it quickly benefits them economically. However, if such a customer also receives a
6 utility incentive, that customer becomes a free rider.

7 **Q. How is this relevant to the setting of conservation goals?**

8 A. There are two important reasons why free ridership is relevant. First, Rule 25-
9 17.0021, F.A.C., requires it to be considered. Second, and more fundamentally, its
10 recognition is necessary for setting appropriate goals and making the most efficient
11 use of resources to achieve those goals. It would be paradoxical to achieve
12 efficiency goals in an inefficient manner.

13 **Q. What do you mean by achieving goals in an inefficient manner?**

14 A. The achievement of FEECA goals comes at a cost, a cost which is partially passed
15 through to the general body of customers through the ECCR and which also
16 manifests itself in upward pressure on electric rates due to lost revenues. It is in the
17 public interest to achieve goals in the most efficient manner. This results in a lesser
18 burden on the general body of customers. If costs are incurred to incentivize
19 customers to take action that they would have otherwise taken in their own
20 economic interest, rates for the general body of customers will be higher than they
21 need to be to achieve the same level of conservation. It should be emphasized that
22 the ultimate goal is to achieve the maximum amount of cost-effective conservation
23 by the most efficient means. The objective is not to set conservation goals higher
24 than they should be simply for the sake of having higher goals. A proper
25 recognition of free riders is necessary to achieve the appropriate goals.

1 **Q. How did the Commission deal with free riders in the Mega Docket?**

2 A. The question of free riders did not receive the same level of attention as did the
3 overriding policy question of cost-effectiveness tests. However, free ridership was
4 important and was evaluated in the context of each utility's numerical goals.

5 **Q. What did the Commission decide and why?**

6 A. Two investor-owned utilities proposed a blanket percentage reduction to their goals
7 to account for free riders. The Commission rejected the blanket approach as being
8 arbitrary and unsupported by competent and substantial evidence and noted that
9 different demand-side measures have different free rider impacts. FPL took a
10 different approach and proposed a two-year payback criterion to screen specific
11 DSM measures. FPL's approach was premised on the expectation that customers
12 will take action on their own volition when paybacks for those actions are two years
13 or less. The Commission did not take exception to FPL's approach to account for
14 free riders. The most important take away from these decisions is that free ridership
15 is a phenomenon which must be recognized and evaluated as part of specific DSM
16 measures. A further take away is that free ridership is best evaluated in terms of
17 payback periods as opposed to overall blanket percentage adjustments.

18 **Q. Did the Commission have the opportunity to affirm its policy position on the
19 use of the RIM cost-effectiveness test following the Mega Docket and the
20 Supreme Court's decision?**

21 A. Yes. In the next round of conservation goal-setting dockets, Docket Nos. 971004-
22 EG through 971007-EG, LEAF once again raised the "RIM v. TRC" issue. LEAF
23 asserted that a RIM-only screen is improper and that Commission policy is to
24 require TRC portfolios. The Commission rejected LEAF's attempt to reargue the
25 same matters that had been considered and rejected by the Commission in the Mega

1 Docket decision affirmed by the Florida Supreme Court. Order No. PSC-98-1435-
2 PCO-EG stated that:

3 It is not our policy to require TRC portfolios on the broad range of
4 measures suggested by LEAF... In sum, LEAF's argument that we
5 have a policy of requiring TRC portfolios in these goals dockets is
6 incorrect and merely attempts to reargue matters which are stare
7 decisis.

8 **Q. Have there been any other cases in which the Commission has used the RIM**
9 **cost-effectiveness test?**

10 A. Yes, all subsequent goal-setting cases consistently used the RIM cost-effectiveness
11 test, with the exception of the most recent round of cases, Docket Nos. 080407-EG
12 through 080413-EG. In addition, the Commission has consistently used RIM-based
13 DSM plans to evaluate the need for new supply-side resources in numerous need
14 determination cases.

15 **Q. In the Mega Docket, did the Commission address the cost standard by which**
16 **DSM measures were to be evaluated and numeric goals established?**

17 A. Yes, consistent with Rule 25-17.0021, the Commission used the avoided cost
18 standard to evaluate the benefits attributable to DSM measures. In its Order No.
19 PSC-94-1313-FOF-EG, the Commission stated:

20 "Avoided Cost" for use in evaluation of DSM measures and the
21 establishment of numeric conservation goals is that cost which the
22 utility could reasonably expect to incur in the form of some other
23 supply-side resource in the absence of DSM conservation
24 measures.

25 (Emphasis added). The Commission recognized and reiterated the critical link

1 between the setting of goals and the real world planning of supply-side resources.
2 The goal is to achieve the most cost-effective combination of both DSM and
3 supply-side resources.
4

5 **II. 2008 AMENDMENTS TO FEECA**

6

7 **Q. Have there been any changes to statute or rule pertinent to conservation goal-**
8 **setting in Florida since the Mega Docket?**

9 A. Yes, Sections 366.81 and 366.82, F.S., were amended in 2008. However, there
10 have been no changes to Rule 25-17.0021 since its adoption in 1993 just prior to the
11 Mega Docket.

12 **Q. How would you characterize the changes made to Sections 366.81 and 366.82,**
13 **F.S., in 2008?**

14 A. There were no major changes to the overall scope, purpose, or approach to goal-
15 setting in Florida. The amendments simply added some refinements and
16 clarifications. One notable clarification was that the costs of complying with
17 greenhouse gas regulations are to be considered in setting goals. Other notable
18 clarifications provided that the Commission may change goals for reasonable cause
19 and that the Commission shall have the flexibility to modify or deny plans or
20 programs that would have an undue impact on customer rates. Finally, it clarified
21 how the Commission may authorize financial rewards for those utilities over which
22 it has rate setting authority when they exceed their conservation goals. The only
23 new area dealt with demand side renewable energy systems. It is notable that the
24 Legislature's fundamental finding that it is critical to utilize the most efficient and
25 cost-effective conservation systems did not change. Neither did the Legislature's

1 charge to avoid any rate or rate structure which discriminates against any class of
2 customers.

3 **Q. Did any of these changes direct which cost-effectiveness test is to be used to set**
4 **goals?**

5 A. No. Just as Rule 25-17.0021 does not prescribe a specific cost-effectiveness test,
6 the Florida Statutes do not either. However, there was some clarifying language
7 added which gives some insight into the question. Section 366.82(3)(b) requires the
8 Commission to consider: “The costs and benefits to the general body of ratepayers
9 as a whole, including utility incentives and participant contributions.” While this is
10 new language, the concept is certainly not new. This is precisely what the
11 Commission has consistently considered in setting goals, at least since the Mega
12 Docket, until the recent departure from this approach in the 2009 DSM goal-setting
13 dockets. The Commission’s use of the RIM test (coupled with the Participant Test)
14 has been firmly rooted in its concern for the general body of customers. This is
15 evidenced by the fact that the RIM test is best suited to account for the cost of
16 incentives, to minimize rate impacts, and to avoid subsidies between participating
17 and nonparticipating customers. While the new statutory language certainly
18 reinforces the use of RIM coupled with the Participant Test, I do not believe that it
19 prescribes one cost-effectiveness test to the exclusion of another.

1 **III. 2009 FEECA GOALS AND PLANS DOCKETS**

2

3 **Q. You earlier stated that the RIM test had been consistently applied by the**
4 **Commission since the Mega Docket, with the exception of the last round of**
5 **goal-setting dockets. Please explain.**

6 A. In a break from the long-established policy of the Commission, the Commission in
7 2009 set goals based on the TRC test (as enhanced for consideration of emission
8 costs and referred to as E-TRC). Additionally, the 2009 goals as ordered by the
9 Commission did not reflect FPL’s resource planning process and were increased by
10 a partial rejection of the two-year pay back criterion. Consequently, the
11 Commission then rejected a plan filed by FPL to implement those 2009 goals as
12 having an undue adverse impact on the costs passed on to consumers. In its Order
13 No. PSC-11-0346-PAA-EG, the Commission stated that the plan filed by FPL was
14 “projected to meet the goals we previously established, but at a significant increase
15 in the rates paid by FPL customers.” (page 4). It went on to find that the plan filed
16 to meet the 2009 Goals would “have an undue impact on the costs passed on to
17 consumers” (pages 4-5). Out of concern over the cost impact, the Commission
18 instead approved the continued use of FPL’s current DSM programs that were the
19 result of the Commission’s 2004 goal-setting proceeding and some additional
20 programs proposed and approved in 2006. All the programs then in effect had
21 earlier been determined to be cost-effective under the RIM economic screening test.

22 **Q. Was the Commission’s decision rejecting FPL’s 2009 DSM plan a**
23 **reaffirmation of the use of RIM?**

24 A. Yes, that is the practical consequence of the Commission’s decision approving the
25 continued use of FPL’s 2004 conservation plan. It is clear that the adverse cost

1 impacts to customers resulting from the 2009 goals were unacceptable to the
2 Commission. This appears to have been a significant step toward acknowledging
3 the successful policies of the past. I should note that, in its Order No. PSC-11-
4 0590-FOF-EG denying a protest to Order No. PSC-11-0346-PAA-EG, the
5 Commission reiterated that the goals based on E-TRC were not being changed:

6 Based upon the hearing record, briefs in opposition, and oral
7 argument, we find that the plain language of Section 366.82(7),
8 F.S., specifically and unequivocally grants us authority to modify a
9 company's DSM plans "at any time it is in the public interest
10 consistent with this act" or when plans or programs "would have
11 an undue impact on the costs passed on to customers." Further, we
12 reiterate that we did not in any way change the DSM goals as set
13 by the goal-setting order, Order No. PSC-09-0855-FOF-EG.

14 (Emphasis added). This apparent inconsistency in the Commission's policy on goal-
15 setting and program approval left an area of potential confusion that emphasizes the
16 need for clarity in the Commission's DSM goal-setting policies in this proceeding.

17 **Q. Please explain why it is important for the Commission to bring clarity to its**
18 **DSM goal-setting policies in this proceeding.**

19 A. As I discussed earlier, in the early 1990s new legislation had passed, the
20 Commission had a rulemaking, and the Mega Docket was opened to set goals and to
21 chart a course on how FEECA was to be implemented. After much effort and due
22 consideration of all the issues, the Commission set a course that served the State
23 and its utility customers extremely well for the remainder of the 1990s and almost
24 the entire first decade of the new millennium. This period of time was marked by
25 consistency in the setting of goals and the approval of programs, as well as

1 consistency in the setting of goals and the planning of new cost-effective, supply-
2 side alternatives to maintain cost-effective service and system reliability. Now, as a
3 result of the decisions in the last round of conservation goal and plan approval
4 dockets, a degree of uncertainty has arisen that threatens the Commission's long-
5 standing commitment to set goals consistent with the larger regulatory scheme laid
6 out in Chapter 366, F.S.

7 **Q. Does it concern you that this consistency was lost in the last round of goal-**
8 **setting dockets?**

9 A. Yes. I am not here to criticize, but I do want to emphasize the importance of clarity
10 and consistency in the Commission's policy on a going forward basis. And
11 nowhere is this clarity and consistency needed more than in clearly specifying the
12 appropriate cost-effectiveness test to be used, the use of the utility's resource
13 planning process, and how to account for free riders.

14 **Q. Taken as a whole, do you believe that the Commission's 2009 DSM order is**
15 **consistent with continued reliance on the RIM test?**

16 A. Yes. There are several points made in Order No. PSC-09-0855-FOF-EG that
17 support the continued use of RIM:

- 18 • **The Commission has a responsibility to regulate utilities and**
19 **set conservation goals in the overall public interest:** "As
20 specified in Section 366.01, F.S., the regulation of public utilities
21 is declared to be in the public interest. Chapter 366 is to be
22 liberally construed for the protection of the public welfare. Several
23 sections within the Chapter, specifically Sections 366.03, 366.041,
24 and 366.05, F.S., refer to the powers of the Commission and
25 setting rates that are fair, just, and reasonable. The 2008 legislative

- 1 changes to FEECA did not change our responsibility to set such
2 rates.” (page 25)
- 3 • **The statute does not prescribe a cost-effectiveness test:** “We
4 would note that the language added in 2008 did not explicitly
5 identify a particular test that must be used to set goals.” (page 15)
 - 6 • **The statute requires rate impacts to be considered:** “The 2008
7 legislative changes to FEECA did not diminish the importance of
8 rate impact when establishing goals for the utilities.” (page 26)
 - 9 • **The RIM test should be part of the evaluation of rate impacts:**
10 “By having RIM and TRC results, we can evaluate the most cost-
11 effective way to balance the goals of deferring capacity and
12 capturing energy savings while minimizing rate impacts to all
13 customers.” (page 15)
 - 14 • **There are two different components of rate impact:** “When
15 setting conservation goals there are two basic components to a rate
16 impact: Energy Conservation Cost Recovery and base rates.” (page
17 25)
 - 18 • **Rate impacts are affected by the cost of incentives that are
19 passed through to the general body of customers:** “Utility
20 offered incentives are recovered through the Energy Conservation
21 Cost Recovery clause and are a cost borne by all ratepayers.” (page
22 14)
 - 23 • **The RIM test considers the cost of incentives:** “As illustrated
24 above, the RIM Test considers utility offered incentives which are
25 specifically required in Section 366.82(3)(b), F.S.” (page 14)

- 1 • **The TRC test does not consider the cost of incentives:** “The
2 TRC Test does not consider costs associated with utility
3 incentives.” (page 14)
- 4 • **Base rate impacts can result if lower earnings precipitated by
5 reduced (lost) revenues necessitate a rate increase:** “Energy
6 saving DSM programs can have an impact on a utility’s base rates.
7 Utilities have a fixed cost of providing safe, reliable service.
8 When revenues go down because fewer kWh were consumed, the
9 utility may have to make up the difference by requesting an
10 increase in rates in order to maintain a reasonable ROE.” (page 25)
- 11 • **The RIM test specifically considers lost revenues.** (See table
12 entitled “Difference Between RIM and TRC Tests” on page 14)
- 13 • **The TRC test does not consider lost revenues:** “Because the
14 TRC Test excludes lost revenues, a measure that is cost-effective
15 under the TRC Test would be less revenue intensive than a utility’s
16 next planned supply-side resource addition. However, the rate
17 impact may be greater due to reduced sales.” (page 15)
- 18 • **The Commission must consider the relative impact between
19 participating and non-participating customers:** “FEECA makes
20 it clear that we must consider the economic impact to all, both
21 participants and non-participants.” (page 25)
- 22 • **Because the TRC test does not consider all costs, TRC-based
23 goals and programs can result in cross subsidies between
24 participants and non-participants:** “Those who do not or cannot
25 participate in an incentive program will not see their monthly

1 utility bill go down unless they directly decrease their consumption
2 of electricity. If that is not possible, non-participants could
3 actually see an increase in the monthly utility bill.” (page 26)

- 4 • **To minimize impacts and cross subsidies, the lowest possible**
5 **rates should be ensured:** “Since participation in DSM programs
6 is voluntary and this Commission is unable to control the amount
7 of electricity each household consumes, we should ensure the
8 lowest possible overall rates to meet the needs of all consumers.”
9 (page 26)

10 **Q. In basing its DSM goals decision on the TRC test, did the Commission achieve**
11 **its objective of “ensur[ing] the lowest possible overall rates to meet the needs of**
12 **all consumers”?**

13 A. No.

14 **Q. Does the Commission’s discussion in the 2009 order on its policy for setting**
15 **DSM goals support the Commission’s decision to abandon RIM and utilize the**
16 **TRC test to set goals?**

17 A. No. To the contrary, after reviewing all of the reasoning and rationale espoused in
18 Order No. PSC-09-0855-FOF-EG, especially the language describing the various
19 attributes of several cost-effectiveness tests and the Commission’s stated objective
20 of keeping customer rates low, one could have reasonably anticipated that the
21 Commission would have approved the continued use of RIM.

22 **Q. What reason did the Commission offer for basing goals on the TRC test**
23 **instead of RIM?**

24 A. In Order No. PSC-09-0855-FOF-EG the Commission stated:

25 The goals proposed by each utility rely upon the E-RIM Test. Our

1 intention is to approve conservation goals for each utility that are
2 more robust than what each utility proposed. Therefore, we
3 approve goals based on the unconstrained E-TRC Test for FPL,
4 PEF, TECO, Gulf, and FPUC.

5 Thus, the Commission's decision was result-driven, out of a desire to set goals that
6 "are more robust than what each utility proposed." While the Commission did not
7 say what it meant by "robust," it appears from the order that it essentially meant
8 "higher." I do not believe that FEECA or Rule 25-17.0021 directs or even
9 encourages the Commission to adopt higher goals without regard to the impact on
10 customers. And the Commission itself appeared to recognize that focusing only on
11 making goals higher was a dead-end when it came time to approve real programs,
12 with real costs to customers, in order to implement those higher goals for FPL. As I
13 have explained previously, the Commission did not approve DSM plans that would
14 implement the higher goals but rather directed FPL to continue implementing
15 programs that had been approved previously.

16 **Q. What factors in the Commission's 2009 goal-setting process do you believe**
17 **were primarily responsible for the cost of the goals to customers being**
18 **unacceptably high?**

19 A. I believe that there were three. First and most obvious, the TRC goals, as reflected
20 in a DSM plan designed to meet those goals, would have resulted in a significant
21 adverse impact on customer rates, in disregard of a consideration mandated by
22 Chapter 366, F.S.

23
24 Second, the goals were based on measures that were inefficient to achieve the stated
25 level of goals. The goals contained a level of savings that could be more efficiently

1 achieved by customers acting in their own best economic interest, instead of
2 through additional costs being imposed on the general body of customers. I am
3 referring to the Commission's decision to include a level of savings in residential
4 goals based on measures that had been previously screened out because of the issue
5 of free riders. The impact of this decision was very significant. While most of the
6 attention was given to the question of using E-TRC versus E-RIM, the decision to
7 partially reject the traditional two-year payback criterion was equally as significant.
8 In fact, for the total residential GWh goal of 1,695.3 set by the Commission for
9 FPL, 905.0 or 53% was attributable to the partial rejection of the traditional two-
10 year payback criterion that is used to avoid free riders.

11
12 Finally, the level of goals approved by the Commission broke from the
13 Commission's long-held policy of having DSM compete with supply-side
14 alternatives on an even playing field. The Commission did this by using an
15 "unconstrained" TRC test, in which it set goals that did not reflect FPL's actual
16 resource need, as determined in its most recent planning process. There are several
17 adverse consequences of removing that constraint. First, it is inconsistent with Rule
18 25-17.001(6), F.A.C., which requires the Commission to continuously review the
19 present and anticipated needs for demand and energy and to recognize that DSM
20 goals are not to be exclusively relied upon to meet customer needs. In other words,
21 the Commission has an overriding responsibility to see that utilities plan for future
22 needs and that those real world needs are met by the most cost-effective means,
23 whether supply side alternatives or DSM measures. There is also the responsibility
24 to monitor and ensure that the DSM programs instituted to defer needed supply-side
25 alternatives do in fact achieve enough savings to validate the deferral. Second, the

1 “unconstrained” test is inconsistent with Rule 25-17.0021 that was adopted in 1993.
2 As I described earlier, this rule specifically requires that goals be proposed for a
3 ten-year period based on the utility’s most recent planning process. Third, the
4 unconstrained test is inconsistent with the manner in which DSM is considered in
5 need-determination proceedings. And fourth, the unconstrained test can result in
6 the incurrence of unnecessary costs to deploy resources that are not needed in the
7 planning horizon.

8 **Q. Should the Commission return to using the two-year payback criterion as a**
9 **measure of the potential for free-ridership?**

10 A. Yes. Fundamentally, there must be some measure of the economic trade-off
11 between higher initial cost and savings over time that would induce any rational
12 customer to invest. It seems implausible to me that customers who can cover the
13 cost of a DSM measure with the savings on their electric bill over a period as short
14 as two years and then enjoy continued savings over the entire remaining life of the
15 DSM measure would not implement that measure without the need for further
16 incentives. If anything, the two-year payback criterion is conservative because I
17 expect that many customers would be happy to implement a DSM measure that has
18 a significantly longer payback period.

19
20 To put the financial significance of a two-year payback into perspective, I asked
21 FPL’s Finance Department to evaluate the implicit return on investment to
22 participating customers for a sample of DSM measures from the RIM test
23 preliminary economic screening summarized on FPL witness Sim’s Exhibit SRS-5
24 that pass the existing two-year payback criterion but would not pass a three-year
25 payback criterion. The five selected measures reflect a wide range of useful lives,

1 customer rate classes and equipment costs. They are designated in the Technical
2 Potential Study as “Premium T8, Electronic Ballast,” “LED High Bay 83W,”
3 “Centrifugal Chiller, 0.51 kW/ton, 500 Tons,” “Proper Refrigerant Charging and
4 Air Flow – SS AC” and “High Bay T5.” I will refer to them collectively as
5 “Illustrative Measures.” These measures are of interest because they illustrate how
6 favorable the economics can be for customers who implement measures that pass
7 the two-year payback criterion.

8
9 As shown on my Exhibit JTD-2, the useful lives of the Illustrative Measures range
10 from five to twenty-five years. For each measure, even with no utility incentive
11 payment, the initial cost to the participating customer is paid off with the measure’s
12 annual customer savings by the third year. Thereafter, the participating customer
13 continues to receive the annual savings for the measure’s remaining useful life –
14 anywhere from two to twenty-two years -- with no further offsetting cost. Exhibit
15 JTD-2 shows that the annual savings for the Illustrative Measures result in a return
16 on a participating customer’s initial investment that ranges from a low of 39.4% to a
17 high of 67.4%, depending on the measure. This is far in excess of what customers
18 could realistically expect to earn on any other low-risk investment.

19
20 Looked at another way, if the participating customer needed to finance the entire
21 cost of an Illustrative Measure using a home equity loan at 7%, Exhibit JTD-2
22 shows that the customer would be able to pay off the loan – interest and principal –
23 in three to four years with monthly payments that were fully covered by the
24 measure’s annual savings and then would enjoy the full benefit of the savings for
25 the measure’s remaining useful life. Even if the measure were financed at a credit-

1 card interest rate of 20%, the customer still would be able to pay off the loan in
2 three to five years with the annual savings and then enjoy those savings for the rest
3 of the measure's useful life as "money in the bank."
4

5 Clearly, the Illustrative Measures are so financially attractive that, if a customer
6 were unwilling to implement them, the reasons would have to be other than rational
7 economic ones. While those other reasons might be quite valid for individual
8 customers, they are not ones that are likely to be overcome by throwing money at
9 them in the form of rebates or incentives. In short, I believe that it would be both
10 unnecessary and ineffective to offer rebates or incentives for measures that have a
11 payback of two years or better.

12 **Q. The Order Establishing Procedure for this docket directs utilities to consider**
13 **shorter and longer free-ridership periods as sensitivity cases. In response to**
14 **that direction, FPL has included analyses with one-year and three-year**
15 **payback periods. Please comment on those sensitivity cases.**

16 A. Exhibit JTD-2 shows that even measures with three-year paybacks would be
17 extremely attractive financial investments for participating customers. An even
18 shorter payback period (such as one year) would be clearly inappropriate, because it
19 would just increase the number of DSM measures for which the general body of
20 customers provide unwarranted and unnecessary subsidies thereby exposing these
21 customers to unwarranted and unnecessary rate increases. On the other hand,
22 longer payback periods of five or even seven years would offer what should be
23 more than adequate investment returns for participating customers. In simple terms,
24 as a matter of policy, the Commission should not be incenting customers to
25 implement conservation programs that they should be doing anyway and placing the

1 financial burden of such incentives on the general body of customers. For these
2 reasons, I recommend that, at minimum, the Commission return to the use of a two-
3 year payback period.

4 **Q. Has the Commission's commitment to the goal-setting principles originally set**
5 **forth by the Commission in the Mega Docket resulted in the appropriate level**
6 **of DSM being implemented in Florida?**

7 A. Yes. By applying these principles, the Commission has approved DSM goals and
8 plans that have resulted in substantial levels of DSM being implemented, while at
9 the same time avoiding the large rate impacts that would come from setting goals
10 based on the TRC test or some arbitrary percentage of the FEECA utility's electric
11 production. For example, FPL witness Koch reports that through 2013 FPL's
12 Commission-approved DSM plans have reduced summer peak demand by 4,753
13 MW, eliminating the need to construct the equivalent of more than 14 new 400 MW
14 generating units and have reduced annual energy consumption by 66,782 GWh,
15 equal to the consumption of all of FPL's residential customers for more than a year.
16 This is an impressive level of conservation, but even more important is that by
17 operating within the Commission's goal-setting principles, FPL has achieved this
18 conservation without raising rates. FPL is justifiably proud that its bills are well
19 below the national average, but it likely would not be able to make that claim if the
20 Commission had directed FPL to implement DSM measures without regard for the
21 discipline of the Commission's goal-setting principles.

1 **Q. If the Commission reaffirms the principles it established in the Mega Docket**
2 **and consistently used to set goals prior to the last round of goal-setting**
3 **dockets, should the Commission be concerned if the resulting goals are lower**
4 **than the goals previously established?**

5 A. No. As I stated very early in my testimony, one of the early principles established
6 and adhered to by the Commission in implementing FEECA was an understanding
7 that FEECA goals are not an end in and of themselves. FEECA goals are a means
8 to the end of meeting the Commission's overall responsibility to have customers
9 served reliably and cost effectively. The absolute level of the goals will and should
10 change as considerations of cost-effectiveness, technology, and other economic
11 factors change with time. The regulatory objective is certainly not to have ever
12 increasing conservation goal levels. Rather, the regulatory objective is to have
13 appropriate conservation goals, regardless of their absolute value.

14

15 **IV. ECONOMIC DEVELOPMENT CONSIDERATIONS**

16

17 **Q. Is economic development a proper consideration in the setting of conservation**
18 **goals?**

19 A. Yes, economic development has been a consideration since the adoption of FEECA.
20 Rule 25-17.001(7), F.A.C., states:

21 Rules 25-17.001 through 25-17.005, F.A.C., shall not be construed
22 to restrict growth in the supply of electric power or natural gas
23 necessary to support economic development by industrial or

1 commercial enterprises. Rather, these rules should be construed so
2 as to enhance job-producing economic growth by lowering energy
3 costs from what they otherwise would be if these goals were not
4 achieved.

5 **Q. Has the Commission taken action to enhance economic development in**
6 **Florida?**

7 A. Yes, the Commission has approved a number of rate riders for several utilities in
8 Florida, which are designed to encourage economic development by new and
9 existing customers. Most recently, the Commission approved FPL's
10 Commercial/Industrial Service Rider in Docket No. 130286-EI. The basis for these
11 economic development rate riders goes to the very heart of the conservation goal-
12 setting policies that I have discussed throughout my testimony.

13 **Q. What connection do you see between the Commission's policy of promoting**
14 **economic development and its policy of focusing on customer impacts when it**
15 **sets DSM goals?**

16 A. While the specifics of each utility's economic development initiatives appropriately
17 vary based on each utility's facts and circumstances, they all share two basic
18 principles. The first principle is that the level of rates matters to customers and
19 impacts their personal and/or business decisions. The second principle is that
20 utilities have fixed costs and additional sales (which at least cover variable costs
21 and hopefully make contributions to fixed costs) benefit the general body of
22 customers. These two principles are entirely consistent with the RIM cost-
23 effectiveness test. RIM-passing DSM measures have the effect of minimizing rate
24 impacts. RIM further recognizes that a utility has fixed costs and that reducing
25 sales can result in insufficient revenues to cover fixed costs, perhaps resulting in the

1 need to increase rates. Establishing utility-specific conservation goals based on
2 RIM would be consistent with the utilities' economic development initiatives.

3 **Q. Would conservation goals based on TRC be inconsistent with the utilities'**
4 **economic development initiatives?**

5 A. Not only would they be inconsistent, they would be diametrically opposed to each
6 other.

7 **Q. Please explain.**

8 A. The TRC cost-effectiveness test is unconcerned with rate levels and whether
9 utilities can cover their fixed costs. TRC would result in increased costs being
10 passed through the ECCR with the goal of reducing sales and by so doing reducing
11 their contribution to cover fixed costs. In contrast, the economic development
12 initiatives have the goal of keeping rates low and to increase sales that make
13 contributions in excess of variable costs. In addition, it should be recognized that
14 the higher rates resulting from TRC would be at cross purposes with economic
15 development initiatives and would make the job of economic development that
16 much more difficult. The mere fact that rates will be higher with TRC will serve as
17 a hindrance to efforts to recruit new customers and have existing customers stay in
18 the service territory and hopefully expand their economic activities. In short,
19 existing and potential new customers rationally take energy costs into consideration
20 in making such decisions and higher rates are not conducive to achieving the
21 desired outcome.

1
2
3 **V. CONCLUSION**

4 **Q. What is your recommendation to the Commission?**

5 A. I recommend that the Commission set appropriate DSM goals that are in the public
6 interest and consistent with the Commission's overarching regulatory
7 responsibilities as required by the entirety of Chapter 366, F.S. The appropriate
8 level should be primarily based on the RIM cost-effectiveness test which will
9 minimize rate impacts and cross subsidies between participants and non-
10 participants. Doing so would also be consistent with long-held Commission policy
11 and Commission-approved efforts to promote economic development. Along with
12 the use of RIM, the Commission should give appropriate consideration of free
13 riders. I submit that the two-year payback criterion is appropriate and consistent
14 with past practice. It should once again be used, absent compelling evidence that a
15 different criterion is more accurate and effective in estimating the impact of free
16 riders. Additionally, the Commission should set goals that reflect FPL's most
17 recent resource planning process to avoid the purchase of unneeded DSM resources
18 by FPL's customers. In doing so, the Commission will reconfirm its policies and
19 provide greater clarity and certainty in the setting of utility-specific DSM goals.

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

A. Yes, it does.

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Constrained Economic Dispatch, 2005 - 2006, *Member*
- Southeastern Association of Regulatory Utility Commissioners, 1991 - 2006, *Member*
- Florida Energy 20/20 Study Commission, 2000 - 2001, *Member*
- FCC Federal/State Joint Conference on Accounting, 2003 - 2005, *Member*
- Joint NARUC/Department of Energy Study Commission on Tax and Rate
Treatment of Renewable Energy Projects, 1993, *Member*
- Bonbright Utilities Center at the University of Georgia, 2001, *Bonbright Distinguished Service*
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- Eastern NARUC Utility Rate School - Faculty Member



Economics of 2-Year Payback - Analysis Summary

Project	Useful Life (Yrs)	Rate Class	Equipment Cost	Total Savings	Participant Return	Net Savings			Year Payback is Achieved		
					Unlevered IRR	Unlevered	7% Interest	20% Interest	Unlevered	7% Interest	20% Interest
Premium T8, Electronic Ballast	15	GS	\$808	\$5,735	50.1%	\$4,927	\$4,841	\$4,590	3	3	4
LED High Bay 83W	15	GSD	\$947	\$6,334	47.7%	\$5,387	\$5,281	\$4,964	3	3	4
Centrifugal Chiller, 0.51 kW/ton, 500 tons	25	GSD	\$1,030	\$12,237	44.4%	\$11,207	\$11,082	\$10,692	3	4	5
Proper Refrigerant Charging and Air Flow - SS AC	5	RS	\$78	\$165	39.4%	\$87	\$79	\$56	3	3	4
High Bay T5	15	GSD	\$701	\$6,334	67.4%	\$5,633	\$5,576	\$5,430	3	3	3

Economics of 2-Year Payback - Premium T8, Electronic Ballast Scenario

ASSUMPTIONS:

Scenario Description:	Premium T8, Electronic Ballast
Useful Life (Yrs):	15
Incr. Savings (kWh/yr)	3,311
Demand Charge Multiplier:	0.00

Year	Annual Incr. Out-of-Pocket Costs	Cumulative Out-of-Pocket Costs	Without Financing Costs (Baseline):				Assuming Interest @ 7% annually:				Assuming Interest @ 20% annually:			
			(1) Annual Customer Savings	(2) 0.0% Interest Expense	(3) Cumulative Customer Savings	(4) Net Cost	(1) Annual Customer Savings	(2) 7.0% Interest Expense	(3) Cumulative Customer Savings	(4) Net Cost	(1) Annual Customer Savings	(2) 20.0% Interest Expense	(3) Cumulative Customer Savings	(4) Net Cost
2015	\$808	\$808	\$309	\$0	\$309	\$499	\$309	(\$48)	\$260	\$548	\$309	(\$147)	\$161	\$647
2016		\$808	\$314	\$0	\$623	\$185	\$314	(\$29)	\$545	\$263	\$314	(\$111)	\$364	\$444
2017		\$808	\$325	\$0	\$948	(\$140)	\$325	(\$9)	\$862	(\$54)	\$325	(\$66)	\$623	\$185
2018		\$808	\$346	\$0	\$1,293	(\$485)	\$346	\$0	\$1,207	(\$399)	\$346	(\$12)	\$956	(\$148)
2019		\$808	\$369	\$0	\$1,662	(\$854)	\$369	\$0	\$1,576	(\$768)	\$369	\$0	\$1,326	(\$518)
2020		\$808	\$376	\$0	\$2,039	(\$1,231)	\$376	\$0	\$1,953	(\$1,145)	\$376	\$0	\$1,702	(\$894)
2021		\$808	\$385	\$0	\$2,424	(\$1,616)	\$385	\$0	\$2,337	(\$1,529)	\$385	\$0	\$2,087	(\$1,279)
2022		\$808	\$404	\$0	\$2,828	(\$2,020)	\$404	\$0	\$2,742	(\$1,934)	\$404	\$0	\$2,491	(\$1,683)
2023		\$808	\$403	\$0	\$3,231	(\$2,423)	\$403	\$0	\$3,145	(\$2,337)	\$403	\$0	\$2,894	(\$2,086)
2024		\$808	\$409	\$0	\$3,640	(\$2,832)	\$409	\$0	\$3,554	(\$2,746)	\$409	\$0	\$3,303	(\$2,495)
2025		\$808	\$409	\$0	\$4,049	(\$3,241)	\$409	\$0	\$3,962	(\$3,154)	\$409	\$0	\$3,712	(\$2,904)
2026		\$808	\$413	\$0	\$4,461	(\$3,653)	\$413	\$0	\$4,375	(\$3,567)	\$413	\$0	\$4,124	(\$3,316)
2027		\$808	\$418	\$0	\$4,880	(\$4,072)	\$418	\$0	\$4,793	(\$3,985)	\$418	\$0	\$4,543	(\$3,735)
2028		\$808	\$424	\$0	\$5,304	(\$4,496)	\$424	\$0	\$5,218	(\$4,410)	\$424	\$0	\$4,967	(\$4,159)
2029		\$808	\$431	\$0	\$5,735	(\$4,927)	\$431	\$0	\$5,649	(\$4,841)	\$431	\$0	\$5,398	(\$4,590)
		Payback:	3 years				3 years				4 years			
		XIRR	50.1%											

Economics of 2-Year Payback - LED High Bay 83W Scenario

ASSUMPTIONS:

Scenario Description: LED High Bay 83W
 Useful Life (Yrs): 15
 Incr. Savings (kWh/yr): 3,311
 Demand Charge Multiplier: 16.04

Year	Annual Incr. Out-of-Pocket Costs	Cumulative Out-of-Pocket Costs	Without Financing Costs (Baseline):				Assuming Interest @ 7% annually:				Assuming Interest @ 20% annually:			
			(1) Annual Customer Savings	(2) 0.0% Interest Expense	(3) Cumulative Customer Savings	(4) Net Cost	(1) Annual Customer Savings	(2) 7.0% Interest Expense	(3) Cumulative Customer Savings	(4) Net Cost	(1) Annual Customer Savings	(2) 20.0% Interest Expense	(3) Cumulative Customer Savings	(4) Net Cost
2015	\$947	\$947	\$347	\$0	\$347	\$600	\$347	(\$57)	\$290	\$657	\$347	(\$174)	\$173	\$774
2016		\$947	\$352	\$0	\$698	\$249	\$352	(\$36)	\$605	\$342	\$352	(\$136)	\$389	\$558
2017		\$947	\$365	\$0	\$1,063	(\$116)	\$365	(\$13)	\$957	(\$10)	\$365	(\$87)	\$666	\$281
2018		\$947	\$386	\$0	\$1,449	(\$502)	\$386	\$0	\$1,343	(\$396)	\$386	(\$25)	\$1,027	(\$80)
2019		\$947	\$414	\$0	\$1,863	(\$916)	\$414	\$0	\$1,757	(\$810)	\$414	\$0	\$1,441	(\$494)
2020		\$947	\$426	\$0	\$2,290	(\$1,343)	\$426	\$0	\$2,184	(\$1,237)	\$426	\$0	\$1,867	(\$920)
2021		\$947	\$439	\$0	\$2,729	(\$1,782)	\$439	\$0	\$2,623	(\$1,676)	\$439	\$0	\$2,307	(\$1,360)
2022		\$947	\$456	\$0	\$3,185	(\$2,238)	\$456	\$0	\$3,080	(\$2,133)	\$456	\$0	\$2,763	(\$1,816)
2023		\$947	\$441	\$0	\$3,627	(\$2,680)	\$441	\$0	\$3,521	(\$2,574)	\$441	\$0	\$3,204	(\$2,257)
2024		\$947	\$446	\$0	\$4,073	(\$3,126)	\$446	\$0	\$3,967	(\$3,020)	\$446	\$0	\$3,651	(\$2,704)
2025		\$947	\$443	\$0	\$4,516	(\$3,569)	\$443	\$0	\$4,410	(\$3,463)	\$443	\$0	\$4,094	(\$3,147)
2026		\$947	\$445	\$0	\$4,961	(\$4,014)	\$445	\$0	\$4,855	(\$3,908)	\$445	\$0	\$4,539	(\$3,592)
2027		\$947	\$451	\$0	\$5,413	(\$4,466)	\$451	\$0	\$5,307	(\$4,360)	\$451	\$0	\$4,990	(\$4,043)
2028		\$947	\$457	\$0	\$5,870	(\$4,923)	\$457	\$0	\$5,764	(\$4,817)	\$457	\$0	\$5,447	(\$4,500)
2029		\$947	\$464	\$0	\$6,334	(\$5,387)	\$464	\$0	\$6,228	(\$5,281)	\$464	\$0	\$5,911	(\$4,964)
		Payback:	3 years				3 years				4 years			
		XIRR	47.7%											

Economics of 2-Year Payback - Centrifugal Chiller, 0.51 kW/ton, 500 tons Scenario

ASSUMPTIONS:

Scenario Description: Centrifugal Chiller, 0.51 kW/ton, 500 tons
 Useful Life (Yrs): 25
 Incr. Savings (kWh/yr) 4,249
 Demand Charge Multiplier: 12.10

Year	Annual Incr. Out-of-Pocket Costs	Cumulative Out-of-Pocket Costs	Without Financing Costs (Baseline):				Assuming Interest @ 7% annually:				Assuming Interest @ 20% annually:			
			(1) Annual Customer Savings	(2) 0.0% Interest Expense	(3) Cumulative Customer Savings	(4) Net Cost	(1) Annual Customer Savings	(2) 7.0% Interest Expense	(3) Cumulative Customer Savings	(4) Net Cost	(1) Annual Customer Savings	(2) 20.0% Interest Expense	(3) Cumulative Customer Savings	(4) Net Cost
2015	\$1,030	\$1,030	\$350	\$0	\$350	\$680	\$350	(\$63)	\$287	\$743	\$350	(\$192)	\$158	\$872
2016		\$1,030	\$357	\$0	\$707	\$323	\$357	(\$42)	\$602	\$428	\$357	(\$157)	\$358	\$672
2017		\$1,030	\$369	\$0	\$1,076	(\$46)	\$369	(\$19)	\$952	\$78	\$369	(\$112)	\$616	\$414
2018		\$1,030	\$395	\$0	\$1,471	(\$441)	\$395	(\$1)	\$1,346	(\$316)	\$395	(\$53)	\$958	\$72
2019		\$1,030	\$425	\$0	\$1,895	(\$865)	\$425	\$0	\$1,771	(\$741)	\$425	(\$2)	\$1,380	(\$350)
2020		\$1,030	\$435	\$0	\$2,330	(\$1,300)	\$435	\$0	\$2,205	(\$1,175)	\$435	\$0	\$1,815	(\$785)
2021		\$1,030	\$446	\$0	\$2,776	(\$1,746)	\$446	\$0	\$2,651	(\$1,621)	\$446	\$0	\$2,261	(\$1,231)
2022		\$1,030	\$463	\$0	\$3,239	(\$2,209)	\$463	\$0	\$3,114	(\$2,084)	\$463	\$0	\$2,724	(\$1,694)
2023		\$1,030	\$455	\$0	\$3,694	(\$2,664)	\$455	\$0	\$3,569	(\$2,539)	\$455	\$0	\$3,179	(\$2,149)
2024		\$1,030	\$461	\$0	\$4,155	(\$3,125)	\$461	\$0	\$4,030	(\$3,000)	\$461	\$0	\$3,640	(\$2,610)
2025		\$1,030	\$461	\$0	\$4,616	(\$3,586)	\$461	\$0	\$4,491	(\$3,461)	\$461	\$0	\$4,101	(\$3,071)
2026		\$1,030	\$466	\$0	\$5,082	(\$4,052)	\$466	\$0	\$4,957	(\$3,927)	\$466	\$0	\$4,567	(\$3,537)
2027		\$1,030	\$473	\$0	\$5,555	(\$4,525)	\$473	\$0	\$5,430	(\$4,400)	\$473	\$0	\$5,040	(\$4,010)
2028		\$1,030	\$480	\$0	\$6,035	(\$5,005)	\$480	\$0	\$5,910	(\$4,880)	\$480	\$0	\$5,520	(\$4,490)
2029		\$1,030	\$489	\$0	\$6,524	(\$5,494)	\$489	\$0	\$6,399	(\$5,369)	\$489	\$0	\$6,009	(\$4,979)
2030		\$1,030	\$496	\$0	\$7,019	(\$5,989)	\$496	\$0	\$6,895	(\$5,865)	\$496	\$0	\$6,505	(\$5,475)
2031		\$1,030	\$504	\$0	\$7,524	(\$6,494)	\$504	\$0	\$7,399	(\$6,369)	\$504	\$0	\$7,009	(\$5,979)
2032		\$1,030	\$522	\$0	\$8,046	(\$7,016)	\$522	\$0	\$7,921	(\$6,891)	\$522	\$0	\$7,531	(\$6,501)
2033		\$1,030	\$551	\$0	\$8,596	(\$7,566)	\$551	\$0	\$8,472	(\$7,442)	\$551	\$0	\$8,082	(\$7,052)
2034		\$1,030	\$565	\$0	\$9,162	(\$8,132)	\$565	\$0	\$9,037	(\$8,007)	\$565	\$0	\$8,647	(\$7,617)
2035		\$1,030	\$577	\$0	\$9,739	(\$8,709)	\$577	\$0	\$9,614	(\$8,584)	\$577	\$0	\$9,224	(\$8,194)
2036		\$1,030	\$604	\$0	\$10,342	(\$9,312)	\$604	\$0	\$10,217	(\$9,187)	\$604	\$0	\$9,827	(\$8,797)
2037		\$1,030	\$617	\$0	\$10,959	(\$9,929)	\$617	\$0	\$10,834	(\$9,804)	\$617	\$0	\$10,444	(\$9,414)
2038		\$1,030	\$632	\$0	\$11,591	(\$10,561)	\$632	\$0	\$11,466	(\$10,436)	\$632	\$0	\$11,076	(\$10,046)
2039		\$1,030	\$646	\$0	\$12,237	(\$11,207)	\$646	\$0	\$12,112	(\$11,082)	\$646	\$0	\$11,722	(\$10,692)
		Payback:	3 years				4 years				5 years			
		XIRR	44.4%											

Economics of 2-Year Payback - Proper Refrigerant Charging and Air Flow - SS AC Scenario

ASSUMPTIONS:

Scenario Description: Proper Refrigerant Charging and Air Flow - SS AC
 Useful Life (Yrs): 5
 Incr. Savings (kWh/yr) 324
 Demand Charge Multiplier: 0.00

Year	Annual Incr. Out-of-Pocket Costs	Cumulative Out-of-Pocket Costs	Without Financing Costs (Baseline):				Assuming Interest @ 7% annually:				Assuming Interest @ 20% annually:			
			(1) Annual Customer Savings	(2) 0.0% Interest Expense	(3) Cumulative Customer Savings	(4) Net Cost	(1) Annual Customer Savings	(2) 7.0% Interest Expense	(3) Cumulative Customer Savings	(4) Net Cost	(1) Annual Customer Savings	(2) 20.0% Interest Expense	(3) Cumulative Customer Savings	(4) Net Cost
2015	\$78	\$78	\$31	\$0	\$31	\$47	\$31	(\$5)	\$26	\$52	\$31	(\$14)	\$17	\$61
2016		\$78	\$31	\$0	\$62	\$16	\$31	(\$3)	\$55	\$23	\$31	(\$10)	\$37	\$41
2017		\$78	\$32	\$0	\$94	(\$16)	\$32	(\$1)	\$86	(\$8)	\$32	(\$6)	\$64	\$14
2018		\$78	\$34	\$0	\$128	(\$50)	\$34	\$0	\$120	(\$42)	\$34	(\$1)	\$97	(\$19)
2019		\$78	\$36	\$0	\$165	(\$87)	\$36	\$0	\$157	(\$79)	\$36	\$0	\$134	(\$56)
		Payback:	3 years				3 years				4 years			
		XIRR	39.4%											

Economics of 2-Year Payback - High Bay T5 Scenario

ASSUMPTIONS:

Scenario Description: High Bay T5
 Useful Life (Yrs): 15
 Incr. Savings (kWh/yr): 3,311
 Demand Charge Multiplier: 16.04

Year	Annual Incr. Out-of-Pocket Costs	Cumulative Out-of-Pocket Costs	Without Financing Costs (Baseline):				Assuming Interest @ 7% annually:				Assuming Interest @ 20% annually:			
			(1) Annual Customer Savings	(2) 0.0% Interest Expense	(3) Cumulative Customer Savings	(4) Net Cost	(1) Annual Customer Savings	(2) 7.0% Interest Expense	(3) Cumulative Customer Savings	(4) Net Cost	(1) Annual Customer Savings	(2) 20.0% Interest Expense	(3) Cumulative Customer Savings	(4) Net Cost
2015	\$701	\$701	\$347	\$0	\$347	\$354	\$347	(\$39)	\$307	\$394	\$347	(\$120)	\$227	\$474
2016		\$701	\$352	\$0	\$698	\$3	\$352	(\$17)	\$642	\$59	\$352	(\$70)	\$508	\$193
2017		\$701	\$365	\$0	\$1,063	(\$362)	\$365	(\$1)	\$1,007	(\$306)	\$365	(\$13)	\$860	(\$159)
2018		\$701	\$386	\$0	\$1,449	(\$748)	\$386	\$0	\$1,392	(\$691)	\$386	\$0	\$1,246	(\$545)
2019		\$701	\$414	\$0	\$1,863	(\$1,162)	\$414	\$0	\$1,807	(\$1,106)	\$414	\$0	\$1,660	(\$959)
2020		\$701	\$426	\$0	\$2,290	(\$1,589)	\$426	\$0	\$2,233	(\$1,532)	\$426	\$0	\$2,087	(\$1,386)
2021		\$701	\$439	\$0	\$2,729	(\$2,028)	\$439	\$0	\$2,672	(\$1,971)	\$439	\$0	\$2,526	(\$1,825)
2022		\$701	\$456	\$0	\$3,185	(\$2,484)	\$456	\$0	\$3,129	(\$2,428)	\$456	\$0	\$2,983	(\$2,282)
2023		\$701	\$441	\$0	\$3,627	(\$2,926)	\$441	\$0	\$3,570	(\$2,869)	\$441	\$0	\$3,424	(\$2,723)
2024		\$701	\$446	\$0	\$4,073	(\$3,372)	\$446	\$0	\$4,016	(\$3,315)	\$446	\$0	\$3,870	(\$3,169)
2025		\$701	\$443	\$0	\$4,516	(\$3,815)	\$443	\$0	\$4,459	(\$3,758)	\$443	\$0	\$4,313	(\$3,612)
2026		\$701	\$445	\$0	\$4,961	(\$4,260)	\$445	\$0	\$4,905	(\$4,204)	\$445	\$0	\$4,758	(\$4,057)
2027		\$701	\$451	\$0	\$5,413	(\$4,712)	\$451	\$0	\$5,356	(\$4,655)	\$451	\$0	\$5,210	(\$4,509)
2028		\$701	\$457	\$0	\$5,870	(\$5,169)	\$457	\$0	\$5,813	(\$5,112)	\$457	\$0	\$5,667	(\$4,966)
2029		\$701	\$464	\$0	\$6,334	(\$5,633)	\$464	\$0	\$6,277	(\$5,576)	\$464	\$0	\$6,131	(\$5,430)
		Payback:	3 years				3 years				3 years			
		XIRR	67.4%											

**CERTIFICATE OF SERVICE
DOCKET NO. 130199-EI**

I HEREBY CERTIFY that a true and correct copy of FPL's Petition for Approval of Numeric Conservation Goals with accompanying testimony and exhibits was served by electronic delivery this 2nd day of April, 2014 to the following:

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