

**BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION**

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In re: Commission Review of Numeric  
Conservation Goals (Duke Energy  
Florida, LLC).

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Docket No. 20190018-EG

Filed: May 28, 2019

**DUKE ENERGY FLORIDA, LLC'S RESPONSE TO STAFF'S  
SECOND REQUEST FOR PRODUCTION OF DOCUMENTS (NOS. 10-13)**

Duke Energy Florida, LLC ("DEF") responds to the Staff of the Florida Public Service Commission's ("Staff") Second Request for Production of Documents to DEF (Nos. 10-13) as follows:

**DOCUMENT REQUESTS**

10. Please provide copies of any fuel forecasts relied upon in developing the Company's DSM proposals.

**Answer:**

Please see attached documents bearing bates numbers 20190018-DEF-0040774.

11. Please provide copies of any high, base, and low environmental compliance cost/price forecasts relied upon in developing the Company's DSM proposals.

**Answer:**

Please see attached documents bearing bates numbers 20190018-DEF-0040775.

12. For each methodology evaluated by the Company, please provide a copy of all source documents used to assess, evaluate, and calculated its determination of free ridership.

**Answer:**

Please see attached documents bearing bates numbers 20190018-DEF-0040776 through 20190018-DEF-0040896.

13. Please provide PSC Form CE 2.4 for each measure included in the Company's achievable potential.

**Answer:**

DEF did not produce PSC Form CE 2.4 for this analysis, however, the same information is provided in the cost effectiveness evaluation files that start with the name "Batch - ".xlsx submitted as part of SACE POD1-2 and Staff POD1-16. The values can be found on the "Financial Reports" tab; nominal values for the Participant test benefits (bill savings) are

in cells D69:D93 and participant costs are in cells J6:J30. The associated NPVs are located in cells D95 and J32 respectively. D95/J32 is the Participant test score.

**Fuel Forecasts**

Fuel Mid Price Forecast (2019 TYSP)				Fuel High Price Forecast (2019 TYSP)				Fuel Low Price Forecast (2019 TYSP)			
Year	Natural Gas Base Cost Regular Supply Z3	CRN Coal	Distillate Oil	Year	Natural Gas Base Cost Regular Supply Z3	CRN Coal	Distillate Oil	Year	Natural Gas Base Cost Regular Supply Z3	CRN Coal	Distillate Oil
	\$/MMBTU				\$/MMBTU				\$/MMBTU		
2019	2.91	2.44	15.79	2019	2.91	2.44	15.79	2019	2.91	2.44	15.79
2020	2.72	2.45	15.89	2020	2.72	2.45	15.89	2020	2.72	2.45	15.89
2021	2.65	2.51	16.17	2021	2.82	2.51	16.17	2021	2.65	2.51	16.17
2022	2.65	2.57	16.31	2022	3.52	2.57	16.31	2022	2.65	2.57	16.31
2023	2.70	2.59	15.72	2023	4.74	2.59	15.72	2023	2.70	2.59	15.72
2024	2.99	2.76	15.26	2024	5.89	2.76	15.26	2024	2.85	2.76	15.26
2025	3.44	2.86	14.93	2025	6.42	2.88	14.93	2025	3.09	2.86	14.93
2026	3.95	2.97	15.02	2026	6.84	2.99	15.02	2026	3.40	2.95	15.02
2027	4.34	3.09	15.37	2027	6.88	3.12	15.37	2027	3.61	3.07	15.37
2028	4.65	3.13	15.79	2028	6.89	3.14	15.79	2028	3.76	3.06	15.79
2029	5.12	3.17	16.49	2029	7.42	3.20	16.49	2029	4.03	3.11	16.49
2030	5.68	3.25	17.00	2030	8.17	3.28	17.00	2030	4.43	3.17	17.00
2031	5.91	3.66	17.32	2031	8.50	3.70	17.32	2031	4.60	3.58	17.32
2032	6.21	3.76	17.64	2032	8.97	3.80	17.64	2032	4.78	3.66	17.64
2033	6.53	3.86	17.98	2033	9.47	3.90	17.98	2033	4.95	3.75	17.98
2034	6.74	3.95	18.34	2034	9.94	4.01	18.34	2034	5.05	3.84	18.34
2035	6.41	3.98	18.68	2035	9.58	4.03	18.68	2035	4.78	3.85	18.68
2036	6.44	4.06	19.15	2036	9.65	4.12	19.15	2036	4.71	3.92	19.15
2037	6.81	4.14	19.63	2037	10.26	4.21	19.63	2037	4.92	3.99	19.63
2038	7.33	4.25	20.12	2038	11.04	4.31	20.12	2038	5.24	4.08	20.12
2039	7.83	4.36	20.62	2039	11.75	4.42	20.62	2039	5.59	4.16	20.62
2040	8.07	4.47	21.14	2040	12.16	4.55	21.14	2040	5.73	4.28	21.14
2041	8.27	4.59	21.67	2041	12.46	4.67	21.67	2041	5.88	4.38	21.67
2042	8.48	4.70	22.21	2042	12.77	4.78	22.21	2042	6.02	4.49	22.21
2043	8.69	4.82	22.76	2043	13.09	4.90	22.76	2043	6.17	4.60	22.76
2044	8.91	4.94	23.33	2044	13.42	5.03	23.33	2044	6.33	4.72	23.33
2045	9.13	5.06	23.92	2045	13.75	5.15	23.92	2045	6.49	4.84	23.92
2046	9.36	5.19	24.52	2046	14.10	5.28	24.52	2046	6.65	4.96	24.52
2047	9.59	5.32	25.13	2047	14.45	5.41	25.13	2047	6.81	5.08	25.13
2048	9.83	5.45	25.76	2048	14.81	5.55	25.76	2048	6.98	5.21	25.76
2049	10.08	5.59	26.40	2049	15.18	5.69	26.40	2049	7.16	5.34	26.40
2050	10.33	5.73	27.06	2050	15.56	5.83	27.06	2050	7.34	5.47	27.06

Environmental Compliance Price Forecasts (2019 DSM Goals)							
Year	CO2	SO2	Nox Oct- Apr	Nox May- Sep	Ammonia	Lime	Limestone
\$/ Ton							
2019	-	3.0	2.5	212.5	179.0	241.9	19.5
2020	-	3.0	2.5	212.5	179.0	241.9	20.3
2021	-	3.0	2.5	212.5	179.0	241.9	20.9
2022	-	3.0	2.5	212.5	179.0	241.9	21.6
2023	-	3.0	2.5	212.5	179.0	241.9	22.3
2024	-	3.0	2.6	216.8	179.0	241.9	23.1
2025	2.5	3.1	2.6	221.1	179.0	241.9	23.8
2026	4.3	3.1	2.7	225.5	179.0	241.9	24.6
2027	5.9	3.2	2.7	230.0	179.0	241.9	25.4
2028	7.9	3.2	2.8	234.6	179.0	241.9	26.2
2029	9.6	3.3	2.8	239.3	179.0	241.9	27.0
2030	11.7	3.4	2.9	244.1	179.0	241.9	27.9
2031	13.6	3.4	2.9	249.0	179.0	241.9	28.8
2032	15.6	3.5	3.0	254.0	179.0	241.9	29.7
2033	17.7	3.6	3.0	259.0	179.0	241.9	30.6
2034	19.9	3.7	3.1	264.2	179.0	241.9	31.5
2035	22.1	3.7	3.2	269.5	179.0	241.9	32.5
2036	24.1	3.8	3.2	274.9	179.0	241.9	33.4
2037	26.1	3.9	3.3	280.4	179.0	241.9	34.4
2038	28.2	4.0	3.4	286.0	179.0	241.9	35.5
2039	30.4	4.0	3.4	291.7	179.0	241.9	35.9
2040	32.6	4.1	3.5	297.6	179.0	241.9	36.4
2041	35.0	4.2	3.6	303.5	179.0	241.9	36.4
2042	37.5	4.3	3.6	309.6	179.0	241.9	36.4
2043	40.1	4.4	3.7	315.8	179.0	241.9	36.4

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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#### Practice Areas:

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- Florida Public Service Commission, Commissioner, 1991 - 2007
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- Office of the Public Counsel, Chief Regulatory Analyst, 1987 - 1991
- Florida Public Service Commission, Executive Assistant to the Commissioner, 1981 - 1987
- Office of the Public Counsel, Legislative Analyst II and III, 1979 - 1981
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- National Association of Regulatory Utility Commissioners (NARUC), 1995 - 1998,  
*Member, Committee on Utility Association Oversight*
- National Association of Regulatory Utility Commissioners (NARUC) 2002 *Member,*  
*Rights-of-Way Study*
- Nuclear Waste Strategy Coalition, 2000 - 2006, *Board Member*
- Federal Energy Regulatory Commission (FERC) South Joint Board on Security  
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*  
*Award Recipient*
- Eastern NARUC Utility Rate School - Faculty Member



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**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)
		<b>Payback:</b>	<b>3 years</b>				<b>3 years</b>				<b>4 years</b>			
		<b>XIRR</b>	<b>50.1%</b>											

**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)
		<b>Payback:</b>	<b>3 years</b>				<b>3 years</b>				<b>4 years</b>			
		<b>XIRR</b>	<b>47.7%</b>											

**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)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
			Annual Customer Savings	0.0% Interest Expense	Cumulative Customer Savings	Net Cost	Annual Customer Savings	7.0% Interest Expense	Cumulative Customer Savings	Net Cost	Annual Customer Savings	20.0% Interest Expense	Cumulative Customer Savings	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)
		<b>Payback:</b>	<b>3 years</b>				<b>4 years</b>				<b>5 years</b>			
		<b>XIRR</b>	<b>44.4%</b>											

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**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)
<b>Payback:</b>			<b>3 years</b>				<b>3 years</b>				<b>4 years</b>			
<b>XIRR</b>			<b>39.4%</b>											

**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)
		<b>Payback:</b>	<b>3 years</b>				<b>3 years</b>				<b>3 years</b>			
		<b>XIRR</b>	<b>67.4%</b>											

**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 2<sup>nd</sup> day of April, 2014 to the following:

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BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Commission review of numeric conservation goals (Florida Power & Light Company).

DOCKET NO. 130199-EI

In re: Commission review of numeric conservation goals (Duke Energy Florida, Inc.).

DOCKET NO. 130200-EI

In re: Commission review of numeric conservation goals (Tampa Electric Company).

DOCKET NO. 130201-EI

In re: Commission review of numeric conservation goals (Gulf Power Company).

DOCKET NO. 130202-EI

In re: Commission review of numeric conservation goals (JEA).

DOCKET NO. 130203-EM

In re: Commission review of numeric conservation goals (Orlando Utilities Commission).

DOCKET NO. 130204-EM

In re: Commission review of numeric conservation goals (Florida Public Utilities Company).

DOCKET NO. 130205-EI  
ORDER NO. PSC-14-0696-FOF-EU  
ISSUED: December 16, 2014

The following Commissioners participated in the disposition of this matter:

ART GRAHAM, Chairman  
LISA POLAK EDGAR  
RONALD A. BRISÉ  
EDUARDO E. BALBIS  
JULIE I. BROWN

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ORDER NO. PSC-14-0696-FOF-EU

DOCKET NOS. 130199-EI, 130200-EI, 130201-EI, 130202-EI, 130203-EM, 130204-EM,  
130205-EI

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### **FINAL ORDER APPROVING NUMERIC CONSERVATION GOALS**

BY THE COMMISSION:

#### Background

Sections 366.80 through 366.85, and 403.519, Florida Statutes (F.S.), are known collectively as the Florida Energy Efficiency and Conservation Act (FEECA). The seven utilities subject to FEECA, collectively known as the FEECA Utilities, are Florida Power & Light Company (FPL), Duke Energy Florida, Inc. (DEF), Tampa Electric Company (TECO), Gulf Power Company (Gulf), Florida Public Utilities Company (FPUC), JEA, and Orlando Utilities Commission (OUC). Pursuant to Section 366.82(6), F.S., we must review the conservation goals of each utility subject to FEECA at least every five years. FEECA goals were

last established for these utilities by Order No. PSC-09-0855-FOF-EG, issued December 30, 2009.<sup>1</sup> Therefore, new goals may be established by January 2015.

An informal meeting was held on June 17, 2013, with the FEECA Utilities and interested parties to discuss the current numeric goals proceeding. In an effort to streamline the proceeding and minimize costs, our staff recommended and the parties agreed that the Technical Potential Study used in the previous numeric goals proceeding, Docket Nos. 080407-EG through 080413-EG, should be updated, instead of performing a completely new study. Further, parties discussed minimum testimony requirements and what level of analysis could be reasonably conducted by the parties within the timeframe of the docket. Consistent with Order No. PSC-09-0855-FOF-EG in the previous goals proceeding, parties agreed that supply-side efficiencies would not be addressed in this proceeding. On July 26, 2013, seven dockets were established to set numeric conservation goals for each of the FEECA Utilities, the fifth such proceeding.

By the Order Establishing Procedure (OEP), Order No. PSC-13-0386-PCO-EU, issued August 19, 2013, the dockets for each of the affected Utilities were consolidated for purposes of hearing and controlling dates were established. The Order established minimum testimony requirements for the FEECA Utilities, including a description of how the Technical Potential Study was updated, economic and achievable potential for a base case, sensitivities on fuel prices, free-ridership periods, and carbon dioxide costs, as well as information on their Solar Pilot programs.

By Order No. PSC-14-0112-PCO-EU, issued February 26, 2014, the controlling dates were revised, moving the hearing to July 21-23, and July 30-31, 2014. Order No. PSC-14-0154-PCO-EU, issued April 7, 2014, established the issues for the dockets. Pursuant to Order No. PSC-14-0189-PCO-EU, issued April 22, 2014, the controlling dates were modified to extend the intervenor and rebuttal testimony deadlines to May 19, 2014, and June 10, 2014, respectively.

On August 23, 2013, FPUC filed a petition requesting to establish its numeric goals by use of a proxy methodology and to waive the filing requirements of Order No. PSC-13-0386-PCO-EU. On October 2, 2013, OUC filed a petition requesting to establish its numeric goals by use of a proxy methodology, similar to the request filed by FPUC.

By Order No. PSC-13-0645-PAA-EU, issued December 4, 2013, we approved the use of a proxy methodology to establish the numeric goals for both OUC and FPUC. By using a proxy methodology, OUC and FPUC were able to avoid costs associated with performing the analyses required by the minimum testimony requirements which would have represented a hardship to their customers. Both OUC and FPUC were excused from the filing and participation

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<sup>1</sup> See DN 080407-EG, In re: Commission review of numeric conservation goals (Florida Power & Light Company); DN 080408-EG, In re: Commission review of numeric conservation goals (Progress Energy Florida, Inc.); DN 080409-EG, In re: Commission review of numeric conservation goals (Tampa Electric Company); DN 080410-EG, In re: Commission review of numeric conservation goals (Gulf Power Company); DN 080411-EG, In re: Commission review of numeric conservation goals (Florida Public Utilities Company); DN 080412-EG, In re: Commission review of numeric conservation goals (Orlando Utilities Commission); DN 080413-EG, In re: Commission review of numeric conservation goals (JEA).

requirements of the July 2014 hearing. However, both OUC and FPUC will be responsible for filing numeric conservation goals based upon the proxy utilities, TECO and Gulf, respectively, within ten days of a Final Order establishing goals for those utilities. We granted our staff administrative authority to validate the calculations of the respective numeric conservation goals submitted by OUC and FPUC who shall file their respective demand side management plans within 90 days of the Final Orders establishing goals for their respective proxies.

We acknowledged the intervention of the Florida Department of Agriculture and Consumer Services (FDACS) on September 10, 2013.<sup>2</sup> The Sierra Club and the Florida Industrial Power Users Group (FIPUG) were granted leave to intervene on February 7, 2014.<sup>3</sup> The Southern Alliance for Clean Energy (SACE) and White Springs Agriculture Chemicals, Inc. d/b/a PCS Phosphate (PCS Phosphate) were granted leave to intervene on March 18, 2014.<sup>4</sup> Wal-Mart Stores East, LP and Sam's East, Inc. (collectively referred to as Walmart) were granted leave to intervene on April 7, 2014.<sup>5</sup> The Environmental Defense Fund (EDF) was granted leave to intervene on May 16, 2014.<sup>6</sup> We acknowledged the intervention of the Office of Public Counsel (OPC) on May 29, 2014.<sup>7</sup> The Florida State Conference of the National Association for the Advancement of Colored People (NAACP) was granted leave to intervene by the Prehearing Order on July 11, 2014.<sup>8</sup>

We held an evidentiary hearing on July 21, 22, and 23, 2014. During the hearing, we approved a stipulation to establish goals for JEA based upon the savings associated with core measures JEA intends to offer its electric customers. A copy of this stipulation is included as Attachment A. We have jurisdiction over this matter pursuant to Sections 366.80 through 366.82, F.S.

### **TECHNICAL POTENTIAL STUDY**

FPL stated that the update to the 2009 Technical Potential Study provided an adequate assessment of the full technical potential of all measures, with collaboration among all FEECA utilities and extensive analytical work to ensure it was thoroughly comprehensive. DEF stated that it utilized the agreed-upon methodology for updating the 2009 Technical Potential Study. TECO asserted that the practice of updating a previous Technical Potential Study has been utilized in previous goal-setting proceedings when the foundational data was deemed to still be accurate, and that it is appropriate in this case. At the publicly noticed workshop meeting on June 17, 2013, Gulf asserted that the parties and our staff agreed that an update to the 2009 Technical Potential Study was appropriate, rather than undertaking an entirely new study.

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<sup>2</sup> See Order No. PSC-13-0420-PCO-EU, issued September 10, 2013, (FDACS).

<sup>3</sup> See Order Nos. PSC-14-0097-PCO-EU (Sierra Club) and PSC-14-0097-PCO-EI (FIPUG), issued February, 7, 2014.

<sup>4</sup> See Order Nos. PSC-14-0135-PCO-EI (SACE) and PSC-14-0136-PCO-EI (PCS Phosphate), issued March 18, 2014.

<sup>5</sup> See Order No. PSC-14-0153-PCO-EU (Walmart), issued April 7, 2014.

<sup>6</sup> See Order No. PSC-14-0239-PCO-EI (EDF), issued May 16, 2014.

<sup>7</sup> See Order No. PSC-14-0269-FOF-EU (OPC), issued May 29, 2014.

<sup>8</sup> See Order No. PSC-14-0356-PHO-EU (NAACP), issued July 11, 2014.

FDACS asserts that all parties present at the June 17, 2013, workshop agreed to the update of the 2009 Technical Potential Study, and the resulting 2014 Technical Potential Study represents a collaborative update of the previous study which was approved by us as adequate. NAACP stated that the assessment of the full technical potential of all available demand-side and supply-side conservation and energy efficiency measures is adequate. EDF, FIPUG, PCS Phosphate, SACE, Sierra Club, Walmart and OPC did not provide arguments directly related to the information discussed.

### Analysis

Chapter 366.82(3), F.S., states in relevant part that in developing Demand-Side Management (DSM) goals, we “shall evaluate the full technical potential of all available demand-side and supply-side conservation and efficiency measures . . .” In Order No. PSC-13-0386-PCO-EU, we required the FEECA Utilities to develop an updated version of the 2009 Technical Potential Study used during the last goals proceeding.<sup>9</sup> This Order was based upon an agreement made during a meeting held by our staff with utility representatives and interested parties on June 17, 2013. At that meeting our staff expressed a desire to streamline the goal setting process and to build upon the work done in 2009. We had previously determined the 2009 Technical Potential Study to be an adequate assessment of the technical potential of all available demand-side conservation and efficiency measures in its final order setting conservation goals in 2009 by Order No. PSC-09-0855-FOF-EG.<sup>10</sup>

The utilities worked jointly on the methodology for updating the Technical Potential Study, and each FEECA Utility employed this common methodology in developing its technical potential for the 2015-2024 goals period. The methodology employed by the Utilities began with the 2009 Technical Potential Study which identified all of the annual energy and winter and summer peak demand savings available in the state that could be implemented without regard to economic, customer acceptance, or other real-world constraints. In updating the study for the 2015-2024 goal setting period, the FEECA Utilities worked together to develop a multi-step process. The first step was simply establishing the 2009 Technical Potential Study as the common reference point from which each utility would begin, since this study was already accepted as a comprehensive list of unique conservation and efficiency measures.

The next step in updating the Technical Potential Study involved making adjustments to compensate for the increase in mandatory equipment and appliance efficiency codes and standards implemented by federal and state entities. Because the Florida building codes and the Federal equipment manufacturing standards have changed significantly in the last five years to increase the required minimum standards, the utilities found it necessary to take into consideration the subsequent decrease in incremental energy efficiency and demand reduction

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<sup>9</sup> See Order No. PSC-13-0386-PCO-EU, Issued August 19, 2013, Order Consolidating Dockets and Establishing Procedure, in Docket Nos. 130199-EI, 130200-EI, 130201-EI, 130202-EI, 130203-EM, 130204-EM, and 130205-EI.

<sup>10</sup> See Order No. PSC-09-0855-FOF-EG, Issued December 30, 2009, Final Order Approving Numeric Conservation Goals, in Docket Nos. 080407-EG, 080408-EG, 080409-EG, 080410-EG, 080411-EG, 080412-EG, and 080413-EG.

available through utility sponsored programs. This development led to the elimination of outdated and obsolete measures from the total technical potential.

The next step was to add new efficiency and demand savings measures that have become available since the 2009 goal-setting cycle. Each new measure identified is an existing technology that is commercially available, and for which Florida-specific pricing information is available. In this manner, emerging or non-standard technologies were not included. FPL, DEF, TECO, and Gulf all developed lists of the measures added to and eliminated from the energy savings measures included in the 2009 Technical Potential Study.

Finally, each Utility made any further adjustments to its technical potential that were necessary based on marketplace changes, such as service area growth and the effects of demand and efficiency achievements since the previous technical potential assessment.

The changes made in building codes and appliance efficiency standards associated with air conditioning equipment is especially important when considering changes to technical potential for utility programs. Because a large portion of the available technical potential comes from air conditioning equipment, the increase in codes and standards mandated by state and federal authorities leads to a large decrease in that technical potential.

Each utility provided its technical potential totals, utilizing the 2009 Technical Potential totals as a starting point and illustrating the information used to update those totals for 2014. This information is provided in the tables below.

**Table 1-1: FPL Technical Potential Changes (Energy Efficiency and Demand Response)**

<b>Category</b>	<b>Summer Demand (MW)</b>	<b>Winter Demand (MW)</b>	<b>Annual Energy (GWh)</b>
<b>2009 Approved Technical Potential</b>	10,212	7,287	31,849
<b>New Codes &amp; Standards</b>	(1,086)	(575)	(4,183)
<b>Marketplace Changes</b>	(446)	(212)	(374)
<b>New Measures Considered</b>	531	303	4,177
<b>2014 Updated Technical Potential</b>	9,212	6,803	31,468
<b>Net Change from 2009</b>	(1,001)	(484)	(380)

**Table 1-2: DEF Technical Potential Changes (Energy Efficiency and Demand Response)**

Category	Summer Demand (MW)	Winter Demand (MW)	Annual Energy (GWh)
<b>2009 Approved Technical Potential</b>	2,943	1,897	12,351
<b>New Codes &amp; Standards</b>	(470)	(267)	(1,828)
<b>Marketplace Changes</b>	(186)	(244)	(385)
<b>New Measures Considered</b>	364	125	1,935
<b>2014 Updated Technical Potential</b>	2,651	1,511	12,073
<b>Net Change from 2009</b>	(292)	(386)	(278)

**Table 1-3: TECO Technical Potential Changes (Energy Efficiency and Demand Response)**

Category	Summer Demand (MW)	Winter Demand (MW)	Annual Energy (GWh)
<b>2009 Approved Technical Potential</b>	1,962	1,388	5,853
<b>New Codes &amp; Standards</b>	(224)	(132)	(963)
<b>Marketplace Changes</b>	(67)	(84)	(26)
<b>New Measures Considered</b>	137	81	1,097
<b>2014 Updated Technical Potential</b>	1,808	1,253	5,961
<b>Net Change from 2009</b>	(154)	(125)	108



**Table 1-4: Gulf Technical Potential Changes (Energy Efficiency and Demand Response)**

<b>Category</b>	<b>Summer Demand (MW)</b>	<b>Winter Demand (MW)</b>	<b>Annual Energy (GWh)</b>
<b>2009 Approved Technical Potential</b>	1,091	743	3,304
<b>New Codes &amp; Standards</b>	(118)	(62)	(458)
<b>Marketplace Changes</b>	(28)	(30)	(38)
<b>New Measures Considered</b>	61	35	445
<b>2014 Updated Technical Potential</b>	1,005	686	3,253
<b>Net Change from 2009</b>	(86)	(57)	(51)

Only SACE and Sierra Club took issue with the Utilities' updated Technical Potential Study. SACE witness Mims testified that simply updating a Technical Potential Study is not appropriate. Rather, the witness cites from a Georgia case study that determined a Technical Potential Study conducted five years earlier had significant differences from the current one. In particular, the testimony cited states that measures had been added over the five-year period. We find that the Utilities have accounted for this phenomenon in their updated list of measures, which includes newly available measures as well as excluding outdated ones.

Sierra Club witness Woolf testified in his direct testimony that the 2014 update was insufficient, primarily because the 2009 Technical Potential Study did not include potential savings from several market sectors. The witness gave a detailed description of the types of measures and sectors that were omitted from the total technical potential presented by the Utilities in 2009.

FPL witness Koch notes that SACE and Sierra Club were given the opportunity following the June 2013 meeting to submit additional measures for consideration in the Technical Potential provided that Florida-specific data was provided. No such data was ever received, and therefore the measures listed by witness Woolf were not included in the Technical Potential Study update.

SACE witness Mims also discussed her opinion that the Technical Potential Study performed in 2009 was flawed by being too conservative and that the resulting estimates were too low. The witness cites testimony of NRDC/SACE witness Mosenthal from the 2009 proceeding, which addresses this opinion. SACE testified that errors in computing all technical

potential in the 2009 Technical Potential Study have been carried forward, resulting in a conservative estimate of the full technical potential. Sierra Club asserted that the Utilities' calculations of technical potential significantly understate the full value of technical potential in Florida, and ignore important technologies. These arguments were rejected in Order No. PSC-09-0855-FOF-EG, the 2009 final order setting goals, in which the 2009 Technical Potential Study was found adequate.

### Decision

Consistent with Order No. PSC-13-0386-PCO-EU, the FEECA Utilities employed a common methodology wherein the Technical Potential Study utilized for the 2009 goal-setting proceeding was updated to reflect new technologies, current marketplace conditions, and appliance and efficiency standards.

### **REFLECTION OF COSTS AND BENEFITS**

The FEECA utilities agree the Participants test is appropriate because it captures all of the relevant costs and benefits for customers who participate in DSM measures. FDACS also agrees that the Participants test is appropriate.

EDF, FIPUG, NAACP, PCS Phosphate, Walmart, and OPC did not provide arguments directly related while SACE and Sierra Club were the only parties to disagree with the appropriateness of the Participants test, though neither did so explicitly. SACE stated its opinion that the Total Resource Cost (TRC) test should be used in place of the combined Rate Impact Measure (RIM) test and Participants test. Sierra Club asserts that the RIM test does not satisfy the requirements of the FEECA statute because it does not accurately account for the costs and benefits to customers who elect to participate in measures.

### Analysis

Chapter 366.82(3)(a), F.S., requires that in establishing the goals, we take into consideration the costs and benefits to customers participating in the measure. During the 2009 goals proceeding this concern was vetted by many of the same parties in this proceeding including SACE, FIPUG, and the FEECA utilities. As part of that proceeding we issued Order No. PSC-09-0855-FOF-EG, p. 12, which stated the following:

We find that the Participants Test, as used by the utilities in this proceeding, satisfies the requirements of Section 366.82(3)(a), F.S. As described in Rule 25-17.088, F.A.C., the Participants Test measures the impact of the program on the participating customers. Based on the evidence in the record, as well as existing Commission Rules, we find that the Participants Test must be considered when establishing conservation goals in order to satisfy Section 366.82(3)(a), F.S.

The goals for energy efficiency and demand savings proposed by the FEECA Utilities are based on measures which all pass the Participants test. The Participants test is designed to

determine whether a measure makes economic sense for customers who choose to participate in a particular DSM measure. The economic elements accounted for by the Participants test are bill savings, incentives received, and tax credits received by the participating customer. The Participants test is a useful tool in assessing the impacts on potential participants, since this screening test fully accounts for all potential benefits received, as well as costs incurred, by a customer participating in a DSM measure.

No party took issue with the use of the Participants test, although both SACE and Sierra Club expressed the opinion that TRC was the only appropriate test, and is in fact mandated by the FEECA Statute. As discussed later, although SACE and Sierra Club advocate the usage of the TRC test, neither party suggested goals based on the TRC test

### Decision

Consistent with Order No. PSC-09-0855-FOF-EG, the FEECA utilities correctly calculated the costs and benefits to the customers participating in the energy savings and demand reduction measures included in their goals by properly utilizing the Participants test. The goals proposed by the utilities adequately reflect these costs and benefits, pursuant to Section 366.82(3)(a), F.S.

### **COST-EFFECTIVENESS TESTS**

FPL contends that only the combination of the Participants and RIM tests reflect the benefits and costs incurred by participants and by all of a utility's customers. FPL concludes that the use of these two tests meets the statutory criteria included in Section 366.82(3)(b) F.S.

DEF asserts that using the RIM and Participants Tests ensures that goals (and subsequent programs) will result in all customers, participants and non-participants, receiving rates and bills that are no higher than they would have been without the DSM programs. DEF additionally contends that the RIM test is designed to eliminate the subsidization of participants by non-participants while the TRC test, benefits participants to the detriment of non-participants.

TECO and Gulf express similar views with respect to the use of the RIM and Participants tests to meet the requirements Section 366.82(3)(b) F.S. Gulf additionally notes that 366.82(3)(b) F.S., does not reference a specific cost-effectiveness test by name.

FIPUG contends that we must not overlook rate impact as it evaluates RIM-based goals. Similarly the NAACP opines that the RIM test accounts for the costs and benefits incurred and consistently results in the lowest rates and costs for participants and non-participants. PCS Phosphate also provides a similar argument asserting that use of the TRC test, as suggested by SACE, is dismissive of customer rate impacts.

SACE states that Section 366.82(3)(b), F.S., requires that we employ the TRC test. SACE concludes that the TRC test singularly meets the requirement of Section 366.82(3)(b) F.S., without having to use two tests (RIM and Participants), as the Utilities do. Likewise, Sierra

Club states that the TRC test is the best test to indicate “costs and benefits to the general body of ratepayers as a whole” under Section 366.82(3)(b) F.S.

FDACS advocates that we consider the Participants, RIM, and TRC tests when establishing goals. EDF, Walmart, and OPC did not provide directly related arguments.

### Analysis

In 2008, the Legislature amended Section 366.82(3)(b), F.S., requiring us, in establishing goals, to consider “[t]he costs and benefits to the general body of ratepayers as a whole, including utility incentives and participant contributions.” During the 2009 goals proceeding this issue was vetted by many of the same parties in this proceeding including SACE, FIPUG, and the FEECA Utilities. As part of that proceeding we issued Order No. PSC-09-0855-FOF-EG, p. 15, which stated the following:

. . . consideration of both the RIM and TRC tests is necessary to fulfill the requirements of Section 366.82(3)(b), F.S. Both the RIM and the TRC Tests address costs and benefits beyond those associated solely with the program participant. By having RIM and TRC results, we can evaluate the most cost-effective way to balance the goals of deferring capacity and capturing energy savings while minimizing rate impacts to all customers.

As part of this proceeding, Order No. PSC-13-0386-PCO-EU required the FEECA Utilities to provide, as part of their pre-filed testimony and exhibits, the achievable demand and energy savings potential for both a RIM based evaluation and a TRC based evaluation. Our staff reviewed the Utilities pre-filed testimony and exhibits and determined that they conform to the requirements of our procedural order.

Although the Utilities filings included cost and benefit information associated with RIM and TRC based goals, the utilities provided testimony supporting use of the RIM and Participants tests as the best way to adequately reflect the costs and benefits to the general body of ratepayers as a whole, including utility incentives and participant contributions. While the Utilities advocated that the RIM test, in conjunction with the Participants test, fulfilled the requirements of Section 366.82(3)(b), F.S., Sierra Club and SACE stated to the contrary. SACE witness Mims testified that FEECA mandates that utilities use the total resource cost TRC test.

While no party provided testimony supporting the use of both the RIM and TRC test, several witnesses cited Order No. PSC-09-0855-FOF-EG in supporting their arguments for use of the RIM test or TRC test. Moreover, FPL witness Deason testified that it is his belief that Section 366.82(3)(b) F.S., does not prescribe one cost-effectiveness test to the exclusion of another. DEF witness Duff similarly testified that he believes we have flexibility to consider results under the RIM and TRC tests. Lastly, Gulf witness Floyd testified that the statute does not specifically name any cost-effectiveness test as being the standard, but rather that the statute references aspects of both the RIM and TRC tests. Consideration of both the RIM and TRC is

necessary to fulfill the requirements of Section 366.82(3)(b), F.S. and is consistent with Commission precedence.

### Decision

We find that consideration of both the RIM and TRC is necessary to fulfill the requirements of Section 366.82(3)(b), F.S. Consistent with Order No. PSC-13-0386-PCO-EU, the Companies provided information based on the RIM and TRC tests.

### **INCENTIVES**

FPL asserts that because its goals reflect measures that pass both the Participants and RIM tests, incentives are adequately reflected in its proposed DSM goals. FPL additionally asserts that utility incentives are not needed at this time.

Gulf contends that its use of the RIM and Participants tests provides incentives to customers through the payment of rebates. Gulf additionally opines that utility performance incentives are not needed under a RIM based goal proposal. Gulf concludes that consideration of utility performance incentives may be warranted if we were to adopt the recommendations of the SACE, Sierra Club, and EDF.

SACE suggests that utilities should be provided performance incentives for achievement of DSM goals. With respect to customer-owned energy efficiency, Sierra Club contends that incentives provided through efficiency programs are needed for customers to adopt the optimal levels of energy efficiency.) FDACS states that the additional costs associated with utility incentives will be added to customers' bills and would therefore result in a greater burden on customers. DEF, TECO, EDF, FIPUG, NAACP, PCS Phosphate, Walmart, and OPC did not provide arguments directly related to the information discussed.

### Analysis

In establishing DSM goals, Section 366.82(3), F.S., requires us to consider whether incentives are needed to promote both customer-owned and utility-owned energy efficiency and demand-side renewable energy systems.

Regarding customer incentives, each Utility's filing included evaluations based on the Participants Test paired with the RIM and TRC test respectively. The Participants Test takes into consideration incentives to customers. We found no evidence in the record opposing the use of the Participants Test as a means to reflect the need for customer incentives. Therefore, we find that that the use of the Participants Test adequately reflects the need for customer incentives. Additionally, that customer incentives shall be considered at the programs approval phase which follows the goal setting proceeding. In Order No. PSC-09-0855-FOF-EU, p. 24, we stated the following:

With regard to customer-owned energy-efficiency and demand-side renewable energy systems, incentives are typically provided through each DSM program. Our staff evaluates each program proposed by a utility prior to making a recommendation as to whether it should be approved. Part of our staff's evaluation process includes an analysis of the cost-effectiveness tests performed by the utility, including the appropriateness of any incentives the utility proposes to offer to customers taking advantage of a particular program as well as the cost and benefits to all customers. Therefore, in our view, a mechanism for providing customers with incentives is already in place and we should continue to make decisions about customer incentives on an individual program basis. We find that it is not necessary to establish additional incentives for customers at this time as doing so would result in higher rates for all customers.

We find it is not necessary to establish additional incentives for customers at this time.

Concerning utility-owned energy efficiency and demand-side renewable energy systems, Section 366.82(8), F.S., states:

The commission may authorize financial rewards for those utilities over which it has rate setting authority that exceed their goals and may authorize financial penalties for those utilities that fail to meet their goals, including, but not limited to, the sharing of generation, transmission, and distribution cost savings associated with conservation, energy efficiency, and demand-side renewable energy systems additions.

The Utilities take the position that there is no need to establish incentives if we approve RIM based goals. Sierra Club witness Woolf testified that we should open a generic docket to investigate opportunities to establish shareholder performance incentives to help provide positive financial incentives for the Utilities to implement successful DSM programs. SACE witness Mims testified that a lost revenue adjustment mechanism and performance incentives for utilities need to be put in place. Witness Mims testified that such incentives could be based on a percentage of customer savings. While Witness Mims advocated for utility incentives, she did not provide a methodology for which we should calculate such incentives nor did she intimate that such incentives should be established at this time. This was also discussed during the 2009 goals proceeding. By Order No. PSC-09-0855-FOF-EU, p. 24, we recognized that such incentives would be a cost to ratepayers and stated the following:

We believe establishing incentives during this proceeding would unnecessarily increase costs to ratepayers at a time when consumers are already facing financial challenges. Increasing rates in order to provide incentives to utilities is more appropriately addressed in a future proceeding after utilities have demonstrated and we have evaluated their performance.

Witness Mims did not provide evidence with respect to the potential rate impact of utility incentives. Therefore, based on the record evidence, and consistent with Order No. PSC-09-

0855-FOF-EU, we find that the Utilities' exclusion of utility incentives adequately reflects the need, at this time, for such incentives. This Order does not preclude a Utility from petitioning us for an additional return on equity based upon its performance.

### Decision

We find that the Utilities' methodology of applying customer incentives for the purpose of establishing goals in this proceeding is adequate. We further find that performance incentives for Utilities are not necessary at this time.

## **COSTS OF GREENHOUSE GAS REGULATIONS**

The FEECA Utilities stated that since there are no current state or federal regulations on the emissions of greenhouse gases, their proposed goals appropriately reflect a zero cost for CO<sub>2</sub> in the base case scenario. FPL stated that it correctly followed the OEP in this docket which required the FEECA Utilities not to include CO<sub>2</sub> costs in the base case. FPL asserts, however, that the CO<sub>2</sub> compliance costs used in its sensitivity analysis are reasonable, but that it is too early to reflect compliance costs associated with the draft Environmental Protection Agency (EPA) regulation in the base case. DEF stated that the form of carbon regulation, and resulting value of CO<sub>2</sub> compliance costs, is becoming more "speculative" than in the last goal-setting process. As a result of the uncertainty surrounding future carbon regulation, DEF asserted there was no need to include a cost of CO<sub>2</sub> emissions in the current goal-setting process. TECO contended that the future of Greenhouse gas regulation is anything but settled, and although EPA issued proposed CO<sub>2</sub> regulations, the rule has not yet been adopted. TECO asserted that it is still not known: (a) whether or when the CO<sub>2</sub> reduction-related requirements will become final; or (b) what the final requirements may be. Similarly, Gulf states that it is not incurring costs associated with existing state or federal regulations on the emissions of greenhouse gases. Therefore, Gulf asserts it has appropriately not included assumptions of costs of CO<sub>2</sub> emissions in the development of proposed goals.

Sierra Club asserted that we should require the cost of recent federal regulations in the base case analysis. Witness Woolf opined that all of the FEECA Utilities should have included the reasonable estimates of greenhouse gas compliance costs. Witness Woolf also asserted that we should "give no weight" to the results of DEF's and FPL's CO<sub>2</sub> sensitivity analyses as the Utilities' forecasted CO<sub>2</sub> costs were understated. Moreover, Sierra Club stated that since there is an overlap in the timeline for compliance with EPA's proposal to regulate CO<sub>2</sub> from existing sources and that proposal includes an energy efficiency target for the state we should not wait to address the proposed rule. Therefore, Sierra Club asserted that we should re-open the FEECA docket to revisit the goals to account for the provisions in the proposal by summer of 2015.

SACE stated that the FEECA Utilities did not accurately consider the future cost of CO<sub>2</sub> regulation and the ability to use energy efficiency as a compliance mechanism for future EPA

regulations. EDF notes that renewable energy resources can be used to comply with the EPA's Clean Power Plan.

OPC, FDACS, and FIPUG all agreed that there are no currently imposed costs resulting from state or federal regulations on the emission of greenhouse gases. FDACS also stated that it would be premature to include a cost of compliance with regulations that are not currently in their final form. Further, FDACS asserted that if the proposed EPA rule becomes final and compliance costs are established, we have the ability to modify FEECA plans. Walmart, PCS Phosphate and NAACP did not specifically address this concern.

### Analysis

When establishing conservation goals, Section 366.82(3)(d), F.S., requires us to consider the costs imposed by state and federal regulations on the emission of greenhouse gases. The statute neither defines "greenhouse gases," nor requires us to actually develop costs or require their inclusion as part of its findings. The FEECA Utilities have viewed any costs imposed for the regulation of CO<sub>2</sub>, one of the greenhouse gases, as satisfying this statutory requirement. Of the greenhouse gases, CO<sub>2</sub> has been regarded as the most likely to be regulated because of prior proposed legislation.

In June 2014, the Environmental Protection Agency (EPA) published a proposal to regulate CO<sub>2</sub> from existing electric utility generating units.<sup>11</sup> That rule is not expected to be finalized until June 2015, with an initial proposed compliance date of 2020. FPL outlined the timeline, as shown below, for the implementation of the EPA's proposal, barring any delays from legal challenges. DEF further explained that under the current proposal, there is a ten year glide path from the interim emission goals for 2020 and the final emission goals in 2030. We note that following the statutory timeframe contained in Section 366.82(6), F.S., we are required to establish new FEECA goals in 2019, prior to the first interim EPA goals.

The following timeline summarizes the EPA schedule:

- June 2014: proposed regulations are issued and comments are requested
- June 2015: final regulations are to be issued
- June 2016: state implementation plans are to be filed
- June 2017: possible one-year extension to filing of state implementation plans
- June 2018: multi-state implementation plans to be filed
- 2020: first year that interim average emission goals are to be met
- 2030: first year that final emission goals are to be met

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<sup>11</sup> See Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units," 79 Fed. Reg., pp. 34830-01 (June 18, 2014), <http://www.gpo.gov/fdsys/pkg/FR-2014-06-18/pdf/2014-13726.pdf>.



According to the minimum filing requirements outlined in Order No. PSC-13-0386-PCO-EU, the FEECA Utilities were required to propose goals that exclude costs associated with CO<sub>2</sub> emissions.<sup>12</sup> The FEECA Utilities were permitted to include a sensitivity analysis that included a cost for CO<sub>2</sub> emissions, provided it was consistent across all utilities and each utility included a detailed description of how the sensitivity was developed. Accordingly, none of the FEECA Utilities included a cost of CO<sub>2</sub> compliance in the base case when developing their respective proposed goals. Additionally, DEF and FPL chose to include a CO<sub>2</sub> sensitivity analysis, whereas TECO and Gulf did not.

#### Prior Inclusion of CO<sub>2</sub> Cost Estimates

In the 2009 goals proceeding, TECO and DEF both explained that all of the FEECA Utilities believed that the cost of carbon regulation would be incurred by the Utilities relatively close to the prior goal-setting. As a result, each Utility in that proceeding added a cost impact of CO<sub>2</sub> regulation in its base case analysis, and subsequently we approved goals that included cost estimates for future greenhouse gas emissions.<sup>13</sup> As CO<sub>2</sub> legislation did not become effective, witness Bryant estimated that the rate impact on TECO's customers from including cost estimates over the past five years totaled approximately \$37 million. Witness Bryant's testimony implies that the current goals set for TECO are higher than they should be, and that TECO customers are funding programs that would not have been implemented, except for the inclusion in the prior goal-setting process of CO<sub>2</sub> cost, that did not materialize.

#### Utilities with CO<sub>2</sub> Sensitivity

DEF and FPL included a CO<sub>2</sub> sensitivity analysis that was consistent across the two Utilities. The Utilities provided additional information describing how those costs were developed as instructed by the OEP.<sup>14</sup> FPL and DEF both individually developed a CO<sub>2</sub> compliance cost forecast, and averaged their individual Utility's forecasted CO<sub>2</sub> costs to arrive at a "composite" CO<sub>2</sub> cost forecast to include in their sensitivity analyses. FPL's projected annual CO<sub>2</sub> compliance costs were developed by an external consulting firm; whereas, DEF's annual CO<sub>2</sub> compliance costs were developed internally.

As seen in Table 2-1, compliance costs are forecasted to be zero until 2022 and increase yearly thereafter. However, given that there are no currently imposed CO<sub>2</sub> regulations, forecasted compliance costs remain highly speculative. Additionally, as described in the following section, FPL and DEF concluded that the impact of their sensitivity analyses did not materially change the results of either Utility's proposed goals. Further, although EDF, SACE,

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<sup>12</sup> See Order No. PSC-13-0386-PCO-EU, Attachment A.

<sup>13</sup> See Order No. PSC-09-0855-FOF-EG, issued December 30, 2009, in Docket Nos. 080407-EG, 080408-EG, 080409-EG, 080410-EG, 080411-EG, 080412-EG, 080413-EG, In re: Commission review of numeric conservation goals (Florida Power & Light Company, Progress Energy Florida, Inc., Tampa Electric Company, Gulf Power Company, Florida Public Utilities Company, Orlando Utilities Commission, and JEA), pp. 15-16.

<sup>14</sup> See Order No. PSC-14-0356-PHO-EU.

and Sierra Club testified that the Utilities' forecasted CO<sub>2</sub> compliance costs were not accurate, no party offered an alternative CO<sub>2</sub> cost forecast.

**Table 2-1: FPL & DEF Compliance CO<sub>2</sub> Costs Forecast**

<b>CO<sub>2</sub> Costs Forecast (Nominal \$/Ton)</b>	
<b>2014</b>	\$0.00
<b>2015</b>	\$0.00
<b>2016</b>	\$0.00
<b>2017</b>	\$0.00
<b>2018</b>	\$0.00
<b>2019</b>	\$0.00
<b>2020</b>	\$0.00
<b>2021</b>	\$0.00
<b>2022</b>	\$10.25
<b>2023</b>	\$15.35
<b>2024</b>	\$16.61
<b>2025</b>	\$18.62

#### Impact of CO<sub>2</sub> Sensitivity

FPL and DEF both concluded that the impact of the CO<sub>2</sub> costs sensitivity analysis was relatively small. DEF explained that the impact of including a CO<sub>2</sub> compliance cost increased the avoided production costs and lost revenue that resulted in a decrease of 208 gigawatt-hours in the RIM portfolio. DEF concluded its CO<sub>2</sub> cost sensitivity analysis did not significantly increase the amount of programs the Utility could offer.

FPL testified that the achievable summer values without CO<sub>2</sub> were 526 MW under the RIM screening path and 576 MW under the TRC screening path. The achievable values with CO<sub>2</sub> were 508 MW under the RIM screening path and 577 MW under the TRC screening path. FPL concluded that since the OEP instructed the FEECA Utilities not to include CO<sub>2</sub> compliance cost in the base case and because there were only nominal impacts resulting from the CO<sub>2</sub> sensitivities, it was sufficient to evaluate DSM measures without the inclusion of CO<sub>2</sub> costs for its remaining analyses.

#### Utilities without CO<sub>2</sub> Sensitivity

TECO and Gulf did not include a CO<sub>2</sub> sensitivity analysis in their filings. TECO believes whether or when the carbon reduction-related requirements will become final, and what the final requirements may be, remain unknown. In addition, witness Bryant testified that there is significant opposition to the proposed regulation, and it would be premature to burden ratepayers by speculating about carbon costs associated with a proposed regulation that may or may not

come into being. Additionally, although Gulf included CO<sub>2</sub> compliance costs in its base case for the prior goal-setting docket, Gulf believes inclusion of such costs was not consistent with its Ten-Year Site Plan at that time. In this docket, to be consistent with their 2013 Ten-Year Site Plan, Gulf did not believe it should include a sensitivity analysis for CO<sub>2</sub> since CO<sub>2</sub> assumptions were not included in the determination of the avoided unit used in the development of their proposed goals. Although TECO and Gulf did not include a CO<sub>2</sub> sensitivity analysis in their filings, TECO and Gulf correctly followed the provisions of Order No. PSC-13-0386-PCO-EU, regarding this issue.

### Proposed CO<sub>2</sub> Regulation

At the hearing, some discussion was held regarding the overlap of this goal setting docket and whether utilities would be required to increase their DSM offerings to meet EPA's proposed requirements. Although the Utilities indicated that they are currently reviewing the proposal, exact details of its requirements cannot be known until the state files, and gets EPA approval on, an implementation plan to address the proposed CO<sub>2</sub> emissions limits. FPL witness Sim also testified that it is too early to conclude what effect the proposed draft regulation could have on CO<sub>2</sub> compliance costs. Under the current proposal, the exact requirements may not be known until after EPA approves Florida's state implementation plan, which can be submitted as late as June 2018.<sup>15</sup> Section 366.82(3)(d), F.S., requires us to consider actual compliance costs, rather than proposed or future costs when setting DSM goals. Therefore, we disagree with SACE and Sierra Club's position that we should set goals based, in part, on the proposed EPA regulations since the ultimate compliance requirements, including the timing of compliance and the role energy efficiency may play, have yet to be finalized at this time.

Witness Bryant pointed out that pursuant to Section 366.82(6), F.S., we can open a new goal-setting docket at any point (but not later than every five years). When asked about the FEECA Utilities' abilities to add new programs, witness Bryant pointed to the 2004-2005 hurricane season as an example of how quickly we and utilities can respond to changing regulations. Further, FPL pointed out that the schedule outlined in EPA's proposal does not require compliance towards goals until 2020, which is a year after we are scheduled to review DSM goals. Therefore, once the costs of compliance with EPA's proposed regulations become effective, if at all, we can require a reevaluation and re-establishment of FEECA goals with the accommodating new programs.

### Decision

Currently, there are no costs imposed by state and federal regulations on the emissions of greenhouse gases. Therefore, consistent with Order No. PSC-13-0386-PCO-EU, the Utilities filed base case goals assuming a cost of zero dollars for CO<sub>2</sub>. Pursuant to Section 366.82(6), F.S., we may change the goals for a reasonable cause. Once the compliance costs associated

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<sup>15</sup> See Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units," 79 Fed. Reg., p. 34900 (June 18, 2014), <http://www.gpo.gov/fdsys/pkg/FR-2014-06-18/pdf/2014-13726.pdf>.

with any regulations on the emission of Greenhouse gases are known, including CO<sub>2</sub>, we have the authority to review and, if appropriate, modify goals.

### **COST-EFFECTIVENESS TESTS**

The FEECA Utilities universally propose the usage of a combination of the Participants test and the RIM test to set goals. The FEECA Utilities also state that the RIM test addresses cross-subsidization between DSM program participants and non-participants.

FPL, DEF, and TECO state the selection of the RIM test is consistent with previous Commission precedent, and refer to the 1994 Goals Order, Order No. PSC-94-1313-FOF-EG, which opted to select goals based upon the RIM test.<sup>16</sup> DEF and TECO note that while we elected to base goals on the Enhanced TRC test in the 2009 Goals Order, Order No. 09-0855-FOF-EG, we ultimately rejected plans proposed to meet those goals due to adverse rate impacts to customers.<sup>17</sup>

NAACP asserts that we should use the RIM test to address concerns of cross-subsidization and minimize rates, particularly for low income and minority ratepayers. NAACP also refers to the 1994 Goals Order, and suggests that RIM test will produce the lowest rates.

FIPUG and PCS Phosphate state that we should establish goals based upon the RIM test. PCS Phosphate states that rates are highly important to its members, and that the TRC test does not adequately address rate concerns.

OPC elected to take no position with regards to the appropriate cost-effectiveness test, but states that if we elect to base goals on the RIM test then the FEECA Utilities should not be eligible to receive rewards for exceeding the goals. OPC asserts that whichever cost-effectiveness test or tests we select should protect the general body of ratepayers from undue rate impacts.

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<sup>16</sup> See Order No. PSC-94-1313-FOF-EG, issued October 25, 1994, Docket No. 93-0548-EG, 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. 93-0549-EG, In re: Adoption of Numeric Conservation Goals and Consideration of National Energy Policy Act Standards (Section 111) by Florida Power Corporation; Docket No. 93-0550-EG, In re: Adoption of Numeric Conservation Goals and Consideration of National Energy Policy Act Standards (Section 111) by Gulf Power Company; Docket No. 93-0551-EG, In re: Adoption of Numeric Conservation Goals and Consideration of National Energy Policy Act Standards (Section 111) by Tampa Electric Company.

<sup>17</sup> See Order No. 09-0855-FOF-EG, issued December 30, 2009, Docket No. 080407-EG, In re: Commission Review of numeric conservation goals (Florida Power & Light Company); Docket No. 080408-EG, In re: Commission Review of numeric conservation goals (Progress Energy Florida, Inc.); Docket No. 080409-EG, In re: Commission Review of numeric conservation goals (Tampa Electric Company); Docket No. 080410-EG, In re: Commission Review of numeric conservation goals (Gulf Power Company); Docket No. 080411-EG, In re: Commission Review of numeric conservation goals (Florida Public Utilities Company); Docket No. 080412-EG, In re: Commission Review of numeric conservation goals (Orlando Utilities Commission); Docket No. 080413-EG, In re: Commission Review of numeric conservation goals (JEA).

FDACS contends that we should consider both the RIM test and the TRC test when establishing goals. FDACS states that by considering multiple tests, we would have a better perspective of the cost-effectiveness of conservation measures and potential rate impacts.

Walmart recommends that we, in addition to the three tests already utilized, should establish a new methodology for determining the cost-effectiveness of solar measures that includes benefits associated with risk reduction for fuel price volatility, construction costs, and environmental regulations. Walmart states that we should engage in workshops or other proceedings to evaluate such a methodology.

EDF asserts that the FEECA Utilities have not accurately calculated the potential benefits of solar measures, and therefore the cost-effectiveness analysis conducted is incomplete. EDF identifies several potential benefits not considered in any of the three tests utilized by us, and recommends that we should seek to quantify these benefits through studies of distributed solar systems.

Sierra Club states that we should specify that a robust TRC test be used in future studies, and that it should include customer incentives, non-energy benefits, and greenhouse gas compliance costs. Sierra Club also recommends the Utility Cost test should be required, which Sierra Club states is the optimum test for determining utility revenue requirements and impacts on average customer bills. Sierra Club asserts that the TRC test currently used by us incorrectly omits customer incentive payments and non-energy benefits, thereby undervaluing the test.

SACE asserts that the FEECA Utilities support the RIM test because it provides a financial benefit to the utilities, not out of concerns for low income ratepayers. SACE suggests that the TRC test meets the statutory requirements of FEECA for reduction in energy consumption and peak demand and should be used by us to set goals. SACE acknowledges that rate increases could result from goals based on TRC, but that programs could be designed to allow wide participation. SACE also recommends that regulatory policies such as lost revenue recovery and performance incentives could be implemented to fully support energy efficiency as a resource.

### Analysis

By Rule 25-17.008(3), Florida Administrative Code (F.A.C.), we adopted a cost-effectiveness manual that outlines the Participants test, RIM test, and the TRC test for use when evaluating the cost-effectiveness of conservation programs. By providing achievable potential based on the Participants test, RIM test, and TRC test, the Utilities have provided us with adequate information to consider the impact to all utility customers. As such, Order No. PSC 13-0386-FOF-EG, required all utilities to provide achievable potentials for both RIM and TRC portfolios.

Rule 25-17.008(3), F.A.C. does not specify preference for any one test. The FEECA statute also does not specify preference for any one test. In the 2009 goals proceeding, we interpreted Section 366.82(3), F.S., to require use of multiple tests.

Specifically, Order No. PSC-09-0855-FOF-EG, p.15, states that:

. . . consideration of both the RIM and TRC tests is necessary to fulfill the requirements of Section 366.82(3)(b), F.S. Both the RIM and the TRC Tests address costs and benefits beyond those associated solely with the program participant. By having the RIM and TRC results, we can evaluate the most cost-effective way to balance the goals of deferring capacity and capturing energy savings while minimizing rate impacts to all customers.

DEF witness Duff asserts that we have the flexibility to consider all three cost-effectiveness tests, but suggests that the RIM test and Participants test should be relied upon to set goals. We find it appropriate to consider all three cost-effectiveness tests to set goals.

While SACE and Sierra Club propose we use the TRC test to evaluate programs, neither proposes the use of the TRC test to determine goals. Further, EDF, SACE, and Sierra Club propose adoption of alternative cost-effectiveness methodologies for some solar Photovoltaic (PV) measures.

#### Decision

We find that, consistent with Order No. PSC-09-0855-FOF-EG, a combination of the Participants test, the RIM test, and the TRC test shall all be used to set goals.

### **CONSIDERATION OF FREE RIDERS**

The FEECA Utilities contend that using a two-year payback criterion is the proper method to identify and screen free-ridership as required by Rule 25-17.0021, F.A.C. Furthermore, FPL, TECO, and Gulf assert that we have properly recognized the two-year payback as the correct criterion to address free-ridership in every DSM goal-setting process since 1994. DEF states that it has used a two-year payback period to account for free riders since 1991. DEF further asserts that during the program development phase of the proceeding, the FEECA Utilities have traditionally included measures that have shorter paybacks to encourage low income participation. Gulf also states that if we adopt its proposed goals, the Utility is committed to offering a low income program that includes some two-year payback measures.

FIPUG contends that we should employ a three-year payback screen rather than a two-year payback screen to ensure that “free riders” are limited as much as possible. This would reduce the rates paid by customers and match the participating customer’s discounted rate of return to more reasonable expected returns in today’s market.

SACE believes that the two-year payback standard for free-ridership should not be used because it does not accurately capture free riders and it discriminates against low income communities. Additionally, SACE states the two-year payback standard is “a blunt instrument that assumes customers will adopt measures without incentives that payback in under two years.”

Moreover, SACE asserts that we should require the FEECA Utilities to conduct surveys and studies referred to as Evaluation, Measurement, and Verification (EM&V) for all DSM programs in Florida in order to study the degree of free-ridership in all programs, especially low income communities.

The Sierra Club contends that there is no evidence to support excluding the two-year measures and that such measures are not being adopted without programs to support them. In addition, the Sierra Club believes we should reject the two-year payback criterion and use reasonable impacts from measurement and verification studies instead of the two-year payback criterion.

The FDACS asserts that the use of a two-year payback screen will not eliminate utility incentives to help low income families invest in conservation measures. The FDACS further believes that programs may need to be designed and targeted to capture the needs of low income customers while eliminating free riders from higher income groups.

The OPC takes no position on whether goals proposed by the FEECA Utilities appropriately reflect consideration of free riders or whether the two-year payback screen is appropriate. However, the OPC believes that if we decide that the two-year payback screen is appropriate, we should require the FEECA Utilities to increase educational outreach efforts to ensure that all ratepayers are aware of low cost energy efficiency measures with paybacks of two years or less. Additionally, the OPC believes that special efforts should be made to educate low income ratepayers, renters, small businesses and others about the potential cost savings associated with such measures.

The EDF, NAACP, PCS, and Walmart did not provide arguments.

### Analysis

A free rider is defined as a customer who receives an incentive for a measure he/she would have installed even without receiving a financial incentive from a utility-sponsored program. Rule 25-17.0021(3), F.A.C., requires the utilities subject to FEECA to address free riders in their goals analyses during the goal setting process. In order to meet the requirements of this section of the Rule, the four FEECA Utilities screened energy efficiency measures and removed those that included participant “payback” periods of two years or less. The rationale is that it is reasonable to assume in most situations, individuals will act in an economically reasonable manner and invest in energy efficiency measures that will pay for themselves in less than two years. When utilities further incent these investment decisions by way of rebate, the costs of the program increase for all customers – those who receive the incentive and non-participants.

As a whole, the FEECA Utilities assert that the application of a two-year payback screen is appropriate for all customers. We initially recognized a two-year payback period to address the free-ridership issue in the 1994 DSM goals-setting proceeding. Since that initial decision, we

have consistently approved a two-year payback criterion in our goals-setting proceedings. In an effort to streamline the process and use a consistent set of analyses, Order No. PSC-13-0386-PCO-EU required the FEECA Utilities to file a baseline and shorter and longer payback periods to be used as sensitivities in developing the economic potential level of the analysis.

#### Methods for addressing free riders

FPL witness Sim asserts that the intent of the years-to-payback test is to address the “free rider” issue so that the utility and all of its ratepayers are not making incentive payments, and incurring administrative costs, for DSM measures that customers would likely purchase on their own without an incentive. DEF witness Duff contends that since it is difficult to determine whether or not a participant in a DSM program would have participated in the program without a utility incentive, using a payback period proxy is a reasonable method. DEF witness Duff and FPL witness Deason testified that if an energy efficiency measure would pay for itself within two years, a customer has an economic reason to engage in that measure. DEF witness Duff and Gulf witness Floyd assert that the two-year payback methodology used by the Utilities is an accepted industry practice to screen for potential free riders.

Unlike the FEECA Utilities, FIPUG testified that a two-year payback criterion is not appropriate and that we should pursue a three-year payback criterion. Although DEF used and supports a two-year payback screen, DEF witness Duff testified that residential and commercial/industrial customers may have different economic rationales for installing an energy efficiency measure, including access to capital and longer-term decision making. In addition, DEF stated that a longer payback period screen may be appropriate for commercial/industrial customers and a shorter payback period screen for residential customers. Using a two-year payback method results in both commercial/industrial and residential measures being screened out from further analyses.

SACE asserts that Florida should replace the two-year payback methodology for screening free riders with an EM&V methodology to determine the appropriate level of free-ridership rates. SACE witness Mims testified that using an EM&V methodology would provide performance metrics for each program, account for spillover effects, and determine if changes are necessary. In addition, witness Mims contends that using the two-year payback methodology is flawed because it incorrectly applies the same free-ridership rate to every measure. DEF witness Duff disagreed with SACE’s assertion that the two-year payback proxy should be replaced with an EM&V methodology in this proceeding because each measure requires a unique analysis. When asked about how to use EM&V in the current goal-setting process, witness Mims agreed with DEF witness Duff that it is “too late” to use EM&V to calculate free-ridership. Witness Mims further stated that the EM&V methodology should be evaluated “at the program level, but not in this proceeding.”

In summary, the evidence in this docket illustrates that the two-year payback criterion remains an appropriate methodology for identifying potential free riders for the purpose of setting goals. No persuasive evidence was presented for the alternate methodologies suggested



by the intervenors. We have consistently approved goals based on this methodology in our previous DSM goal setting proceedings. While the selection of the most appropriate approach to account for free riders as required by Rule 25-17.0021(3), F.A.C., is discretionary, the overwhelming evidence in this case suggests that the discretionary balance point continues to be a two-year payback period. There may be merit to a longer period for some commercial/industrial customers, due to their individual discount rates and availability of capital; however, we cannot support the position of FIPUG for a three-year period. FIPUG provided no witness or compelling evidence to support its position that moving to a three-year criterion is appropriate for all customer classes and its adoption would further lower the economic potential level of demand and energy savings thus, reducing the number of available measures. Finally, the EM&V approach, as advanced by witness Mims, is not suitable due to costs and time constraints and is more appropriate for program design. Furthermore, the current phase in this proceeding requires us to address goals, not programs.

#### Payback sensitivities

According to the minimum filing requirements outlined in Order No. PSC-13-0386-PCO-EU, the FEECA Utilities were required to perform shorter and longer free-ridership exclusion period sensitivities at an economic potential level. The results from the sensitivities illustrated that using a shorter payback period threshold translates into more measures being included in the achievable potential step of the goal analysis. Gulf witness Floyd also noted that using a longer payback period screen would result in lower goals.

As part of discovery, information from the Utilities was requested that would identify measures added to the economic potential when using a payback period of one year rather than two years. The results revealed that, in the residential sector, measures such as air conditioner maintenance and window tinting provide a payback period between one and two years and would therefore be included using a one-year payback screen rather than a two-year payback screen. The commercial sector also included measures that related to air conditioner maintenance along with lighting control measures.

When addressing changing the payback period screen from two years to one year, DEF testified that the increase in the amount of incentives paid to customers to motivate them to undertake energy efficiency measures would increase the program costs, resulting in a lower cost-effectiveness score of the program. Therefore, DEF believes that education is more cost-effective for measures with a quick payback period than decreasing the time of the payback period screen. TECO witness Bryant testified that the results from the sensitivity analysis should not be used to establish goals, rather, they were performed to provide us with an indication of how the respective cost-effectiveness of the goals are impacted by changing assumptions.

The selection of a payback period to account for free riders is important because it affects the level of demand and energy goals ultimately established. Shorter payback periods increase the number of measures that continue on with the achievable potential evaluation. Thus, shorter payback periods result in an increase in the potential MW and MWh savings. Conversely, longer

payback periods reduce the number of measures with commensurate lower MW and MWh savings. Directly related to these are the program costs. More aggressive goals inherently require higher utility expenditures, to increase the participation rates, resulting in higher program costs and greater cross subsidies between customer classes.

### Customer Education

During the hearing, we requested information from the FEECA Utilities how they reached out to educate customers on energy efficiency opportunities of measures with less than a two-year payback. In addition, some of the intervenors voiced their support for more consumer education in their briefs. Each of the FEECA Utilities currently provided educational outreach programs to their customers. For example, witness Koch explained that FPL provides information to its customers regarding water heater and air conditioner temperatures and lighting. Witness Koch further explained that the Utility provides its customers with information through a variety of media venues including radio, television, home, and on-line energy audits, which allows the Utility to provide suggestions to its customers regarding energy saving opportunities. In regards to being informed of the benefits of purchasing measures with a two-year payback, witness Koch states that there is no guarantee all customers would do so even if they were informed.

DEF states it has strong educational efforts geared at promoting awareness of efficiency measures that have a short payback period. Witness Duff explained that even with the right efficiency equipment, without the proper education, customers may not actually achieve the energy savings the measure is intended to deliver. DEF provides a number of education outreach efforts for efficiency measures that have a relatively “no cost” or “low cost” and to those customer segments that may not have access to the initial capital needed for the purchase of an energy efficiency measure. Additionally, DEF testified that when conducting an energy audit, the utility representative reviews energy efficiency measures that the customer can undertake to reduce energy usage.

TECO’s outreach programs involve directly assigning TECO employees to visit targeted communities, informing customers of efficiency measures and, when absent, installing them in those individuals’ homes. TECO also works with community centers and other agencies to inform individuals about energy efficiency opportunities.

Gulf asserts that the Utility has placed great emphasis on customer education through its audit programs and outreach activities. In doing so, Gulf provides advice and recommendations to its customers concerning energy use and equipment decisions.

Consumer education is a critical component of energy efficiency initiatives that will allow customers to get the highest available benefit from energy efficiency measures including those with short payback periods. We find that the two-year payback criterion provides sufficient economic incentive to convince a customer to participate in a given energy efficiency program while balancing the requirement to account for free riders and minimizing program

costs and undue subsidies. We acknowledge that certain market imperfections, such as lack of information, or homeowner versus tenant relationship, could be impediments to some individuals investing in energy efficiency opportunities or getting the full value out of such investments. The evidence in the record shows that the Utilities endeavor to provide information to their customers about energy efficiency opportunities including those with a quick payback. We find that the Utilities should continue to educate customers regarding the benefits of energy efficiency opportunities with specific focus on outreach and educating customers on energy efficiency measures with payback periods of two years or less.

### Low Income

During the hearing, we voiced our concerns regarding how the FEECA Utilities' goals-setting analyses affected the low income customer base and questioned the FEECA Utilities regarding the types of programs each utility marketed to their low income customers. In addition, some of the intervenors noted in their briefs their concern for the low income market. The Sierra Club voiced concerns with the low number of measures available for low income communities.

DEF's witness Duff believes when developing programs to meet their required goals, including some measures that have a short payback in a "bundle" with cost-effective programs may be appropriate. Specifically, DEF explained that the measures included in its Low Income Weatherization program consist of measures such as compact fluorescent lights, door sweeps, weather stripping, faucet aerators, showerheads, and refrigerator coil brushing, all of which have a two-year or less payback.

Using a two-year criterion to screen for potential free riders in the goals-setting stage is not so rigid as to prevent low-cost measures from being included in carefully crafted utility programs. Furthermore, while the record indicates that the FEECA Utilities have programs and measures to assist their low income customers, the Utilities should continue to evaluate and develop measures that will assist and educate such groups. The FEECA Utilities shall be required to address measures targeted for this customer segment in their proposed plans during the program development stage of this proceeding. The FEECA Utilities shall continue to use a portfolio approach of information coupled with cost-effective incentives to address this market.

### Decision

In response to Rule 25-17.0021(3), F.A.C., and Order No. PSC-13-0386-PCO-EU, the FEECA Utilities filed a base case with a two-year payback to account for free riders. We approved goals based on a two-year payback criterion to identify free riders since 1994 and we find it appropriate to continue this policy. Each Utility should continue to broadly educate all customer groups on energy efficiency opportunities. When the FEECA Utilities file their DSM implementation plans, each plan should address how the Utilities will assist and educate their low income customers, specifically with respect to the measures with a two-year or less payback.

## **COMMISSION APPROVED GOALS**

### **RESIDENTIAL**

The FEECA Utilities all propose goals based upon a combination of those measures which pass both the RIM test and the Participant's test. The FEECA Utilities acknowledge that the proposed goals are lower than those established in the 2009 Goals Proceeding, but state that this is expected due to lower costs and changes in codes and standards. The FEECA Utilities further suggest that goals based upon the RIM and Participants test address concerns regarding cross-subsidization between participants and non-participants and limits rates to all customers. The FEECA Utilities state that the goals proposed by Sierra Club and SACE are arbitrary, as they are based upon other state's achievements and not upon a cost-effectiveness analysis. FPL asserts that its proposed goals should be limited based upon its forecasted resource need, and that the full achievable potential does not comply with FPL's proposed planning process.

NAACP does not propose goals, but states that goals should ensure low rates and not allow cross-subsidization. NAACP recommends that we should utilize the RIM test, as it results in lower rates for low-income customers. FIPUG recommends that goals based upon the RIM test should be adopted, as they result in low rates. PCS Phosphate, addressing DEF specifically, recommends that we should approve the Utility's proposed goals, utilizing the RIM test and Participants test.

OPC takes no position as to the goals, but recommends that for residential goals, we should approve goals that benefit both participants and non-participants. OPC states that if we approve goals based upon the RIM test, then the FEECA Utilities should not be eligible for a reward for exceeding them. FDACS takes no position as to the goals, but recommends that we should balance concerns regarding rates with the goals to be established. Walmart and EDF took no position regarding the goals to be established.

Sierra Club proposes that the goals should be set to ramp up energy savings to at least 1 percent of retail energy sales by 2019, or earlier as proposed by SACE. Sierra Club asserts that these goals would result in lower total costs and average bills. SACE further encourages us to reopen the goals docket in 2015 to establish goals based upon compliance obligations with the proposed federal greenhouse gas regulations. Sierra Club recommends that we should reject the FEECA Utility's proposals as too low compared to the accomplishments of other states.

SACE proposes that a one percent of annual energy savings goal be established for the investor-owned utilities. SACE asserts that the investor-owned utilities have a disincentive to establish meaningful goals due to a loss in return on power plants that would be deferred or eliminated. SACE states that it did not base its proposed goals on the FEECA Utilities' economic studies due to multiple fundamental flaws that limited the studies' value in establishing goals. SACE asserts that the FEECA Utilities are capable of meeting a 1 percent annual sales goal because other states have achieved similar results.

### Analysis

We must consider multiple factors when determining the FEECA Utilities' annual numeric conservation goals, including those explicitly outlined in Section 366.82(3), F.S. We must also consider other concerns within our statutory jurisdiction, such as rates, to determine the amount of conservation that is cost-effective and reasonably achievable.

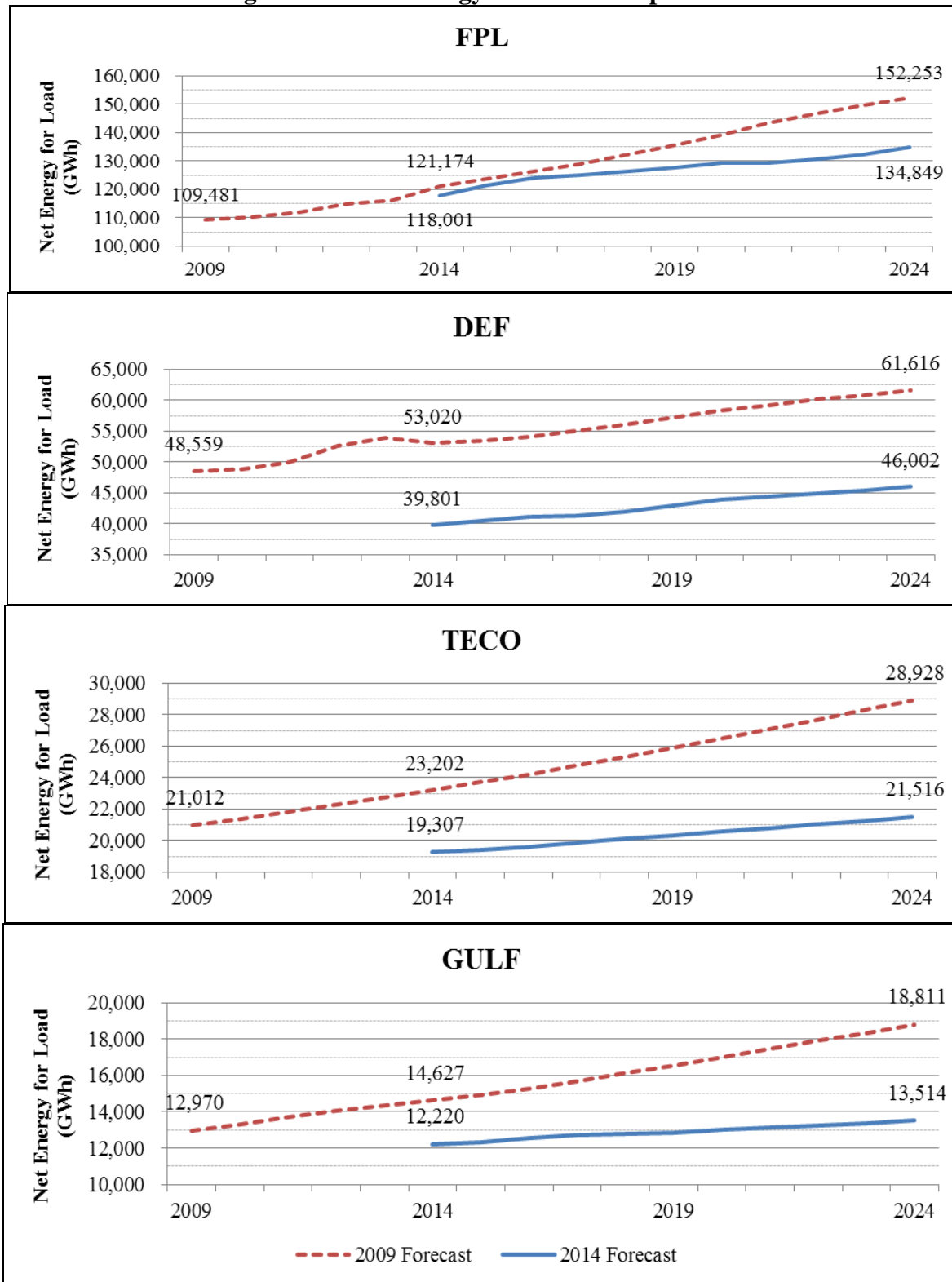
Demand-side management is an alternate resource to generation driven by economic and reliability considerations for Florida's electric utilities. The economics of demand-side management are similar to generation, with a focus on fixed capacity and avoidable fossil fuel cost. The reliability considerations of demand-side management are significantly different, however, as measures tend to be implemented in small increments over time, rely upon voluntary participation of customers, and are typically not dispatchable by the utility.

Changes in market conditions are addressed by each of the utility witnesses, asserting that since the 2009 goals proceeding the cost-effectiveness and availability of demand-side management measures have decreased. Specific areas addressed include load forecasts, building codes and appliance efficiency standards, and lastly, avoided costs for both fuel and generation.

### Load Forecast

The FEECA Utilities have experienced a notable decline in growth rates in terms of net energy for load since the last goals proceeding. On a combined basis, the remaining FEECA Utilities project net energy for load in 2024 to be approximately equal to the level forecasted for 2015 during the 2009 Goals Proceeding. Figure 3-1, compares the 2009 Goals Proceeding forecast and the current goals proceeding forecasts for net energy for load. The current 2014 Goals Proceeding forecast for DEF, TECO, and Gulf all begin significantly below the 2009 value of the 2009 Goals forecast, with DEF not anticipated to exceed this value during the goals period. Only FPL shows growth in comparison to the 2009 Goals Proceeding forecast, but the rate of growth is projected to be considerably lower over the goals period. As noted by TECO witness Bryant, this decrease in load also impacts deferring the next avoidable unit.

**Figure 3-1: Net Energy for Load Comparisons**



DEF witness Duff explains that the decline in usage and projection of lower growth is attributable to multiple factors, including increased customer awareness of conservation to reduce bills, new building codes, and appliance efficiency standards. Whatever the factors, these actions are occurring without the intervention of the FEECA Utilities. As a consequence the FEECA Utilities have less growth in electric peak demand and annual energy consumption to reduce, thereby lowering potential DSM goals.

#### Building Code & Efficiency Standards

Rule 25-17.0021(3), F.A.C., in relevant part, requires consideration of “interactions with building codes and appliance efficiency standards.” The FEECA Utilities identified multiple changes that have or will occur to the Florida Building Code and the Federal appliance standards. DEF witness Duff notes that two main programs affected are heating, ventilation, and air-conditioning (HVAC) and lighting. Several measures relating to air-conditioning will be considered minimum standards, such as right-sizing of residential air conditioning as of 2012 and the seasonal energy efficiency ratio (SEER) increasing from 13 to 14 for heat pumps beginning in 2015. Similar standards improvements impact commercial/industrial customers. Lighting standards have been phased in since 2012, with many common lamp sizes (45, 60, 75, and 100 watt for residential) now required to meet higher energy efficiency standards. Other appliances such as water heaters and clothes dryers also have improved efficiency standards effective in 2015.

Each of these standards represents a decline from previously available demand and energy goals potential. FPL witness Koch notes that with increases in codes and standards, there is less incremental energy efficiency available to the FEECA Utilities, which in turn reduces the cost-effectiveness of measures.

#### Avoided Costs

Rule 25-17.0021(3), F.A.C., requires that each utility’s proposed goals must be based upon the utility’s most recent planning process. By using up to date economic data for the cost of avoided generation and fuel, a determination of cost-effectiveness can be made for potential demand-side management measures.

The FEECA Utilities note a significant decline in fuel costs, primarily associated with a decline in natural gas prices. FPL witness Sim notes that while a decline in fuel prices is beneficial to ratepayers, it reduces the fuel savings associated with reduced energy consumption. As a result, demand-side management measures focusing on energy consumption are less cost-effective, reducing potential goals.

Figure 3-2, is the average natural gas price forecasts from the 2009 Goals Proceeding and the current goals proceeding for FPL, DEF, and TECO. Due to confidentiality, Gulf’s forecast was not included in Figure 8-2, but the results of the comparison would be similar. As illustrated below, natural gas prices have declined more than 50 percent as of 2014, and are anticipated to