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State of Florida

Public Service Commission

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-M-E-M-O-R-A-N-D-U-M-

DATE: November 13, 2014

TO: Office of Commission Clerk (Stauffer)

FROM: Division of Engineering (P. Buys, Ellis, Graves, Matthews)
Division of Economics (Brown, Gilbert, Lingo, Ortega)
Office of the General Counsel (Corbari, Murphy, Tan)
Office of Industry Development and Market Analysis (Clemence, Dowds, Marr)

RE: Docket No. 130199-EI – Commission review of numeric conservation goals (Florida Power & Light Company).

Docket No. 130200-EI – Commission review of numeric conservation goals (Duke Energy Florida, Inc.).

Docket No. 130201-EI – Commission review of numeric conservation goals (Tampa Electric Company).

Docket No. 130202-EI – Commission review of numeric conservation goals (Gulf Power Company).

Docket No. 130203-EM – Commission review of numeric conservation goals (JEA).

Docket No. 130204-EM – Commission review of numeric conservation goals (Orlando Utilities Commission).

Docket No. 130205-EI – Commission review of numeric conservation goals (Florida Public Utilities Company).

AGENDA: 11/25/14 – Regular Agenda – Post-Hearing Decision – Participation is Limited to Commissioners and Staff

COMMISSIONERS ASSIGNED: All Commissioners

PREHEARING OFFICER: Brisé

CRITICAL DATES: Pursuant to Section 366.82(6), F.S., the Commission must review conservation goals at least every five years. New conservation goals must be set by January 1, 2015.

SPECIAL INSTRUCTIONS: The Commission should take up Issue 11 before Issue 10.

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ACRONYMS

BTU	British Thermal Units
CC	Combined Cycle
CO_2	Carbon Dioxide
CPP	Clean Power Plan
CT	Combustion Turbine
DC	Direct Current
DEF	Duke Energy Florida, Inc.
DSM	Demand-Side Management
ECCR	Energy Conservation Cost Recovery
EDF	Environmental Defense Fund
EM&V	Evaluation, Measurement, and Verification
EPA	Environmental Protection Agency
EPRI	Electric Power Research Institute
F.A.C.	Florida Administrative Code
F.S.	Florida Statutes
FDACS	Florida Department of Agriculture & Consumer Services
FEECA	Florida Energy Efficiency and Conservation Act
FIPUG	Florida Industrial Power Users Group
FPL	Florida Power & Light Company
FPUC	Florida Public Utilities Company
GHG	Greenhouse Gas
Gulf	Gulf Power Company
GWh	Gigawatt-hour
HVAC	Heating, Ventilation, and Air Conditioning
IOU	Investor-Owned Utility
kW	Kilowatt
MMBTU	Million British Thermal Units
MW	Megwatt
MWh	Megwatt-hour
OEP	Order Establishing Procedure
OUC	Orlando Utilities Commission
PCS Phosphate	White Springs Agriculture Chemicals, Inc. d/b/a PCS Phosphate
PT	Participants Test
PV	Photovoltaic
R&D	Research & Development
RIM	Rate Impact Measure
SACE	Southern Alliance for Clean Energy
SEER	Seasonal Energy Efficiency Ratio
TECO	Tampa Electric Company
TRC	Total Resource Cost
VOS	Value of Solar
Walmart	Wal-Mart Stores East, LP and Sam's East, Inc.

Case 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., the Commission 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 PSC-09-0855-FOF-EG, issued December 30, 2009.[1] Therefore, new goals must 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, 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 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 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 the Commission 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 the Commission to establish its numeric goals by use of a proxy methodology, similar to the request filed by FPUC.

[1] 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 0804010-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).

By Order No. PSC-13-0645-PAA-EU, issued December 4, 2013, the Commission 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 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. Staff was granted 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.

In addition, any non-numeric goals the Commission may elect to establish during the current goal-setting proceeding for the investor-owned FEECA utilities, such as FPUC's proxy, Gulf Power Company, shall also apply to FPUC. Should the Commission elect to establish non-numeric goals for the municipal FEECA utilities, such non-numeric goals shall also apply to OUC.

The Commission acknowledged the intervention of the Florida Department of Agriculture and Consumer Services (FDACS) on September 10, 2013.[2] The Sierra Club and the Florida Industrial Power Users Group (FIPUG) were granted leave to intervene on February 7, 2014.[3] 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.[4] Wal-Mart Stores East, LP and Sam's East, Inc. (collectively referred to as Walmart) were granted leave to intervene on April 7, 2014.[5] The Environmental Defense Fund (EDF) was granted leave to intervene on May 16, 2014.[6] The Commission acknowledged the intervention of the Office of Public Counsel (OPC) on May 29, 2014.[7] 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.[8]

The Commission held an evidentiary hearing on July 21, 22, and 23, 2014. During the hearing, the Commission 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 in this recommendation as Attachment A.

[2] See Order No. PSC-13-0420-PCO-EU, issued September 10, 2013, (FDACS).
[3] See Order Nos. PSC-14-0097-PCO-EU (Sierra Club) and PSC-14-0097-PCO-EI (FIPUG), issued February, 7, 2014.
[4] See Order Nos. PSC-14-0135-PCO-EI (SACE) and PSC-14-0136-PCO-EI (PCS Phosphate), issued March 18, 2014.
[5] See Order No. PSC-14-0153-PCO-EU (Walmart), issued April 7, 2014.
[6] See Order No. PSC-14-0239-PCO-EI (EDF), issued May 16, 2014.
[7] See Order No. PSC-14-0269-FOF-EU (OPC), issued May 29, 2014.
[8] See Order No. PSC-14-0356-PHO-EU (NAACP), issued July 11, 2014.

This recommendation addresses the remaining FEECA Utilities' petitions for approval of its numeric conservation goals. The Commission has jurisdiction over this matter pursuant to Sections 366.80 through 366.82, F.S.

EXECUTIVE SUMMARY

The Commission last established goals for the FEECA Utilities in 2009, pursuant to Order PSC-09-0855-FOF-EG. Given that goals must be established by 2014, staff met with utility representatives and interested parties on June 17, 2013, to discuss lessons learned in an effort to streamline the process and provide the Commission with additional information. Several items from that meeting were codified in Order No. PSC-13-0386-PCO-EU, the Order Establishing Procedure (OEP). Specifically, this OEP consolidated the dockets for hearing purposes, acknowledged the use of an updated Technical Potential Study, and established minimum testimony requirements in an effort to more fully inform the Commission and reduce the need for discovery.

The Commission must consider multiple factors when setting appropriate DSM goals for the FEECA Utilities. Such factors are explicitly stated in Section 366.82(3), F.S., and Rule 25-17.0021, F.A.C. As such, Issues 1-9 are virtually identical to the issues deliberated during the 2009 goals proceeding. Based on a lack of new evidence, staff is recommending that the Commission reaffirm what it decided in 2009 for Issues 2, 3, 4, and 6.

As an alternate resource to generation, DSM is also driven by economic and reliability considerations. The economic evaluation is similar to generation resources; however, the reliability evaluation of DSM is significantly different because the measures are implemented in small increments over time, rely upon voluntary participation from customers, and are typically not dispatchable by the host utility. Since 2009, the cost-effectiveness of DSM measures has declined due to several factors outside of the FEECA Utilities control. Customer load growth has declined, deferring new generation resources. New federal appliance efficiency standards and state building codes are coming into effect, decreasing the amount of additional DSM measures the electric utilities can offer. The price of natural gas, the dominant fuel in Florida, has declined by approximately half, reducing customer's bills now but also reducing the future benefit of additional DSM measures.

In the current proceeding, the Utilities have proposed to establish goals based upon the RIM test. FPL proposed limiting its DSM goals to what its resource needs are in terms of MW. Which is referred to as a "constrained" RIM portfolio. The proposed goals for all FEECA Utilities are lower than those established by the Commission in 2009, but this is consistent with the changes in market conditions discussed above. The majority of intervenors did not propose numeric goals, but did explicitly support the use of the RIM test or recommended setting goals that would not produce an undue burden on customer's rates. Only two of the nine intervenors, SACE and Sierra Club, suggested using the TRC test but proposed numeric goals based upon a percentage of retail energy sales. These proposed goals are not based upon a cost-effectiveness analysis and are 20 to 40 times greater than the goals proposed by the FEECA Utilities. Therefore, such goals are not responsive to Section 366.82(3), F.S., and Rule 25-17.0021, F.A.C., and could result in significant rate increases to utility ratepayers. In addition, the Sierra Club's proposed goals are incomplete despite a staff discovery asking for goals for the full ten-year period.

Staff is recommending the use of the unconstrained RIM test in order to provide for a reasonable amount of energy efficiency without placing an undue burden upon the general body

of ratepayer's rates. The unconstrained RIM test also addresses concerns regarding subsidies between those who can participate in programs and those who cannot, such as renters and low income households. Each party's proposed goals and staff's recommended goals are summarized in the tables below. Separate goals for Residential & Commercial/Industrial goals are discussed in Issues 8 and 9.

Combined Residential & Commercial/Industrial Cumulative Goal Proposals

SUMMER DEMAND (MW)				
Utility	**Utility Proposed**	**Sierra Club**	**SACE**	**Staff Recommendation**
FPL	336.7	2,467.0	6,176.6	526.1
DEF	259.1	n/a	2,123.5	259.1
TECO	56.3	317.0	1,020.0	56.3
Gulf	68.1	137.0	611.6	68.1

WINTER DEMAND (MW)				
Utility	**Utility Proposed**	**Sierra Club**	**SACE**	**Staff Recommendation**
FPL	189.0	n/a	4,105.5	324.2
DEF	419.3	1,170.0	1,404.1	419.3
TECO	78.3	n/a	661.7	78.3
Gulf	36.7	n/a	396.4	36.7

ANNUAL ENERGY (GWH)				
Utility	**Utility Proposed**	**Sierra Club**	**SACE**	**Staff Recommendation**
FPL	59.2	4,161.0	15,824.7	526.3
DEF	195.0	1,425.0	5,454.2	195.0
TECO	144.3	717.0	2,643.6	144.3
Gulf	84.2	430.0	1,585.7	84.2

Staff is also recommending that the FEECA Utilities continue to educate customers on the benefits of implementing energy efficiency measures with a two-year or shorter payback, such as air conditioner maintenance and lighting. When the FEECA Utilities file their DSM plans, each plan should address how the Utility will assist their low-income customers specifically with respect to the measures with a two-year or less payback.

In the 2009 goals proceeding, the Commission recognized that the 2008 amendments to the FEECA statute placed additional emphasis upon demand-side renewable energy systems.

While the Commission did not establish numeric goals for demand-side renewable energy systems, it ordered the FEECA Utilities to offer solar pilot programs, limited by an expenditure cap, to encourage these resources. The solar pilot programs have not proven to be cost-effective and represent a subsidy between the general body of ratepayers and the few participants who installed demand-side renewable energy systems. Therefore, staff is recommending that the current solar pilot programs be discontinued by the end of 2015. However, the development of demand-side renewable energy systems will continue to be encouraged utilizing the Commission's net metering rules.

Discussion of Issues

Issue 1: Are the Company's proposed goals based on an adequate assessment of the full technical potential of all available demand-side and supply-side conservation and efficiency measures, including demand-side renewable energy systems, pursuant to Section 366.82(3), F.S.?

Recommendation: Yes. 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. (Ellis, Graves, Matthews)

Positions of the Parties:

FPL: Yes. The 2014 Technical Potential Study reflects an update to the 2009 Technical Potential Study that was approved by the Commission in the last DSM goals-setting docket. The FEECA utilities worked jointly to develop the update methodology and accepted input from other parties. It required extensive iterative analytical work and continuous collaboration to ensure that it was comprehensive and resulted in a thorough and wide-ranging reassessment of conservation and efficiency measures.

DEF: Yes. DEF provided an adequate assessment of the full technical potential pursuant to Section 366.82(3), F.S.

TECO: Yes. Tampa Electric worked in concert with the other FEECA utilities, utilizing an updated Technical Potential Study developed from the 2009 Study prepared by Itron, to achieve refreshed data with measure relationships maintained within sectors and any new measures appropriately added. These efforts enabled Tampa Electric to base its proposed goals on an adequate assessment of all available demand-side conservation and efficiency measures, including demand-side renewable energy systems, pursuant to Section 366.82(3), Florida Statutes.

Gulf: Yes. Through its update to the 2009 Itron study, Gulf has performed an adequate assessment of the full technical potential of all available demand-side conservation and energy measures, including demand-side renewables. An assessment of supply-side conservation and efficiency measures is outside the scope of this docket.

EDF: No position.*

FIPUG: The Commission should determine whether the Technical Potential Study performed by the utilities achieves the legislative intent of the Florida Energy Efficiency and Conservation Act (FEECA) which is to utilize the most efficient and cost-effective demand-side renewable energy systems and conservation systems in order to protect the health, prosperity, and general welfare of the state

and its citizens, while achieving a reduction in, and control of, the growth rates of electric consumption and of weather-sensitive peak demand.

NAACP: The record before the Commission persuasively shows that Florida's current demand-side management program and the conservation, and energy efficiency goals associated with the program, were the result of an assessment of all available demand-side and supply-side conservation and efficiency measures.

PCS: No position.*

SACE: No. The utilities' assessments are unnecessarily conservative and do not capture full technical potential of all demand side measures. In assessing the technical potential, the utilities erroneously excluded a significant amount of technically potential measures and sectors, resulting in a significant underestimation of the technical potential.

Sierra Club: No. In addition to categorically omitting supply-side measures, each Company's Technical Potential Study lacks demand-side measures, including: building commissioning and retro-commissioning, new types of LED lighting fixtures, various efficiency measures in data centers, efficiency measures for water and wastewater treatment plants and the agricultural sector, and ultra-low energy buildings such as net zero energy buildings and "Passive Houses."

Walmart: No position.

FDACS: The Companies' proposed goals appear to be an adequate assessment of the full technical potential of all available demand-side and supply-side conservation and efficiency measures. However, further examination of this issue is necessary.*

OPC: The Commission should determine whether the Technical Potential Study performed by the utilities achieves the legislative intent of FEECA Sections 366.81 and 366.82(2), F.S.

* Position statement same as prehearing statement based on Order No. PSC-14-0356-PHO-EU.

Staff Analysis:

PARTIES' ARGUMENTS

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. (FPL BR 6-7) DEF stated that it utilized the agreed-upon methodology for updating the 2009 Technical Potential Study. (DEF BR 8-9) 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. (TECO BR 9) At the publicly noticed workshop meeting on June 17, 2013, Gulf testified that the parties and

Commission staff agreed that an update to the 2009 Technical Potential Study was appropriate, rather than undertaking an entirely new study. (Gulf BR 2)

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 the Commission as adequate. (FDACS BR 4-5) 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. (NAACP BR 5) EDF, FIPUG, PCS, SACE, Sierra Club, Walmart and OPC did not provide arguments directly related to the information discussed in this issue.

ANALYSIS:

Chapter 366.82(3), F.S., states in relevant part that in developing DSM goals, the Commission "shall evaluate the full technical potential of all available demand-side and supply-side conservation and efficiency measures . . ." The Commission, in Order No. PSC-13-0386-PCO-EU, required the FEECA Utilities to develop an updated version of the 2009 Technical Potential Study used during the last goals proceeding.[9] This Order was based upon an agreement made during a meeting held by Commission staff with utility representatives and interested parties on June 17, 2013. At that meeting staff expressed a desire to streamline the goal setting process and to build upon the work done in 2009. (TR 202, 687) The Commission 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.[10]

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. (TR 25-26, 202, 498-499, 687, 821) 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. (TR 201, 499) 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. (TR 202, 499, 1308)

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. (TR 202-203) Because the Florida building codes and the federal equipment manufacturing standards have changed significantly in the last

[9] 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.

[10] 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.

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 available through utility sponsored programs. This development led to the elimination of outdated and obsolete measures from the total technical potential. (TR 499-500)

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. (TR 202) 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. (EXH 19, EXH 36, EXH 45, EXH 46)

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. (EXH 20, EXH 31, EXH 45, EXH 46)

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. (EXH 140)

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)

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

Source: EXH 21

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

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

Source: EXH 32

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

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

Source: EXH 45

Table 1-4: Gulf Technical Potential Changes (Energy Efficiency and Demand Response)
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Category	Summer Demand (MW)	Winter Demand (MW)	Annual Energy (GWh)
2009 Approved Technical Potential	1,091	743	3,304
New Codes & Standards	(118)	(62)	(458)
Marketplace Changes	(28)	(30)	(38)
New Measures Considered	61	35	445
2014 Updated Technical Potential	1,005	686	3,253
Net Change from 2009	(86)	(57)	(51)

Source: EXH 46

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. (TR 1002) 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. (TR 1002-1003) In particular, the testimony cited states that measures had been added over the five-year period. (TR 1002) Staff recommends 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. (TR 202)

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. (TR 1155) 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. (TR 1155-1157)

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. (TR 1309) No such data was ever received, and therefore the measures listed by witness Woolf were not included in the Technical Potential Study update. (TR 1309)

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. (TR 1003-1004) 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. (TR 1004) Sierra Club asserted that the Utilities' calculations of technical potential significantly understate the full value of technical potential in Florida, and ignore important technologies. (TR 1115) Staff does not find this argument compelling, as 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.

CONCLUSION

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.

Issue 2: Do the Company's proposed goals adequately reflect the costs and benefits to customers participating in the measure, pursuant to Section 366.82(3)(a), F.S.?

Recommendation: Yes. 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. (Ellis, Graves, Matthews)

Positions of the Parties:

FPL: Yes. In developing its proposed DSM goals, FPL used the Participant screening test to analyze the potential cost-effectiveness of DSM measures. The Participant screening test fully accounts for all potential benefits and costs that are received and/or incurred by a potential participant in a DSM measure. Only those measures that pass the Participant screening test have been included in FPL's proposed goals.

DEF: Yes. DEF utilized the Participants' test as delineated in Rule 25-17.008, F.A.C., to adequately reflect the costs and benefits to customers participating in a DSM measure thereby adhering to the requirement of Section 366.82(3)(a), F.S.

TECO: Yes. Tampa Electric utilized the Participant test as delineated in Rule 25-17.008, F.A.C., to adequately reflect the costs and benefits to customers participating in a DSM measure thereby adhering to the requirement of Section 366.82(3)(a), F.S. The contrary assertions of SACE and Sierra Club are unsupported and non-Florida specific.

Gulf: Yes. The measures included in the development of Gulf's goals adequately reflect the costs and benefits to participating customers. This was accomplished by performing the Participant's Test and requiring that all measures included in the goals pass this test.

EDF: No position.*

FIPUG: In answering this question, the Commission must balance the goal of conservation with the impact of the cost of conservation programs on rates. The Commission must not overlook rate impact when conservation goals and programs are evaluated.

NAACP: No position.*

PCS: No position.*

SACE: No. The utilities cost estimates across all benefit costs tests are unnecessarily high relative to peer utilities in other states, resulting in inaccurate benefit cost test scores.

Sierra Club: No, the Company's proposed goals do not reflect all measures that pass the Participant test – the standard test included in the Commission's Cost-Effectiveness Manual for measuring participant costs and benefits.

Walmart: Walmart asks for assurance that the utilities' evaluations of solar, and potentially other renewable measures, are based on an extensive and thorough evaluation of all system benefits of such measures.

FDACS: The Companies' proposed goals appear to adequately reflect the costs and benefits to customers participating in the measures. However, further examination of this issue is necessary. The Commission should consider policy options that can be implemented to achieve least-cost strategies that take into account the cost and benefits of the programs and their impact on all ratepayers.*

OPC: The Commission should determine whether the Companies' proposed goals adequately safeguard the interests of the general body of ratepayers against undue rate impacts while achieving the intent of FEECA Sections 366.81 and 366.82(2), F.S. OPC takes no position on whether the Company's proposed goals adequately reflect the costs and benefits to customers participating in the measure.

* Position statement same as prehearing statement based on Order No. PSC-14-0356-PHO-EU.

Staff Analysis:

PARTIES' ARGUMENTS

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. (FPL BR 9-10; DEF BR 7-8; TECO BR 11-12; Gulf BR 7-8) FDACS also agrees that the Participants test is appropriate. (FDACS BR 5-7)

EDF, FIPUG, NAACP, PCS, Walmart, and OPC did not provide arguments directly related to the information discussed in this issue. 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 TRC test should be used in place of the combined RIM test and Participants test. (SACE BR 15) 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. (Sierra Club BR 20)

ANALYSIS:

Chapter 366.82(3)(a), F.S., requires that in establishing the goals, the Commission takes into consideration the costs and benefits to customers participating in the measure. 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 the Commission 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. (TR 323) The economic elements accounted for by the Participants test are bill savings, incentives received, and tax credits received by the participating customer. (EXH 4) 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. (TR 326)

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 in Issue 3, although SACE and Sierra Club advocate the usage of the TRC test, neither party suggested goals based on the TRC test

CONCLUSION

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.

Issue 3: Do the Company's proposed goals adequately reflect the costs and benefits to the general body of ratepayers as a whole, including utility incentives and participant contributions pursuant to Section 366.82(3)(b), F.S.?

Recommendation: Yes. Staff recommends 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 Utilities provided information based on the RIM and TRC tests. (Ellis, Graves, Matthews)

Positions of the Parties:

FPL: Yes. FPL's proposed goals reflect measures that passed the RIM screening test, using updated forecasts and FPL system-specific assumptions. The RIM test accounts for all the benefits and costs that are received or incurred by all utility customers, both participants and non-participants alike. The TRC test, on the other hand, omits incentive payments made to DSM program participants – which are costs recovered from all customers - and omits the impact of unrecovered revenue requirements on electric rates of all customers. FPL's specific cost assumptions were shown to be reasonable. Non-energy benefits are clearly too speculative to include in cost-effectiveness screening.

DEF: Yes. DEF's proposed DSM goals are based on the RIM test as delineated in Rule 25-17.008, F.A.C., to adequately reflect the costs and benefits to the general body of ratepayers as a whole. The RIM test manages inclusion of utility incentives as well as other utility costs to create a benefit for all ratepayers while protecting participants and non-participants from rates that would be higher in the absence of the DSM program. Additionally, the Company utilized the Participants' test to adequately reflect participant contributions. DEF's utilization of these tests ensures that its proposed numeric goals balance all stakeholders' interests.

TECO: Yes. Tampa Electric utilized the cost-effectiveness methodologies as delineated in Rule 25-17.008, F.A.C., specifically the RIM test in conjunction with the Participant test, to adequately reflect the costs and benefits to the general body of ratepayers as a whole, including utility incentives and participant contributions. The RIM test minimizes rate impacts, assures benefits to all customers and alleviates cross-subsidies between non-participants and participants. SACE and Sierra Club's contrary position that FEECA mandates the use of the TRC test is completely erroneous and overlooks the fact that the Commission, with one exception, has relied on the RIM test and the Participant . . . †

Gulf: Yes. By passing the RIM test, Gulf's proposed goals reflect the costs (including incentives) and benefits that minimize overall rate impacts for the general body of customers, whether or not they participate in one of the resulting conservation programs. In addition, by only including measures that also pass the Participant's Test, these proposed goals adequately consider participant contributions as a component of overall customer impact.

EDF: EDF contends that the values the utilities used for carbon dioxide compliance costs in their modeling may be too low, such that the Companies' proposed goals for their demand-side management programs may not fully reflect the costs ratepayers incur for traditional generation. Also, EDF contends that using a two-year payback period for the solar pilot programs does not adequately reflect the benefits to the general body of ratepayers as a whole. Finally, EDF contends that the state of Florida will be able to use the energy savings from the distributed solar PV program as a compliance tool for Section 111(d) . . . * †

FIPUG: In answering this question, the Commission must balance the goal of conservation with the impact of the cost of conservation programs on rates. The Commission must not overlook rate impact when conservation goals and programs are evaluated.

NAACP: No position.*

PCS: Yes. PCS Phosphate agrees with Duke that the goals proposed by the utility based on the RIM test adequately reflect the costs and benefits to the general body of ratepayers.

SACE: No. All four utilities relied on the RIM test, which is inconsistent with 366.82(3)(b). RIM focuses exclusively on rates and non-participants. The TRC test is consistent with the statute since it measures cost and benefits to ratepayers as a whole *and* utility incentives and participant contributions.

Sierra Club: No, RIM-based goals only consider whether the Company can keep its revenues constant in the face of energy savings that tend to reduce revenues. Perversely, RIM-based goals lead to higher system costs and higher average bills for everyone.

Walmart: Walmart asks for assurance that the utilities' evaluations of solar, and potentially other renewable measures, are based on an extensive and thorough evaluation of all system benefits of such measures.

FDACS: The Companies' proposed goals appear to adequately reflect the costs and benefits to the general body of ratepayers as a whole, including utility incentives and participant contributions. However, further examination of this issue is necessary. The Commission should consider policy options that can be implemented to achieve least-cost strategies that take into account the cost and benefits of the programs and their impact on all ratepayers.*

OPC: The Commission should determine whether the Companies' proposed goals adequately safeguard the interests of the general body of ratepayers against undue rate impacts while achieving the intent of FEECA Sections 366.81 and 366.82(2), F.S. OPC takes no position on whether the proposed goals adequately reflect the costs and benefits to the general body of ratepayers as a whole, including utility incentives and participant contributions.

* Position statement same as prehearing statement based on Order No. PSC-14-0356-PHO-EU.
† Position statement exceeds 100 word limit established by Order No. PSC-14-0356-PHO-EU and truncated.

Staff Analysis:

PARTIES' ARGUMENTS

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. (FPL BR 14)

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. (DEF BR 7)

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. (TECO BR 11; Gulf BR 8-9) Gulf additionally notes that 366.82(3)(b) F.S., does not reference a specific cost-effectiveness test by name. (Gulf BR 9)

FiPUG contends that the Commission must not overlook rate impact as it evaluates RIM-based goals. (FIPUG BR 1) 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. (NAACP BR 5) PCS also provides a similar argument asserting that use of the TRC test, as suggested by SACE, is dismissive of customer rate impacts. (PCS BR 4)

SACE states that Section 366.82(3)(b), F.S., requires that the Commission 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. (SACE BR 14-15) 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. (Sierra Club BR 14)

FDACS advocates that the Commission consider the Participants, RIM, and TRC tests when establishing goals. (FDACS BR 8) EDF, Walmart, and OPC did not provide arguments directly related to the information discussed in this issue.

ANALYSIS:

In 2008, the Legislature amended Section 366.82(3)(b), F.S., requiring the Commission, 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." (TR 108) 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 the Commission 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. Staff reviewed the Utilities pre-filed testimony and exhibits and determined that they conform to the requirements of the Commission's procedural order. (EXH 23, EXH 39, EXH 40, EXH 45, EXH 46, EXH 58)

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. (TR 127, 493, 703, 836) 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. (TR 988, 1136-1137) SACE witness Mims testified that FEECA mandates that utilities use the total resource cost TRC test. (TR 968)

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. (TR 112, 1127, 1623) 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. (TR 108) DEF witness Duff similarly testified that he believes the Commission has flexibility to consider results under the RIM and TRC tests. (TR 541) Lastly Gulf witness Floyd testified that the statute does not specifically name any cost-effectiveness test as being the standard the statute references aspects of the RIM and TRC tests. (TR 1623) Staff agrees with these statements that consideration of both the RIM and TRC is necessary to fulfill the requirements of Section 366.82(3)(b), F.S. Furthermore, such a recommendation is consistent with Commission precedence.

Conclusion

Staff recommends 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.

Issue 4: Do the Company's proposed goals adequately reflect the need for incentives to promote both customer-owned and utility-owned energy efficiency and demand-side renewable energy systems, pursuant to Section 366.82, F.S.?

Recommendation: Yes. Staff recommends that the Utilities methodology of applying customer incentives for the purpose of establishing goals in this proceeding is adequate. Staff recommends that performance incentives for Utilities are not necessary at this time. (Ellis, Graves, Matthews)

Positions of the Parties:

FPL: Yes. Incentives for participating customers are reflected in FPL's proposed goals because they are included and considered in the Participant and RIM screening tests. There is no need to establish incentives for utilities in this proceeding.

DEF: Yes. The Company evaluated both customer-owned and utility-owned energy efficiency and demand-side renewable energy systems, pursuant to Section 366.82, F.S. under the RIM and Participants' tests to determine its cost-effective goals proposal. DEF believes the Participants' test addressees the need for customer incentives to invest in either energy efficiency or renewable systems and the RIM test balances the interest of all stakeholders. With respect to utility incentives, if DEF's proposed RIM-based goals are approved, then DEF does not believe utility incentives are needed.

TECO: Yes. For measures that remained cost-effective after taking into account administrative costs but with no incentives, and after the two-year payback screen, Tampa Electric chose incentive levels that would maximize the achievable potential. These incentives were established through the utilization of the RIM test which alleviates unnecessary upward pressure on rates and prevents cross-subsidies between non-participants and participants. The Company's pilot renewable energy programs were not included as they proved to be non-cost effective. Tampa Electric does not believe utility incentives are necessary under a RIM-based goals model. The contrary positions of SACE and Sierra Club are wholly lacking in support.

Gulf: Yes. Gulf's proposed goals were developed utilizing the RIM and Participant's tests. In practice, these tests provide incentives to participating customers through the payment of rebates, to the general body of customers by preventing cross-subsidization between DSM program participants and non-participants, and to the utility by ensuring that incorporation of DSM in the resource planning process results in net benefits that put downward pressure on rates. Gulf Power does not believe that additional utility performance incentives are necessary under a RIM-based goal proposal.

EDF: The Companies' proposed to end the solar pilot programs. EDF contends that the Companies have failed to adequately reflect the need for incentives for these

programs. However, the incentives could be restructured to offer a lower customer incentive and thereby improve cost-effectiveness.*

FIPUG: In answering this question, the Commission must balance the goal of conservation with the impact of the cost of conservation programs on rates. The Commission must not overlook rate impact when conservation goals and programs are evaluated. Improved price signals pertaining to peak and peak-like system conditions are needed to support cost-justified utility administered DSM measures and should be developed.

NAACP: No position.*

PCS: No**.** Improved price signals pertaining to peak and peak-like system conditions are needed to support cost-justified utility administered DSM measures.*

SACE: No. The utilities' analyses to arrive at their proposed goals arbitrarily stop at a two-year payback, even though a lower payback timeframe might be necessary to appropriately incentivize consumer adoption of energy efficiency measures. The Commission should consider establishing performance-based incentives tied to meaningful energy savings performance by the utilities. The Companies set no goals for demand side renewables.

Sierra Club: Partly yes, the Company's proposed very low goals reflect the need for better utility incentives—i.e., regulatory support—to save more energy and advance distributed solar power. Therefore, Sierra Club recommends that the Commission open a new generic docket to investigate revenue decoupling and shareholder incentives, as described in Section 8 of Witness Woolf's Direct Testimony.

Walmart: While Walmart does not propose specific goals or incentives for the encouragement of demand-side renewable energy systems, Walmart is concerned that the utilities' proposed goals may not result in meaningful deployment of solar and other demand-side renewable energy systems and measures.

FDACS: In determining whether the proposed goals reflect the need for incentives to promote both customer-owned and utility-owned energy efficiency and demand-side renewable energy systems, the impact of state and local building codes and appliance efficiency standards on the need for utility-sponsored measures and programs should be considered. The Commission should consider policy options that can be implemented to achieve least-cost strategies that take into account the cost and benefits of the programs and their impact on all ratepayers.*

OPC: The Commission should determine whether the Companies' proposed goals adequately reflect the need for incentives to promote both customer-owned and utility-owned energy efficiency and demand-side renewable energy systems and safeguard the interests of the general body of ratepayers against undue rate impacts. OPC takes no position on whether the proposed goals adequately reflect

the need for incentives to promote both customer-owned and utility-owned energy efficiency and demand-side renewable energy systems.

* Position statement same as prehearing statement based on Order No. PSC-14-0356-PHO-EU.

Staff Analysis: In establishing the goals, Section 366.82(3), F.S., requires the Commission to consider whether incentives are needed to promote both customer-owned and utility-owned energy efficiency and demand-side renewable energy systems. This issue addresses this requirement as it relates to customer-owned and utility-owned energy efficiency. Demand-side renewable incentives are discussed in Issues 10 and 11.

PARTIES' ARGUMENTS

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. (FPL BR 18-19)

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 the Commission was to adopt the recommendations of the SACE, Sierra Club, and EDF. (Gulf BR 10)

SACE suggests that utilities should be provided performance incentives for achievement of DSM goals. (SACE BR 17) 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. (Sierra Club BR 11) 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. (FDACS BR 8) DEF, TECO, EDF, FIPUG, NAACP, PCS, Walmart, and OPC did not provide arguments directly related to the information discussed in this issue.

ANALYSIS:

In establishing DSM goals, Section 366.82(3), F.S., requires the Commission to consider whether incentives are needed to promote both customer-owned and utility-owned energy efficiency and demand-side renewable energy systems. This issue addresses this requirement as it relates to customer-owned and utility-owned energy efficiency. Demand-side renewable incentives are discussed in Issues 10 and 11.

Regarding customer incentives, each Utility's filing included evaluations based on the Participants Test paired with the RIM and TRC test respectively. (TR 208, 532, 682, 828) As discussed in Issue 3, the Participants Test takes into consideration incentives to customers. Staff found no evidence in the record opposing the use of the Participants Test as a means to reflect the need for customer incentives. Therefore, staff recommends that the use of the Participants Test adequately reflects the need for customer incentives. Additionally, staff would add that customer incentives are considered at the programs approval phase which follows the goal

setting proceeding. In Order No. PSC-09-0855-FOF-EU, p. 24, the Commission 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.

Staff would again recommend that 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 the Commission approves RIM based goals. (TR 569, 737, 854) Sierra Club witness Woolf testified that the Commission 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. (TR 1119) SACE witness Mims testified that a lost revenue adjustment mechanism and performance incentives for utilities need to be put in place. (TR 970) Witness Mims testified that such incentives could be based on a percentage of customer savings. (TR 989) While Witness Mims advocated for utility incentives, she did not provide a methodology for which the Commission should calculate such incentives nor did she intimate that such incentives should be established at this time. This issue was also discussed during the 2009 goals proceeding. By Order No. PSC-09-0855-FOF-EU, p. 24, the Commission 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, staff recommends that the Utilities exclusion of utility incentives adequately reflects the need, at this time, for such incentives. Staff would note that this recommendation does not preclude a Utility from petitioning the Commission for an additional return on equity based upon its performance.

CONCLUSION

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

Issue 5: Do the Company's proposed goals adequately reflect the costs imposed by state and federal regulations on the emission of greenhouse gases, pursuant to Section 366.82(3)(d), F.S.?

Recommendation: Yes. Currently there are no costs imposed by state and federal regulations on the emissions of greenhouse gases (GHG). Consistent with Order No. PSC-13-0386-PCO-EU, the Utilities filed base case goals assuming a cost of zero dollars for carbon dioxide (CO_2). Pursuant to Section 366.82(6), F.S., the Commission may change the goals for a reasonable cause. Once the compliance costs associated with any regulations on the emission of GHGs are known, including carbon dioxide, the Commission has the authority to review and, if appropriate, modify goals. (Ortega, Lingo, S. Brown, Gilbert)

Positions of the Parties:

FPL: Yes. FPL accounted for forecasted CO_2 compliance costs in a sensitivity analysis. The CO_2 cost forecast is a reasonable "composite" forecast based on separate forecasts from FPL and Duke Energy Florida. Forecasted CO_2 compliance costs are lower than they were in 2009, and current compliance costs are zero. FPL's sensitivity analysis demonstrated that the number of measures passing, and the resulting Achievable Potential, changed only slightly when CO_2 compliance costs were included. Accordingly, FPL's proposed goals adequately reflect these forecasted costs. It would be premature to attempt to reflect some impact associated with the EPA's draft Clean Power Plan.

DEF: Yes.

TECO: Yes. Currently there are no state or federal regulations on the emissions of greenhouse gases. Although the U.S. Environmental Protection Agency has recently proposed a regulation to address a reduction in CO_2 emissions, one can only speculate whether or when a final rule will be adopted, what any such rule may require or what the compliance costs may be. Therefore, the appropriate greenhouse gas emissions cost utilized by Tampa Electric in the determination of its proposed DSM goals is zero. The positions asserted by SACE and Sierra Club would have this Commission erroneously speculate on potential future GHG regulation, to . . . †

Gulf: Yes. Gulf is not incurring costs associated with state or federal regulations on the emission of greenhouse gasses. Therefore, Gulf has appropriately not included assumptions for costs of greenhouse gas emissions in the development of its proposed goals. Gulf's DSM evaluations are consistent with the statute's directive and with the assumptions used in determining the next generating unit identified in the Company's 2013 Ten Year Site Plan.

EDF: EDF contends that the Companies' proposed goals do not adequately reflect the costs imposed by state and federal regulations on the emission of greenhouse gases, pursuant to Section 366.82(3)(d), F.S., based on, among other things, Attachment JF-1 to EDF witness Jamie Fine's pre-filed testimony and based on

the new proposed regulations issued recently by the U.S. EPA for regulating emissions from existing fossil fuel plants.*

FIPUG: The cost of greenhouse gas regulation should be based on regulations currently in effect, not regulations that may or may not be implemented at some point in the future.

NAACP: No position.*

PCS: Yes. Duke's goals should be based upon rules and regulations actually in effect rather than proposed regulations that are not final and effective. *

SACE: No. None of the utilities analyzed the benefits of greater levels of energy efficiency as a compliance mechanism for the EPA regulation of carbon pollution from existing power plants. Moreover, TECO and Gulf Power did not analyze a cost for carbon pollution in development of their achievable potential.

Sierra Club: No, the Company presented no useful information for setting goals that consider the cost-effectiveness of energy efficiency under forthcoming federal greenhouse gas regulations known as the Clean Power Plan, or the amount of reasonably achievable greenhouse gas reduction from efficiency for inclusion in Florida's CPP implementation plan due June 2016.

Walmart: No position.

FDACS: The Companies' proposed goals appear to adequately reflect the costs imposed by state and federal regulations on the emission of greenhouse gases over the past five years.*

OPC: The Commission should determine whether the Company's proposed goals adequately safeguard the interests of the general body of ratepayers against undue rate impacts while achieving the intent of FEECA Sections 366.81 and 366.82(2), F.S. Currently there are no costs imposed by state or federal regulations on the emission of greenhouse gases, so OPC takes no position on whether the Company's proposed goals adequately reflect the costs.

* Position statement same as prehearing statement based on Order No. PSC-14-0356-PHO-EU.
† Position statement exceeds 100 word limit established by Order No. PSC-14-0356-PHO-EU and truncated.

Staff Analysis:

PARTIES' ARGUMENTS

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_2

in the base case scenario. (FPL BR 19, DEF BR 16, TECO BR 24, Gulf BR 11) FPL stated that it correctly followed the OEP in this docket which required the FEECA Utilities not to include CO_2 costs in the base case. (FPL BR 19) FPL asserts, however, that the CO_2 compliance costs used in its sensitivity analysis are reasonable, but that it is too early to reflect compliance costs associated with the draft EPA regulation in the base case. (FPL BR 19, 21) DEF stated that the form of carbon regulation, and resulting value of CO_2 compliance costs, is becoming more "speculative" than in the last goal-setting process. (DEF BR 16) As a result of the uncertainty surrounding future carbon regulation, DEF asserted there was no need to include a cost of CO_2 emissions in the current goal-setting process. (DEF BR 17) TECO contended that the future of GHG regulation is anything but settled, and although EPA issued proposed CO_2 regulations, the rule has not yet been adopted. (TECO BR 24) TECO asserted that it is still not known: (a) whether or when the CO_2 reduction-related requirements will become final; or (b) what the final requirements may be. (TECO BR 24-25) Similarly, Gulf states that it is not incurring costs associated with existing state or federal regulations on the emissions of greenhouse gases. (Gulf BR 11) Therefore, Gulf asserts it has appropriately not included assumptions of costs of CO_2 emissions in the development of proposed goals. (Gulf BR 11-12)

Sierra Club asserted that the Commission should require the cost of recent federal regulations in the base case analysis. (Sierra Club BR 12) Witness Woolf opined that all of the FEECA Utilities should have included the reasonable estimates of greenhouse gas compliance costs (Sierra Club BR 28) Witness Woolf also asserted that the Commission should "give no weight" to the results of DEF's and FPL's CO_2 sensitivity analyses as the Utilities' forecasted CO_2 costs were understated. (Sierra Club BR 27) Moreover, Sierra Club stated that since there is an overlap in the timeline for compliance with EPA's proposal to regulate CO_2 from existing sources and that proposal includes an energy efficiency target for the state the Commission should not wait to address the proposed rule. (Sierra Club BR 4-5, 12-13) Therefore, Sierra Club asserted that the Commission should re-open the FEECA docket to revisit the goals to account for the provisions in the proposal by summer of 2015. (Sierra Club BR 4-5, 12-13)

SACE stated that the FEECA Utilities did not accurately consider the future cost of CO_2 regulation and the ability to use energy efficiency as a compliance mechanism for future EPA regulations. (SACE BR 5) EDF notes that renewable energy resources can be used to comply with the EPA's Clean Power Plan. (EDF BR 3)

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. (OPC BR 7, FDACS BR 9, FIPUG BR 4) FDACS also stated that it would be premature to include a cost of compliance with regulations that are not currently in their final form. (FDACS BR 9) Further, FDACS asserted that if the proposed EPA rule becomes final and compliance costs are established, the Commission has the ability to modify FEECA plans. (FDACS BR 9) Walmart, PCS Phosphate and NAACP did not specifically address this issue.

ANALYSIS

When establishing conservation goals, Section 366.82(3)(d), F.S., requires the Commission to consider the costs imposed by state and federal regulations on the emission of greenhouse gases. The statute neither defines "greenhouse gases," nor requires the Commission 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_2, one of the greenhouse gases, as satisfying this statutory requirement. Of the greenhouse gases, CO_2 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_2 from existing electric utility generating units.[11] That rule is not expected to be finalized until June 2015, with an initial proposed compliance date of 2020. (EXH 97, EXH 102, EXH 111, EXH 118, EXH 120) FPL outlined the timeline, as shown below, for the implementation of the EPA's proposal, barring any delays from legal challenges. (EXH 97) 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. (EXH 102) Staff notes that following the statutory timeframe contained in Section 366.82(6), F.S., the Commission is 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

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_2 emissions.[12] The FEECA Utilities were permitted to include a sensitivity analysis that included a cost for CO_2 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_2 compliance in the base case when developing their respective proposed goals. Additionally, DEF and FPL chose to include a CO_2 sensitivity analysis, whereas TECO and Gulf did not. (TR 345-346, 519, 1578, 1610; EXH 118)

[11] 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.
[12] See Order No. PSC-13-0386-PCO-EU, Attachment A.

Prior Inclusion of CO_2 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. (TR 1609; EXH 100) As a result, each Utility in that proceeding added a cost impact of CO_2 regulation in its base case analysis, and subsequently the Commission approved goals that included cost estimates for future greenhouse gas emissions.[13] As CO_2 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. (TR 1609) Staff interprets his testimony to imply 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_2 cost, that did not materialize.

Utilities with CO_2 Sensitivity

DEF and FPL included a CO_2 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.[14] (TR 332, 1525; EXH 95, EXH 100) FPL and DEF both individually developed a CO_2 compliance cost forecast, and averaged their individual Utility's forecasted CO_2 costs to arrive at a "composite" CO_2 cost forecast to include in their sensitivity analyses. (TR 337; EXH 8; EXH 95, EXH 100) FPL's projected annual CO_2 compliance costs were developed by an external consulting firm; whereas, DEF's annual CO_2 compliance costs were developed internally. (EXH 95, EXH 100)

As seen in Table 5-1, compliance costs are forecasted to be zero until 2022 and increase yearly thereafter. However, given that there are no currently imposed CO_2 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. (TR 345-346, 519) Further, although EDF, SACE, and Sierra Club testified that the Utilities' forecasted CO_2 compliance costs were not accurate, no party offered an alternative CO_2 cost forecast.

[13] 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.
[14] See Order No. PSC-14-0356-PHO-EU.

Table 5-1: FPL & DEF Compliance CO_2 Costs Forecast

CO_2 Costs Forecast (Nominal $/Ton)	
2014	$0.00
2015	$0.00
2016	$0.00
2017	$0.00
2018	$0.00
2019	$0.00
2020	$0.00
2021	$0.00
2022	$10.25
2023	$15.35
2024	$16.61
2025	$18.62

Source: EXH 8; EXH 95, EXH 100

Impact of CO_2 Sensitivity

FPL and DEF both concluded that the impact of the CO_2 costs sensitivity analysis was relatively small. (TR 345-346, 519) DEF explained that the impact of including a CO_2 compliance cost increased the avoided production costs and lost revenue that resulted in a decrease of 208 gigawatt-hours in the RIM portfolio. (EXH 100, EXH 41) DEF concluded its CO_2 cost sensitivity analysis did not significantly increase the amount of programs the Utility could offer. (TR 519)

FPL testified that the achievable summer values without CO_2 were 526 MW under the RIM screening path and 576 MW under the TRC screening path. (TR 345-346) The achievable values with CO_2 were 508 MW under the RIM screening path and 577 MW under the TRC screening path. (TR 346) FPL concluded that since the OEP instructed the FEECA Utilities not to include CO_2 compliance cost in the base case and because there were only nominal impacts resulting from the CO_2 sensitivities, it was sufficient to evaluate DSM measures without the inclusion of CO_2 costs for its remaining analyses. (TR 346)

Utilities without CO_2 Sensitivity

TECO and Gulf did not include a CO_2 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. (TR 1578) 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. (TR 1578, 1610) Additionally, although Gulf included CO_2

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. (EXH 118) 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_2 since CO_2 assumptions were not included in the determination of the avoided unit used in the development of their proposed goals. (EXH 118) Although TECO and Gulf did not include a CO_2 sensitivity analysis in their filings, staff believes TECO and Gulf correctly followed the provisions of Order No. PSC-13-0386-PCO-EU, regarding this issue.

Proposed CO_2 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_2 emissions limits. (TR 454, 659, 774, 1524, 1540, 1595, 1608) FPL witness Sim also testified that it is too early to conclude what effect the proposed draft regulation could have on CO_2 compliance costs. (TR 454) Staff notes that 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.[15] Staff believes Section 366.82(3)(d), F.S., requires the Commission to consider actual compliance costs, rather than proposed or future costs when setting DSM goals. Therefore, staff disagrees with SACE and Sierra Club's position that the Commission 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., the Commission can open a new goal-setting docket at any point it wants (but not later than every five years). (TR 1610) 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 the Commission and utilities can respond to changing regulations. (TR 1596-1598) 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 the Commission is scheduled to review DSM goals. (EXH 97) Therefore, staff contends that once the costs of compliance with EPA's proposed regulations become effective, if at all, the Commission can require a reevaluation and re-establishment of FEECA goals with the accommodating new programs.

CONCLUSION

Currently, there are no costs imposed by state and federal regulations on the emissions of greenhouse gases (GHG). Therefore, consistent with Order No. PSC-13-0386-PCO-EU, the Utilities file base case goals assuming a cost of zero dollars for CO_2. Pursuant to Section 366.82(6), F.S., the Commission may change the goals for a reasonable cause. Once the compliance costs associated with any regulations on the emission of GHGs are known, including CO_2, the Commission has the authority to review and, if appropriate, modify goals.

[15] 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.

Issue 6: What cost-effectiveness test or tests should the Commission use to set goals, pursuant to Section 366.82, F.S.?

Recommendation: Consistent with Order No. PSC-09-0855-FOF-EG, a combination of the Participants Test, the RIM test, and the TRC test should all be used to set goals. (Ellis, Graves, Matthews)

Positions of the Parties:

FPL: The Commission should use the RIM test in setting DSM goals, consistent with its historic policy and rationale. The RIM test accounts for all costs and benefits, ensuring that the passing measures result in a net benefit for the general body of customers and avoiding customer cross-subsidization. FPL's proposed DSM goals minimize rate impacts and avoid cross subsidies between non-participants and participants because they are based on measures that passed the RIM test and because they reflect FPL's resource planning process.

DEF: The RIM test is the threshold measure that should be used in Florida as it reasonably balances the interests of all stakeholders.

TECO: The commission should use the RIM test in conjunction with the Participant test to establish DSM goals. These tests allow the accomplishment of significant DSM development without placing undue upward pressure on rates or causing cross-subsidization among participants and non-participants. The efforts by SACE and Sierra Club to set up the TRC test as the "required" cost-effectiveness test are erroneous and, if adopted, would bring about undue upward pressure on rates and cross-subsidization of DSM participants by non-participants.

Gulf: The Commission should use the combination of RIM and Participant's tests to set goals for Gulf Power. This combination of tests is consistent with the language contained within section 366.82(3)(b), Florida Statutes. These tests provide an appropriate balance between participating and non-participating customer benefits and ensure downward pressure on overall electric rates while still supporting significant conservation activities.

EDF: No position.[*]

FIPUG: The Commission should give significant weight to the RIM test to determine cost-effectiveness. FIPUG supports RIM-based goals since these goals result in the lowest cost rates for FIPUG members and other utility customers while appropriately advancing energy efficiency efforts. Regardless of which cost-effectiveness test the Commission approves, what is most important is that the Commission encourage conservation programs that strike a reasonable balance between the advantages of the programs to program participants and other ratepayers and that these conservation programs are fairly evaluated. Further, in the use of the RIM test, the Commission should be sure that all utilities . . . [†]

NAACP: The Commission should use the Rate Impact Measurement ("RIM") test. RIM accounts for the costs and benefits incurred and consistently results in the lowest rates and costs for participants and non-participants.[16]

PCS: PCS Phosphate agrees with Duke that its DSM goals should be developed based on the RIM test.

SACE: The total resource cost (TRC) test meets the requirement of the statute and represents sound regulatory policy. TRC is the cost-effectiveness test that focuses on the "general body of ratepayers as a whole." TRC, in contrast to the RIM test, includes both utility incentives and participant contributions. The correct measure for cost-effectiveness of roof-top solar power is a Value of Solar methodology.

Sierra Club: Total Resource Cost test because it is truest to FEECA's overall mandate and Section 366.82(3) criteria. The Commission should clarify that TRC includes (a) customer incentives provided by the Company, (b) reasonable estimates of participant non-energy benefits, and (c) reasonable estimates of carbon costs in the base case analysis.

Walmart: In addition to the cost-effectiveness tests required by the Commission's Cost-Effectiveness Manual for Demand-Side Management Programs and Self-Service Wheeling Proposals, Walmart believes that there is merit in the proposal that the Commission should initiate proceedings e.g., workshops or other proceedings - to explore the possible development of alternate methodologies for evaluating the cost-effectiveness of solar and other renewable energy programs and measures.

FDACS: The Commission's current practice of setting goals based on measures that take into consideration various tests should continue. Using multiple tests allows for a better perspective of the cost-effectiveness of the energy efficiency and conservation programs. The Commission should balance the goal of energy efficiency and conservation with the impact of the cost and benefits of these programs on rates and overall customer bills.*

OPC: The Commission should utilize the cost-effectiveness test or tests to set goals which adequately safeguard the interests of the general body of ratepayers against undue rate impacts while achieving the intent of FEECA Sections 366.81 and 366.82(2), F.S. OPC takes no position on which test or tests achieves that aim.

* Position statement same as prehearing statement based on Order No. PSC-14-0356-PHO-EU.
† Position statement exceeds 100 word limit established by Order No. PSC-14-0356-PHO-EU and truncated.

[16] NAACP's position statement is labeled Issue 2 in its brief. (NAACP BR 5)

Staff Analysis:

PARTIES ARGUMENTS

The FEECA Utilities universally propose the usage of a combination of the Participants test and the RIM test to set goals. (FPL BR 22, DEF BR 8, TECO BR 11, GULF BR 13) The FEECA Utilities also state that the RIM test addresses cross-subsidization between DSM program participants and non-participants. (FPL BR 22-24, DEF BR 7-8, TECO BR 14-15, GULF BR 13-14)

FPL, DEF, and TECO states 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.[17] (FPL BR 22-23, DEF BR 5, TECO BR 11-12) DEF and TECO note that while the Commission elected to base goals on the Enhanced TRC test in the 2009 Goals Order, Order No. 09-0855-FOF-EG, the Commission ultimately rejected plans proposed to meet these goals due to adverse rate impacts to customers.[18] (DEF BR 6, TECO BR 13)

NAACP asserts that the Commission should use the RIM test to address concerns of cross-subsidization and minimize rates, particularly for low income and minority ratepayers. (NAACP BR 5-6) NAACP also refers to the 1994 Goals Order, and suggests that RIM test will produce the lowest rates. (NAACP BR 8-9)

FIPUG and PCS Phosphate states that the Commission should establish goals based upon the RIM test. (FIPUG BR 1, PCS Phosphate BR 1-2) PCS Phosphate states that rates are highly important to its members, and that the TRC test does not adequately address rate concerns. (PCS Phosphate BR 4-5)

OPC elected to take no position with regards to the appropriate cost-effectiveness test, but states that if the Commission elects to base goals on the RIM test then the FEECA Utilities should not be eligible to receive rewards for exceeding the goals. (OPC BR 2-3) OPC asserts that whichever cost-effectiveness test or tests the Commission selects should protect the general body of ratepayers from undue rate impacts. (OPC BR 7-8)

[17] 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.

[18] 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 the Commission should consider both the RIM test and the TRC test when establishing goals. (FDACS BR 6) FDACS states that by considering multiple tests, the Commission would have a better perspective of the cost-effectiveness of conservation measures and potential rate impacts. (FDACS BR 8)

Walmart recommends that the Commission, 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 prices volatility, construction costs, and environmental regulations. (Walmart BR 10-11) Walmart states that the Commission should engage in workshops or other proceedings to evaluate such a methodology. (Walmart BR 12)

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 BR 4) EDF identifies several potential benefits not considered in any of the three tests utilized by the Commission, and recommends that the Commission should seek to quantify these benefits through studies of distributed solar systems. (EDF BR 5-6)

Sierra Club states that the Commission 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 BR 5) 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 BR 5) Sierra Club asserts that the TRC test currently used by the Commission incorrectly omits customer incentive payments and non-energy benefits, thereby undervaluing the test. (Sierra Club BR 14)

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 BR 3, 22) 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 the Commission to set goals. (SACE BR 4, 14) SACE acknowledges that rate increases could result from goals based on TRC, but that programs could be designed to allow wide participation. (SACE BR 4) 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. (SACE BR 16-17)

ANALYSIS

By Rule 25-17.008(3), F.A.C., the Commission 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 the Commission 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. (TR 97-98) The FEECA statute also does not specify preference for any one test. (TR 108) In the 2009 goals proceeding, the Commission 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 the Commission has 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. (TR 541) Staff concurs that the Commission should consider all three cost-effectiveness tests to set goals.

Staff notes that while both SACE and Sierra Club propose the Commission use the TRC test to evaluate programs, neither proposes the use of the TRC test to determine goals. (TR 544) Further, EDF, SACE, and Sierra Club propose adoption of alternative cost-effectiveness methodologies for some solar PV measures. (TR 936, 1081, 1202) Discussion of the use or study of this alternative is addressed in Issues 10 and 11.

CONCLUSION

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

Issue 7: Do the Company's proposed goals appropriately reflect consideration of free riders?

Recommendation: Yes. 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. The Commission has approved goals based on a two-year payback criterion to identify free riders since 1994 and staff recommends the Commission 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. (S. Brown, Gilbert, Lingo, Ortega)

Positions of the Parties:

FPL: Yes. FPL applied a two-year payback screening criterion to each measure that passed the prior economic screening steps. This approach is a reasonable tool to comply with Rule 25-17.0021 and to help protect FPL's general body of customers from paying incentives to program participants that would already be economically motivated to adopt DSM measures without incentives. Many inexpensive measures with quick payback periods are promoted in other ways.

DEF: Yes. By using a two-year payback period to screen certain measures, DEF's proposed goals appropriately reflect consideration of free riders. The use of a two-year payback period to account for free riders has been employed by DEF and the Commission since 1991. It is reasonable to assume that customers will act in an economically rational fashion and implement measures with a two-year or less payback. Such a payback period is also supported by published customer adoption curves and ensures that the Company is not paying customers for measures they would do anyway.

TECO: Yes. Tampa Electric utilized a longstanding Commission practice, initially approved in the 1994 DSM goals proceeding, of screening out measures having a payback period of two years or less without any incentive. This two-year payback criterion is the appropriate means to apply to minimize free-ridership as required by the Commission's rule. The evaluation, measurement and verification alternative proposed by Ms. Mims on behalf of SACE would be complicated, difficult to administer and costly, and would be unlikely to produce a more accurate assessment of free-ridership than the use of the two-year payback criterion.

Gulf: Yes. As required by Rule 25-17.0021, Florida Administrative Code, the goals established in this proceeding must account for the effects of free ridership. Consistent with past DSM goals proceedings, Gulf utilized a two-year payback criterion to account for free ridership. The two-year payback criterion is an objective, reasonable and efficient method of addressing free ridership during the goal-setting process as required by Commission rule.

EDF: No position.*

FIPUG: No. The utilities suggest using a two-year payback screen when considering free ridership. However, the evidence adduced at hearing suggests that a three year pay back screen should be used for a host of reasons: 1) it reduces free ridership to a greater degree than a two-year payback screen; 2) it results in rate savings for customers; and 3) it provides rate of returns that are more grounded to reasonable expectations given today's economic market conditions. The Commission should use a three year payback screen when considering free ridership.

NAACP: No position*

PCS: No position.*

SACE: No. The utilities arbitrarily apply a two-year payback screen for potential "free riders" to every efficiency measure. This screen is not based on empirical utility data. This is inconsistent with best practices by peer utilities in other states and eliminates measures that could most help low-income customers reduce energy use.

Sierra Club: No, the two-year screen arbitrarily excludes low-cost, short payback measures without any empirical support in the record for doing so. The record shows the opposite—low market penetration for two-year measures so including these measures will add savings for everyone and avoid harming vulnerable customers.

Walmart: No position.

FDACS: In considering whether the companies' proposed goals appropriately reflect free riders, the Commission should consider policy options that take into account the payback period of the proposed program measures.*

OPC: OPC takes no position on whether goals proposed by the Companies appropriately reflect consideration of free riders or whether two-year payback is the appropriate screen. The Commission should require the Companies to increase educational outreach efforts to ensure customers are aware of all the low cost energy efficiency measures with paybacks of two years or less which the Companies expect the ratepayers to implement without any incentives.

* Position statement same as prehearing statement based on Order No. PSC-14-0356-PHO-EU.

Staff Analysis:

PARTIES' ARGUMENTS

The FEECA Utilities contend that using a two-year payback criterion is the proper method to identify and screen free-ridership as required by Commission Rule 25-17.0021, F.A.C. (FPL BR 27-28, DEF BR 26, TECO BR 28) Furthermore, FPL, TECO, and Gulf assert that the Commission has properly recognized the two-year payback as the correct criterion to address free-ridership in every DSM goal-setting process since 1994. (FPL BR 25, TECO BR 15-16, Gulf BR 16-17) DEF states that it has used a two-year payback period to account for free riders since 1991. (DEF BR 26) 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. (DEF BR 13) Gulf also states that if the Commission adopts its proposed goals, the Utility is committed to offering a low income program that includes some two-year payback measures. (Gulf BR 17)

FIPUG contends that the Commission 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. (FIPUG BR 6, 8)

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. (SACE BR 1) 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." (SACE BR 12) Moreover, SACE asserts that the Commission 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. (SACE BR 2-3)

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. (Sierra Club BR 3-4) In addition, the Sierra Club believes the Commission should reject the two-year payback criterion and use reasonable impacts from measurement and verification studies instead of the two-year payback criterion. (Sierra Club BR 5)

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. (FDACS BR 11) 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. (FDACS BR 11)

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. (OPC BR 9) However, the OPC believes that if the Commission decides that the two-year payback screen is appropriate, the Commission 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. (OPC BR 11) 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. (OPC BR 11)

The EDF, NAACP, PCS, and Walmart did not provide arguments to this issue in a brief.

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. (TR 28-29, 594, 598, 657, 768) 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. (TR 103-104, 547) 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. (TR 337, 684-685, 828-829; EXH 100) The Commission initially recognized a two-year payback period to address the free-ridership issue in the 1994 DSM goals-setting proceeding. (TR 998, 1249, 1570, 1582) Since that initial decision, the Commission has consistently approved a two-year payback criterion in its 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's 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. (TR 323-324) DEF's 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. (TR 512) DEF's witness Duff and FPL's 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. (TR 512, 103-104) DEF's witness Duff and Gulf's witness Floyd assert that the two-year payback methodology used by the Utilities is an accepted industry practice to screen for potential free riders. (TR 829; EXH 100)

Unlike the FEECA Utilities, FIPUG testified that a two-year payback criterion is not appropriate and that the Commission should pursue a three-year payback criterion. (TR 383) Although DEF used and supports a two-year payback screen, DEF's 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. (TR 582; EXH 100, EXH 102) 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. (TR 548; EXH 100) Using a two-year payback method results

in both commercial/industrial and residential measures being screened out from further analyses. (EXH 100)

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. (TR 970) 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. (TR 970, 997) 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. (TR 998, 1052) 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. (TR 1054) Witness Mims further stated that the EM&V methodology should be evaluated "at the program level, but not in this proceeding." (TR 1054)

In summary, staff recommends that 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. The Commission has consistently approved goals based on this methodology in its 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, staff believes 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, staff 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 the Commission 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. (TR 333, 514, 710, 838-839) 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. (EXH 14; TR 334-335, TR 517, TR 839) Gulf witness Floyd also noted that using a longer payback period screen would result in lower goals. (TR 857)

As part of discovery, staff requested information from the Utilities that would identify measures added to the economic potential when using a payback period of one year rather than two years. (EXH 95, EXH 100, EXH 109, EXH 118) 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. (EXH 95, EXH 100, EXH 109, EXH 118)

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. (TR 550; EXH 102) 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. (TR 550) TECO witness Bryant testified that the results from the sensitivity analysis should not be used to establish goals, rather, they were performed to provide the Commission with an indication of how the respective cost-effectiveness of the goals are impacted by changing assumptions. (TR 711)

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, the Commissioners inquired of the FEECA Utilities how they reached out to educate customers on energy efficiency opportunities of measures with less than a two-year payback (TR 272-273, 650-652). 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. (TR 287-288) 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. (TR 288, 457-458) 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. (TR 272-273)

DEF states it has strong educational efforts geared at promoting awareness of efficiency measures that have a short payback period. (TR 547-548, 651-652) 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. (TR 656) 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. (TR 547-548; EXH 102) 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. (TR 651-652, 669-670)

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. (TR 789) TECO also works with community centers and other agencies to inform individuals about energy efficiency opportunities. (TR 790)

Gulf asserts that the Utility has placed great emphasis on customer education through its audit programs and outreach activities. (TR 820, 901-902) In doing so, Gulf provides advice and recommendations to its customers concerning energy use and equipment decisions. (TR 820)

Staff contends that 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. Staff further concludes 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. Staff acknowledged 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. Staff maintains 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, Commissioners voiced their concerns regarding how the FEECA Utilities' goals-setting analyses affected the low income customer base. Commissioners questioned the FEECA Utilities regarding the types of programs each utility marketed to their low income customers. (TR 285-287, 789-793) 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. (TR 410, 420-422, 858-860)

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. (TR 605) 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. (TR 672)

Staff concludes that 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 should 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

should continue to use a portfolio approach of information coupled with cost-effective incentives to address this market.

CONCLUSION

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. The Commission has approved goals based on a two-year payback criterion to identify free riders since 1994 and staff recommends the Commission continue this policy. Staff further recommends that 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.

Issue 8: What residential summer and winter megawatt (MW) and annual Gigawatt-hour (GWh) goals should be established for the period 2015-2024?

Recommendation: The Commission should establish goals for the FEECA Utilities based upon a cost-effectiveness analysis that allows all ratepayers, participants and non-participants, to benefit from the Utilities' demand-side management programs. Staff recommends annual goals based upon the unconstrained RIM Achievable Potential be adopted. As the RIM test eliminates cross-subsidies, using an unconstrained RIM allows for maximum participation by customers while keeping rates equitable. Based upon staff's recommendation in Issues 5 and 7, staff recommends the use of two-year payback as a free-ridership screen and no inclusion of potential CO_2 costs to establish goals. A breakdown of annual goals for each of the utilities is included in Attachment B. (Ellis, Graves, Matthews)

Positions of the Parties:

FPL: The Commission should approve FPL's proposed goals. FPL's goals (i) reflect FPL's resource planning process, as required by rule; (ii) reflect all costs and benefits to participants and the general body of customers, as required by statute; (iii) account for free riders, as required by rule; (iv) result in the lowest levelized average electric rates for all customers; and (v) avoid cross-subsidization of participants by non-participants. Additionally, FPL's goals properly reflect the evolving role for utilities in offering energy efficiency and diminishing cost-effectiveness results. Intervenors' proposed goals are arbitrary, devoid of analytical support, and fail to comply with Florida law.

DEF: DEF's goals are listed in the table below.

2015 - 2024 Proposed Residential DSM Goals At Generator						
	Summer Demand (MW)		Winter Demand (MW)		Annual Energy (GWH)	
Year	Incremental	Cumulative	Incremental	Cumulative	Incremental	Cumulative
2015	26.43	26.43	58.38	58.38	25.45	25.45
2016	23.97	50.39	53.09	111.47	23.78	49.22
2017	22.21	72.61	48.74	160.20	20.77	69.99
2018	20.02	92.62	43.23	203.44	16.98	86.97
2019	17.71	110.34	37.46	240.89	13.01	99.98
2020	15.53	125.86	32.15	273.05	9.29	109.27
2021	13.65	139.51	27.79	300.84	6.16	115.43
2022	12.23	151.74	24.53	325.36	3.79	119.23
2023	11.27	163.00	22.29	347.66	2.19	121.42
2024	10.66	173.67	20.89	368.55	1.18	122.60

TECO:

PROPOSED RESIDENTIAL DSM GOALS (At the Generator)										
Year	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Summer MW	1.1	1.6	2.2	2.7	3.1	3.3	3.3	3.0	2.9	2.5
Winter MW	2.6	4.1	5.2	6.5	7.6	7.6	8.0	7.4	6.8	6.1
Annual GWh	1.8	3.5	4.8	6.1	6.9	7.4	7.7	6.9	6.3	5.5

The cumulative effect of these goals through 2024 would be a summer MW reduction of 25.7 MW, a winter reduction of 61.9 MW and cumulative energy savings of 56.9 GWh.

Gulf:

Proposed Numeric Conservation Goals – Savings at the Generator)											
	2015	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**Total**
Residential											
Annual Energy (GWh)	2.3	3.2	4.2	5.1	6.0	6.8	7.6	8.3	8.9	9.5	62.1
Summer Peak Demand (MW)	2.3	3.2	4.1	5.0	5.9	6.7	7.5	8.1	8.8	9.3	60.9
Winter Peak Demand (MW)	1.3	1.8	2.3	2.9	3.4	3.8	4.3	4.6	5.0	5.3	34.8

EDF: No position*

FIPUG: The Commission should set goals that balance the importance of pursing conservation programs against their cost and the impact of that cost on rates.

NAACP: No position.*

PCS: The Commission should set goals that balance the importance of pursing conservation programs against their cost and the impact of that cost on rates.*

SACE: The Commission should set savings goals of 0.75% of retail sales for the utilities in 2015, ramping up to at least 1.0% per year through 2017 and ramping up thereafter to prepare the utilities for the demands of the proposed EPA carbon pollution reduction rule. See response to Issue 9.

Sierra Club: The Commission should set goals to ramp up the Company's annual energy savings to equal at least one percent of retail sales by 2019, or earlier as the Southern Alliance for Clean Energy has proposed. Company-specific goals are presented in Prehearing Order PSC-14-0356-PHO-EU.

Walmart: No Position.

FDACS: No Position.*

OPC: The Commission should establish goals which adequately safeguard the interests of the general body of ratepayers against undue rate impacts while achieving the intent of FEECA Sections 366.81 and 366.82(2), F.S. When approving programs to achieve the residential goals, the Commission should ensure that the approved programs benefit all residential ratepayers, including low income and rental

ratepayers who historically do not or cannot implement DSM measures or participate in DSM programs. OPC takes no position as to the appropriate residential goals to be established.

* Position statement same as prehearing statement based on Order No. PSC-14-0356-PHO-EU.

Staff Analysis:

PARTIES ARGUMENTS

The FEECA Utilities all propose goals based upon a combination of those measures which pass both the RIM test and the Participant's test. (FPL BR 28; DEF BR 7; TECO BR 3; Gulf BR 2-3) The FEECA Utilities acknowledge that the proposed goals are lower than those established in the 2009 Goals Proceeding, but that this is expected due to lower costs and changes in codes and standards. (FPL BR 34; DEF BR 9; TECO BR 7-8; Gulf BR 1-2) 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. (FPL BR 2-3; DEF BR 8; TECO BR 11; Gulf BR 2-3) 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 BR 36-39; DEF BR 10-11; TECO BR 4-6; Gulf BR 3-4) FPL asserts that its proposed goals should be limited based upon its forecast resource need, and that the full achievable potential does not comply with FPL's proposed planning process. (FPL BR 30-31)

NAACP does not propose goals, but states that goals should ensure low rates and not allow cross-subsidization. (NAACP BR 1-2) NAACP recommends that the Commission should utilize the RIM test, as discussed in Issue 6, as it results in lower rates for low-income customers. (NAACP BR 6, 9)

FIPUG recommends that goals based upon the RIM test should be adopted, as they result in low rates. (FIPUG BR 1)

PCS Phosphate, addressing DEF specifically, recommends the Commission should approve the Utility's proposed goals, utilizing the RIM test and Participants test. (PCS BR 1-2)

OPC takes no position as to the goals, but recommends that for residential goals, the Commission should approve goals that benefit both participants and non-participants. (OPC BR 9-10) OPC states that if the Commission approves goals based upon the RIM test, then the FEECA Utilities should not be eligible for a reward for exceeding them. (OPC BR 2-3)

FDACS takes no position as to the goals, but recommends that the Commission should balance concerns regarding rates with the goals to be established. (FDACS BR 8)

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 BR 8) Sierra Club asserts that these goals would result in lower total costs and average bills. (Sierra Club BR 8-9) SACE further encourages the Commission to reopen the goals docket in 2015 to

establish goals based upon compliance obligations with the proposed federal greenhouse gas regulations. (Sierra Club BR 4) Sierra Club recommends that the Commission should reject the FEECA Utility's proposals as too low compared to the accomplishments of other states. (Sierra Club BR 19)

SACE proposes that a one percent of annual energy savings goal be established for the investor-owned utilities. (SACE BR 22-23) 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 BR 25) 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 BR 26) SACE asserts that the FEECA Utilities are capable of meeting a 1 percent annual sales goal because other states have achieved similar results. (SACE BR 26-27)

ANALYSIS

The Commission must consider multiple factors when determining the FEECA Utilities' annual numeric conservation goals, including those explicitly outlined in Section 366.82(3), F.S., and discussed earlier in Issues 1 through 7. The Commission must also consider other concerns within its statutory jurisdiction, such as rates, to determine the amount of conservation that is cost-effective and reasonably achievable.

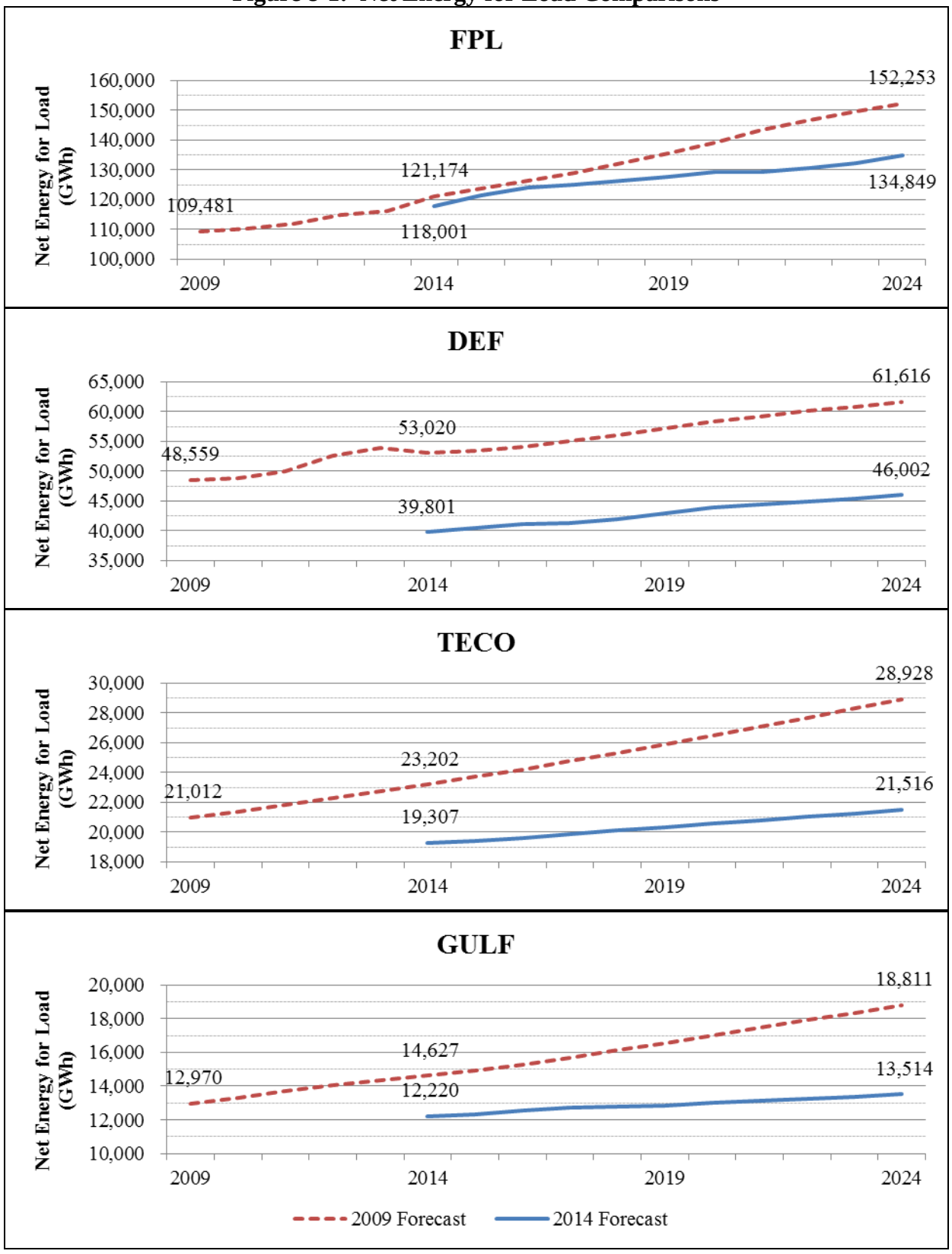
Demand-side management is an alternate resource to generation driven by economic and reliability considerations for Florida's electric utilities. The economics of demand-side management are similar to generation, with a focus on fixed capacity and avoidable fossil fuel cost. The reliability considerations 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. (EXH 95)

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. (TR 191-192, 489-490, 683-684, 815) 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. (EXH 96, EXH 101, EXH 110, EXH 119) 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 8-1, 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. (TR 684)

Figure 8-1: Net Energy for Load Comparisons



Source: EXH 96, EXH 101, EXH 110, EXH 119

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. (TR 489) 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. (EXH 95) DEF witness Duff notes that two main programs affected are heating, ventilation, and air-conditioning (HVAC) and lighting. (TR 638-639) 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.

As discussed in Issue 1, 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. (TR 192)

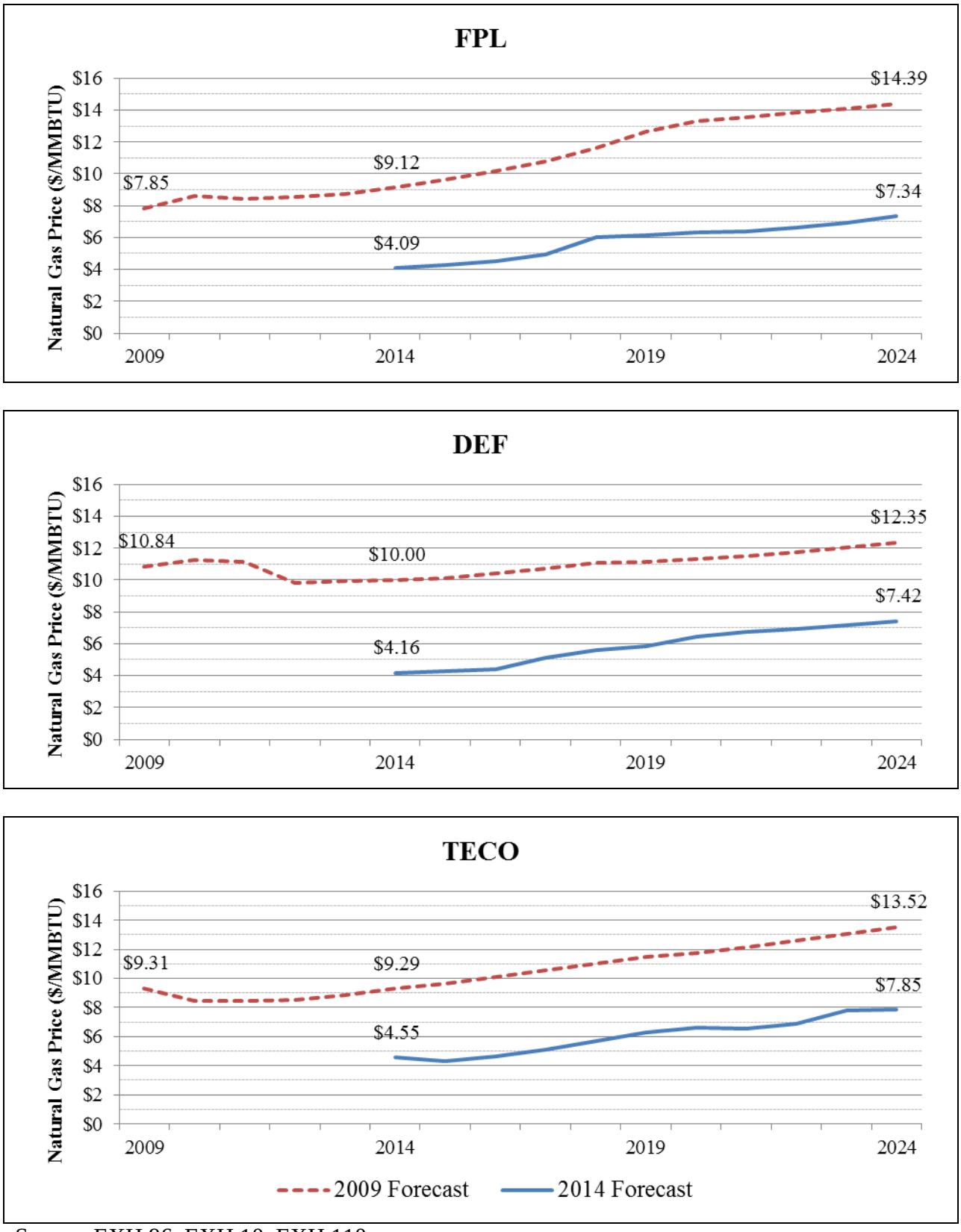
Avoided Costs

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. (EXH 96, EXH 101, EXH 110, EXH 119) 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. (TR 372) As a result, demand-side management measures focusing on energy consumption are less cost-effective, reducing potential goals.

Figure 8-2, 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 remain below any point along the forecast used in the 2009 goals proceeding for the entirety of the ten-year goal setting period.

Figure 8-2: Natural Gas Price Forecast Comparisons for FPL, DEF, and TECO



Source: EXH 96, EXH 10, EXH 110

As discussed above, load forecasts have delayed potential avoided generation. Gulf witness Floyd notes that the later the in-service date of an avoided unit, the less benefit in being deferred or avoided it provides. (TR 815) Table 8-1, illustrates the in-service date, type, and capacity of the avoided units used in the 2009 Goals Proceeding and the current dockets. Since the type of avoided capacity did not change, the benefits of avoided capacity are only impacted by the timing of the capacity.

Table 8-1: Avoided Unit Comparison for FPL, DEF, TECO, and Gulf

Company	FPL	DEF	TECO	Gulf
2009 Goals Proceeding (2010-2019)	2019 CC (1,219 MW)	2013 CT (205 MW)	2012 CT (56 MW)	2014 CC (840 MW)
2014 Goals Proceeding (2015-2024)	2019 CC (1,269 MW)	2018 CT (214 MW)	2019 CT (190 MW)	2023 CC (750 MW)

Source: EXH 96, EXH 101, EXH 110, EXH 119

While fuel prices were uniformly down for the FEECA utilities, avoided generation varies by utility. TECO and Gulf have avoided units, coming in later in the goals period, by two and five years respectively. (EXH 110, EXH 119) DEF's initial unit is three years from the start of the analysis period for both cases, while later units are delayed further in the current proceeding. (EXH 101) For these utilities, avoided generation benefits are reduced because capacity requirements are later in time. FPL's avoided unit, despite having the same in-service date, advances from nine years into the goals period to only four, which increases the benefits of avoided generation. (EXH 96) As a consequence of delayed avoided units, demand-side management measures focusing on avoiding capacity are less cost-effective for three of the four Utilities, reducing potential goals.

Market Conditions Combined

The potential for demand-side management in Florida has decreased since the 2009 goals proceeding due to changes in market conditions as outlined above. Lower fuel costs reduce the cost-effectiveness of demand-side management measures, as measures offer smaller incentives per unit of energy savings. Lower load forecasts delay anticipated generation, further reducing avoidable costs. Finally, building codes and appliance efficiency standards reduce the amount of incremental savings available. Therefore, several factors beyond the control of the Utilities have the affect of reducing the amount of cost-effective demand-side management available to all customers at this time. Staff would note that while these factors may reduce the incentives offered, it does not limit customers from participating in utility demand-side management programs.

Cost-Effectiveness Evaluations

Rule 25-17.008, F.A.C., and the "Cost-Effectiveness Manual for Demand Side Management Programs and Self Service Wheeling Proposals" (Cost-Effectiveness Manual) were adopted as part of the implementation of Section 366.82, F.S., prior to the 2008 amendments.

(TR 1125) Rule 25-17.008(3), F.A.C., directs the Commission to evaluate the cost-effectiveness of conservation and direct load control programs utilizing the following three tests.

- **Participants Test**: Measures the impact of the program on the participating customers.
- **Total Resource Cost Test (TRC)**: Measures the net costs of a demand-side management program as a resource option.
- **Rate Impact Measure Test (RIM)**: Measures the impact on customer rates caused by the program.

Table 8-2, provides an illustration of the costs and benefits, as presented in Rule 25-17.008, F.A.C., assessed under each test. As illustrated in Table 8.2, the benefits associated with the TRC and RIM tests are the same.

Table 8-2: Summary of Cost-Effectiveness Test Components

	Participant	Total Resource Cost	Rate Impact Measure
Benefits			
Bill Savings	Yes	-	-
Incentives	Yes	-	-
Tax Credits	Yes	-	-
Avoided Generation	-	Yes	Yes
Avoided Energy	-	Yes	Yes
Costs			
Participant Contributions	Yes	Yes	-
Equipment	-	Yes	Yes
Administrative	-	Yes	Yes
Incentives	-	-	Yes
Lost Revenues	-	-	Yes

Source: Cost-Effectiveness Manual

Based on Order PSC-13-0386-PCO-EU, the FEECA Utilities provided both economic potential and achievable potential evaluations using both the RIM test and the TRC test. The economic potential was developed using the technical potential discussed in Issue 1 and then applying multiple economic tests and screenings. (TR 205) While technical potential represents the state of all possible improvements being made, economic potential reflects only those improvements that make economic sense using a cost-effectiveness test. Each cost-effectiveness test, RIM and TRC, is combined with the Participants test so that measures pass both to be included. The achievable potential is derived from the economic potential and includes an assumed participation rate based upon factors such as availability and customer acceptance. (TR 509-510) As discussed in Issue 6, the results from all three tests (Participants, RIM, and TRC) are useful when establishing DSM goals.

FEECA Utility Proposals

The FEECA Utilities propose to establish annual numeric conservation goals based upon a combination of the RIM and Participants tests, and provided testimony that the RIM and Participants tests alone adequately reflect the costs and benefits to the general body of ratepayers as a whole. (TR 124, 543, 735, 1645) DEF, TECO, and Gulf propose that goals be based upon the RIM achievable potential. (EXH 28, EXH 45, EXH 46)

FPL witness Sim suggests that goals should be limited by resource needs, and that the achievable potential exceeded the minimum required to meet FPL's reliability requirements. (TR 351) As a result, FPL's proposed goals are less than its achievable potential by approximately 36 percent for summer peak, 42 percent for winter peak, and 89 percent for annual energy consumption. (EXH 23, EXH 24)

FPL initially analyzed the 2015 through 2024 goals period, and based upon an avoided unit in 2021, found that no DSM additions were necessary past 2021 for summer peak demand. (TR 348) FPL witness Sim testified that FPL elected to include an additional year in its analysis, 2025, which increased the need for DSM additions by 31 percent for summer peak demand. FPL witness Koch testified that FPL, to determine proposed goals for winter peak demand and annual energy, combined only those measures necessary to meet its summer peak demand determination, primarily load management. (TR 294-295)

FPL witness Sim testified that FPL's resource analysis included the usage of a generation-only reserve margin that excludes the benefits of demand response resources and incremental energy efficiency. (TR 319-320) While FPL has noted its use of this metric in this docket, the Commission has not ruled on the use of this methodology based upon this review. The Commission will have an opportunity to review FPL's proposed third reliability criterion if it becomes a factor in a determination of need for a new electrical power plant under the Power Plant Siting Act.[19]

[19] The Commission has exclusive jurisdiction to determine the need for new electric power plants based on Section 403.519, F.S.

Staff recommends against the use of constraints for establishing goals based upon the RIM Achievable Potential. By definition, any participation in a measure that passes the Participants Test and the RIM Test is beneficial both to participants and the non-participants. The unconstrained RIM Achievable Potential allows for a larger amount of cost-effective demand-side management with more potential participants while minimizing cross-subsidization. As discussed previously, 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. Utilizing an unconstrained version of the Test would also be consistent with Order PSC-09-0855-FOF-EG in the 2009 Goals Proceeding, which also rejected the use of constrained goals.[20]

Other Parties Proposals

SACE and Sierra Club propose goals based upon a percentage of retail energy sales. SACE witness Mims recommends that the FEECA Utilities meet a goal of 0.75 percent of retail energy sales in 2015, ramping up to 1.0 percent by 2017. (TR 1024) Sierra Club witness Woolf recommends ramping up to a goal of 1.0 percent of retail energy sales by 2019. (TR 1118) Staff requested annual numeric conservation goals from both Sierra Club and SACE. (EXH 134, EXH 136) Sierra Club's response was incomplete, and the annual values provided do not comply with Rule 25-17.0021(1), F.A.C., in that they include only values for 2015 through 2019 for three utilities, include only values for 2015 through 2018 for one utility, fail to include separate goals for residential and commercial/industrial customers, and include only one season for peak demand goals. (EXH 136) As discussed in Issue 6, SACE and Sierra Club using the TRC test to determine cost-effectiveness, but the goals proposed by both are not based on any cost-effectiveness test. (TR 544) SACE and Sierra Club base the reasonableness of the proposed goals upon experiences in other states. (TR 1013, 1182) FPL witness Deason, DEF witness Duff, and Gulf witness Floyd testify it is inappropriate to make comparisons with other states without regard to the differences in legislation and other factors. (TR 541, 1261, 1622) Staff agrees and recommends that there is no competent or substantial evidence in the record to support the goals proffered by either SACE or the Sierra Club.

Sensitivities

Based on Order PSC-13-0386-PCO-EU, the FEECA Utilities provided sensitivities of fuel forecasts and free-ridership screening periods for the RIM test and TRC test. In general, the free-ridership sensitivities produced a greater magnitude of change than fuel price sensitivities. (EXH 22, EXH 41, EXH 45, EXH 46, EXH 185) The average change in the economic potential of each of the sensitivities is outlined in Table 8-3.

[20] See Order No. PSC-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).

Table 8-3: Average Economic Potential Sensitivity Analysis by Test

Test	Goal	Fuel		Payback	
		High	Low	1 Year	3 Year
RIM	Summer	6.6%	(11.9)%	12.8%	(20.6)%
	Winter	3.4%	(13.0)%	1.2%	(10.2)%
	Annual	10.7%	(17.6)%	13.1%	(20.5)%
TRC	Summer	3.8%	(6.1)%	24.7%	(20.6)%
	Winter	3.8%	(6.1)%	21.4%	(10.2)%
	Annual	2.6%	(4.5)%	30.4%	(20.5)%

Source: EXH 22, EXH 41, EXH 45, EXH 46, EXH 185

In the 2009 Goals Proceeding, each FEECA Utility used an individual forecast for costs associated with carbon dioxide emissions that had significantly different values and start dates. Based on Order PSC-13-0386-PCO-EU the FEECA Utilities did not include costs associated with carbon dioxide emissions in the base case of the cost-effectiveness screening presented above. To prevent confusion, Order No. PSC-13-0386-PCO-EU directed the FEECA Utilities that wished to include a CO_2 sensitivity to use a common CO_2 price forecast in the current proceeding. Only FPL and DEF provided a CO_2 price sensitivity, and the results show a minor negative effect, as new generation tends to be more efficient and therefore produce less emissions. (EXH 22, EXH 41) As discussed in Issue 5, should future costs for CO_2 emissions be implemented, it is within the Commission's authority to revisit the FEECA goals at that time.

The sensitivities discussed above were conducted on the economic potential, not the achievable potential. In data request responses, the FEECA Utilities suggested that the application of a linear extrapolation was not appropriate, as the sensitivities were conducted at the economic potential level. (EXH 95, EXH 100, EXH 109, EXH 118) However, no alternative method is included in the record for applying the sensitivities to calculate an achievable potential. Without an alternative, staff recommends that a linear approach, while not ideal, is an option available to the Commission.

Rate Impact

The Commission has direct rate-setting authority over the investor-owned utilities subject to FEECA for which goals are to be established. Based on Order PSC-13-0386-PCO-EU, the FEECA Utilities provided the rate impact of the utility's proposal, the RIM achievable potential, and the TRC achievable potential. (EXH 15, EXH 29, EXH 30, EXH 45, EXH 46) In previous FEECA goals proceedings, the Commission has considered the impact on rates when determining goals for the FEECA Utilities.

As required by the Commission's Rules, the FEECA Utilities will submit programs based upon the goals established in this proceeding, and those program costs will be recovered from the ratepayers through the Energy Conservation Cost Recovery Clause.[21] As incentives are paid based upon participation, cost recovery will vary over time.

[21] Rules 25-17.0021(4) and 25-17.015(1), F.A.C., respectively.

Excluding Gulf, the FEECA Utilities estimate monthly bills would remain approximately the same or decline with the adoption of goals based upon the utilities' proposals, the RIM achievable potential, or the TRC achievable potential. (EXH 15, EXH 98, EXH 107, EXH 116, EXH 125) Table 8-4, lists the FEECA Utility's current Energy Conservation Cost Recovery (ECCR) monthly bill impact for 2014 and the average monthly bill impact of these scenarios. While no party provided a monthly ECCR bill impact for all years for the goals recommended by SACE or Sierra Club, it is reasonable to suggest that they would be significantly higher than the scenarios presented below due to the higher goal levels.

Table 8-4: Average Monthly ECCR Bill Impact by Test

Utility	2014 ECCR	Average Monthly Bill Impact ($/1200-kWh)		
		Utilities Proposal	RIM Achievable	TRC Achievable
FPL	$3.37	$1.86	$2.06	$2.32
DEF	$4.82	$4.04	$4.04	$4.54
TECO	$3.54	$3.22	$3.22	$3.59
Gulf	$2.71	$0.91	$0.91	$3.97

Source: EXH 15, 98, EXH 107, EXH 116, EXH 125

The discussion above reflects primarily upon the impact of the ECCR Clause, and does not consider the impact of increased energy conservation on the FEECA Utility's base rates. A utility's base rates are established by the Commission in a rate case, and represent the recovery of fixed costs for items such as power plants and operations. Base rates are recovered based upon customer's consumption of energy, which is variable. As a result, if energy consumption decreases, the FEECA Utilities would have fewer units of consumption over which to spread these fixed costs. Such an outcome is often referenced to as lost revenues. SACE witness Mims notes that if sales decline for any reason, rates may increase. (TR 985) The reduction in sales due to participation in demand-side management measures would have the same effect as a sales forecast that did not materialize. Staff notes that decline in sales was the primary factor in the last several electric rate cases before the Commission. If consumption is reduced enough, a utility may file a petition with the Commission for a rate increase.

While lost revenues associated with demand-side management programs are not the only cause for a decrease in a utility's return on equity, should a utility's return on equity be decreased by more than 100 basis points, the utility may file a petition with the Commission for a rate increase. Table 8-5, provides the basis point impact of the RIM and TRC achievable potential goals outlined above, based upon each utility's lost revenues, for the five-year period before goals must be reset. As illustrated below, no utility would be impacted in excess of 100 basis points during the five-year period, with the highest impact of 42.1 for FPL's TRC achievable potential. (EXH 95, EXH 100, EXH 109, EXH 118) As a result, it is unlikely that an increase in base rates would be entirely driven by a decline in sales due to conservation during the next five-year period. While no formal analysis was conducted, given the 20 to 40 times higher energy savings associated with Sierra Club and SACE's proposed goals, it is reasonable to conclude that an increase in base rates would be likely if these intervenors' goals were adopted.

Table 8-5: Basis Point by Cost-Effectiveness

Year	RIM Achievable Potential			
	FPL	DEF	TECO	Gulf
2015	2.2	2.9	1.0	4.0
2016	6.8	5.6	2.6	6.0
2017	12.2	8.1	4.0	7.0
2018	18.4	10.3	6.2	8.0
2019	25.8	12.0	8.5	10.0

Year	TRC Achievable Potential			
	FPL	DEF	TECO	Gulf
2015	2.9	5.2	1.6	7.0
2016	9.8	10.3	4.2	9.0
2017	18.6	15.5	6.6	10.0
2018	29.2	21.0	10.2	13.0
2019	42.1	26.8	14.3	15.0

Source: EXH 95, EXH 100, EXH 109, EXH 118

The Commission's decision must be based upon the evidence within the consolidated record of these dockets. Through prior meetings, staff attempted to streamline the process and ensure that the Commission was provided with all available information to make a decision. The procedural orders in this proceeding provided a guideline for all parties to follow. The goals proposed by SACE and Sierra Club are not based on any cost-effectiveness test and are contrary to the position taken by these parties in Issue 6.

As previously discussed, demand-side management is an alternative resource to generation plants and should be evaluated similarly for reliability and economic impacts. The current market conditions adequately explain why the utilities' proposed goals are lower than those proposed in 2009. (TR 191-192)

The cumulative results of the utility's proposal, the achievable potential based upon the RIM and TRC tests, the proposed goals of Sierra Club and SACE, and staff's recommendation are provided in Table 8-6. Tables outlining the potential residential annual goals are shown in Attachment B for each utility.

Table 8-6: Residential Cumulative Goal Proposals

Summer Peak Demand (MW)						
Utility	**Utility Proposed**	**RIM Achievable**	**TRC Achievable**	**Sierra Club***	**SACE**	**Staff Rec.**
FPL	175.8	267.8	220.2	2,467.0	3,575.6	267.8
DEF	173.7	173.7	198.1	n/a	1,206.2	173.7
TECO	25.7	25.7	36.2	317.0	539.8	25.7
Gulf	60.9	60.9	82.8	137.0	322.6	60.9

Winter Peak Demand (MW)						
Utility	**Utility Proposed**	**RIM Achievable**	**TRC Achievable**	**Sierra Club***	**SACE**	**Staff Rec.**
FPL	122.8	166.0	203.8	n/a	2,859.9	166.0
DEF	368.6	368.6	390.0	1,170.0	964.8	368.6
TECO	61.9	61.9	71.0	n/a	431.7	61.9
Gulf	34.7	34.7	50.7	n/a	258.0	34.7

Annual Energy (GWh)						
Utility	**Utility Proposed**	**RIM Achievable**	**TRC Achievable**	**Sierra Club***	**SACE**	**Staff Rec.**
FPL	54.0	247.2	239.8	4,161.0	8,259.5	247.2
DEF	122.6	122.6	269.3	1,425.0	2,786.3	122.6
TECO	56.9	56.9	93.4	717.0	1,246.9	56.9
Gulf	61.9	61.9	158.8	430.0	745.2	61.9

* Sierra Club's proposed goals are incomplete despite a Staff data request asking for goals for the full ten-year period. Sierra Club's proposed goals are for the period 2015-2019 only, except for Gulf, which is for the period 2015-2018 only.

Source: EXH 23, EXH 24, EXH 28, EXH 45, EXH 46, EXH 134, EXH 136, EXH 184, EXH 197

CONCLUSION

The Commission should establish goals for the FEECA Utilities based upon a cost-effectiveness analysis that allows all ratepayers, participants and non-participants, to benefit from the Utilities' demand-side management programs. Therefore, staff recommends annual goals based upon the unconstrained RIM achievable potential be adopted. As the RIM test eliminates cross-subsidies, using an unconstrained RIM allows for maximum participation by customers while keeping rates equitable. Based upon staff's recommendation in earlier Issues 5 and 7, staff recommends the use of two-year payback as a free-ridership screen and no inclusion of potential CO_2 costs to establish goals. A breakdown of annual goals for each of the utilities is included in Attachment B.

Issue 9: What commercial/industrial summer and winter megawatt (MW) and annual Gigawatt hour (GWh) goals should be established for the period 2015-2024?

Recommendation: As discussed in Issue 8, staff recommends annual goals based upon the unconstrained RIM achievable potential be adopted. Based upon staff's recommendation in Issues 5 and 7, staff recommends the use of two-year payback as a free-ridership screen and no inclusion of potential CO_2 costs to establish goals. A breakdown of annual goals for each of the utilities is included in Attachment C. (Ellis, Graves, Matthews)

Positions of the Parties:

FPL: The Commission should approve FPL's proposed goals. FPL's goals (i) reflect FPL's resource planning process, as required by rule; (ii) reflect all costs and benefits to participants and the general body of customers, as required by statute; (iii) account for free riders, as required by rule; (iv) result in the lowest levelized average electric rates for all customers; and (v) avoid cross-subsidization of participants by non-participants. Additionally, FPL's goals properly reflect the evolving role for utilities in offering energy efficiency and diminishing cost-effectiveness results. Intervenors' proposed goals are arbitrary, devoid of analytical support, and fail to comply with Florida law.

DEF: DEF's goals are listed in the table below.

2015 - 2024 Proposed Commercial/Industrial DSM Goals At Generator

	Summer Demand (MW)		Winter Demand (MW)		Annual Energy (GWH)	
Year	Incremental	Cumulative	Incremental	Cumulative	Incremental	Cumulative
2015	11.97	11.97	5.42	5.42	14.47	14.47
2016	11.58	23.55	5.36	10.78	13.60	28.07
2017	11.03	34.58	5.56	16.34	11.99	40.06
2018	9.99	44.57	5.14	21.48	10.04	50.09
2019	9.09	53.67	5.01	26.49	7.98	58.07
2020	8.23	61.89	5.18	31.67	5.88	63.95
2021	6.89	68.78	4.78	36.45	3.92	67.87
2022	5.97	74.75	4.71	41.16	2.40	70.27
2023	5.59	80.35	4.95	46.11	1.40	71.67
2024	5.02	85.37	4.62	50.73	0.76	72.43

TECO:

COMMERCIAL/INDUSTRIAL DSM GOALS (At the Generator)										
Year	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Summer MW	1.7	2.5	2.7	3.3	3.3	3.5	3.6	3.3	3.5	3.2
Winter MW	1.2	1.3	1.6	1.7	1.6	1.7	1.9	1.9	1.8	1.7
Annual GWh	3.9	6.0	8.0	9.2	9.9	10.3	10.4	10.2	9.9	9.6

The cumulative effect of these goals through 2024 would be a summer MW reduction of 30.6 MW, a winter reduction of 16.4 MW and cumulative energy savings of 87.4 GWh

Gulf:

Proposed Numeric Conservation Goals – Savings at the Generator)											
	2015	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**Total**
Commercial/Industrial											
Annual Energy (GWh)	0.8	1.2	1.5	1.8	2.2	2.5	2.7	3.0	3.2	3.4	22.2
Summer Peak Demand (MW)	0.3	0.4	0.5	0.6	0.7	0.8	0.9	0.9	1.0	1.1	7.1
Winter Peak Demand (MW)	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.3	0.3	0.3	1.9

EDF: No position.*

FIPUG: The Commission should set goals that balance the importance of pursing conservation programs against their cost and the impact of that cost on rates.

NAACP: No position.*

PCS: The Commission should set goals that balance the importance of pursing conservation programs against their cost and the impact of that cost on rates.*

SACE: SACE incorporates its response to Staff First Set of Interrogatories, No. 4, for both Issue 8 and Issue 9.

Sierra Club: Sierra Club takes the same position on Issue 9 as on Issue 8, above.

Walmart: No position.

FDACS: No position.*

OPC: The Commission should establish goals which adequately safeguard the interests of the general body of ratepayers against undue rate impacts while achieving the intent of FEECA Sections 366.81 and 366.82(2), F.S. When approving programs to achieve the commercial/industrial goals, the Commission should ensure that the approved programs benefit all commercial/industrial ratepayers. OPC takes no position as to the appropriate commercial/industrial goals to be established.

* Position statement same as prehearing statement based on Order No. PSC-14-0356-PHO-EU.

Staff Analysis:

PARTIES ARGUMENTS

The FEECA Utilities all propose goals based upon a combination of those measures which pass both the RIM test and the Participants test. (FPL BR 28; DEF BR 7; TECO BR 3; Gulf BR 2-3) The FEECA Utilities acknowledge that the proposed goals are lower than those established in the 2009 Goals Proceeding, but that this is expected due to lower costs and changes in codes and standards. (FPL BR 34; DEF BR 9; TECO BR 7-8; Gulf BR 1-2) 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. (FPL BR 2-3; DEF BR 8; TECO BR 11; Gulf BR 2-3) The FEECA Utilities contend 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 BR 36-39; DEF BR 10-11; TECO BR 4-6; Gulf BR 3-4) FPL asserts that its proposed goals should be limited based upon its forecast resource need, and that the full achievable potential does not comply with FPL's proposed planning process. (FPL BR 30-31)

NAACP does not propose goals, but recommends that goals should ensure low rates and not allow cross-subsidization. (NAACP BR 1-2) NAACP states that the Commission should utilize the RIM test, as discussed in Issue 6, as it results in lower rates for low-income customers. (NAACP BR 6, 9)

FIPUG recommends that goals based upon the RIM test should be adopted, as they result in low rates. (FIPUG BR 1)

PCS Phosphate, addressing DEF specifically, recommends the Commission should approve the Utility's proposed goals, utilizing the RIM test and Participants test. (PCS BR 1-2)

OPC takes no position as to the goals, but recommends that for commercial/industrial goals, the Commission should approve goals that benefit both participants and non-participants. (OPC BR 10) OPC states that if the Commission approves goals based upon the RIM test, then the FEECA Utilities should not be eligible for a reward for exceeding them. (OPC BR 2-3)

FDACS takes no position as to the goals, but recommends that the Commission should balance concerns regarding rates with the goals to be established. (FDACS BR 8)

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 BR 8) Sierra Club states that these goals would result in lower total costs and average bills. (Sierra Club 8-9) SACE further encourages the Commission to reopen the goals docket in 2015 to establish goals based upon compliance obligations with the proposed federal greenhouse gas regulations. (Sierra Club BR 4) Sierra Club recommends that the Commission should reject the FEECA Utilities' proposals as too low compared to the accomplishments of other states. (Sierra Club BR 19)

SACE proposes that a 1 percent of annual energy savings goal be established for the investor-owned utilities. (SACE BR 22-23) SACE asserts that the investor-owned utilities have a disincentive to establish meaning goals due to a loss in return on power plants that would be deferred or eliminated. (SACE BR 25) 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 BR 26) SACE asserts that the FEECA Utilities are capable of meeting a 1 percent annual sales goal because other states have achieved similar results. (SACE BR 26-27)

ANALYSIS

The same factors discussed in Issue 8 influence the FEECA Utility's commercial/industrial customers and potential conservation goals. Based on the discussion outlined in Issue 8, staff recommends that the commercial/industrial conservation goals should be based on an unconstrained RIM Test with a two-year payback free-ridership screen and no CO_2 costs included.

Table 9-1, summarizes the Utility's proposed goals, the Achievable Potential for the RIM and TRC Tests, the proposed goals from Sierra Club and SACE, and staff's recommendation. Tables outlining the potential commercial/industrial annual goals are shown in Attachment C for each utility. As previously discussed, Sierra Club's proposed goals are incomplete, including only values for 2015 through 2019, failing to include separate goals for residential and commercial/industrial customers, and including only summer peak demand goals for three of the utilities and winter peak demand goals for one utility. (EXH 136)

Table 9-1: Commercial/Industrial Cumulative Goal Proposals

Summer Peak Demand (MW)						
Utility	**Utility Proposed**	**RIM Achievable**	**TRC Achievable**	**Sierra Club***	**SACE**	**Staff Rec.**
FPL	160.9	258.3	356.1	2,467.0	2,601.0	258.3
DEF	85.4	85.4	137.1	n/a	917.3	85.4
TECO	30.6	30.6	50.0	317.0	480.2	30.6
Gulf	7.2	7.2	21.5	137.0	289.0	7.2

Winter Peak Demand (MW)						
Utility	**Utility Proposed**	**RIM Achievable**	**TRC Achievable**	**Sierra Club***	**SACE**	**Staff Rec.**
FPL	66.2	158.2	264.6	n/a	1,245.6	158.2
DEF	50.7	50.7	67.8	1,170.0	439.3	50.7
TECO	16.4	16.4	26.5	n/a	230.0	16.4
Gulf	2.0	2.0	7.3	n/a	138.4	2.0

Annual Energy (GWh)						
Utility	**Utility Proposed**	**RIM Achievable**	**TRC Achievable**	**Sierra Club***	**SACE**	**Staff Rec.**
FPL	5.2	279.1	855.8	4,161.0	7,565.2	279.1
DEF	72.4	72.4	229.7	1,425.0	2,667.9	72.4
TECO	87.4	87.4	175.6	717.0	1,396.7	87.4
Gulf	22.3	22.3	109.4	430.0	840.5	22.3

* Sierra Club's proposed goals are incomplete despite a Staff data request asking for goals for the full ten-year period. Sierra Club's proposed goals are for the period 2015-2019 only, except for Gulf, which is for the period 2015-2018 only.

Source: EXH 23, EXH 24, EXH 28, EXH 45, EXH 46, EXH 134, EXH 136, EXH 184, EXH 197

CONCLUSION

As discussed in Issue 8, staff recommends annual goals based upon the unconstrained RIM achievable potential be adopted. Based upon staff's recommendation in earlier Issues 5 and 7, staff recommends the use of two-year payback as a free-ridership screen and no inclusion of potential CO_2 costs to establish goals. A breakdown of annual goals for each of the utilities is included in Attachment C.

Issue 10: What goals, if any, should be established for increasing the development of demand-side renewable energy systems, pursuant to Section 366.82(2), F.S.?

Recommendation: Each of the IOUs should continue to implement the provisions of Rule 25-6.065, F.A.C., Interconnection and Net Metering of Customer-Owned Renewable Generation. The rule is an appropriate means to encourage the development of demand-side renewable energy, as it expedites the interconnection of customer-owned renewable energy systems and benefits participating customers through net metering. (Clemence, Marr)

Positions of the Parties:

FPL: Goals of zero should be established for demand-side renewable energy systems because such systems are not cost-effective for FPL's customers. Setting goals at zero would be consistent with past Commission practice of setting DSM goals at zero for FEECA utilities when no DSM measures are cost-effective. A goal level of zero would best protect the general body of customers and minimize cross-subsidies between participants and non-participants.

DEF: DEF does not believe that the Commission should set goals or continue to require the solar set aside pilots, since the demand-side renewable energy market appears to have matured significantly over the last five years and the programs continue to fail the cost-effectiveness screens. However, should the Commission determine that it is still appropriate to establish goals designed to increase the development of demand-side renewable energy systems, DEF believes that the goals should be no larger than those currently in place.

TECO: Goals should not be established for increasing the development of demand-side renewable energy systems as they continue to be non-cost effective. If any goals are set they should be set at zero, as these measures are non-cost-effective. SACE and Sierra Club provide no credible support for a continuation of solar DSM programs. Instead SACE's proposed "value of solar" analysis would use subjective concepts to create numerous "savings" in an effort to make non-cost-effective solar applications appear cost-effective.

Gulf: All demand-side renewable energy systems were evaluated using the same cost-effectiveness standards as other energy efficiency measures. No renewable measures are cost-effective under either the RIM or TRC cost-effectiveness tests and, therefore, none are reflected in Gulf's achievable potential results. In past FEECA proceedings, the Commission determined that it was appropriate to set goals equal to zero in cases where no DSM measures were found to be cost-effective. Given that no renewable measures passed the Commission's approved cost-effectiveness criteria, setting renewable goals at a level above zero in this proceeding would not be appropriate.

EDF: No position.*

FIPUG: The Commission should establish appropriate goals for the development and deployment of demand-side renewable energy systems as required by FEECA.

NAACP: No position.*

PCS: No position.*

SACE: The Commission should set appropriate numeric goals for increasing the development of demand-side renewable energy systems. The utilities should be directed to develop, in conjunction with Commission staff and stakeholders, a Value of Solar methodology and utilize such Value of Solar analysis to inform solar PV program design.

Sierra Club: The Commission should require the Company to substantially revise and expand its demand-side solar programs, as outlined in Witness Woolf's Direct Testimony. Through a separate docket, the Commission should collect the relevant information needed to appropriately value and set goals for distributed solar power.

Walmart: The Commission should establish appropriate goals for increasing the development and deployment of demand-side renewable energy systems as required by FEECA. As stated in Walmart's position on Issue 6, Walmart believes that the Commission should initiate proceedings, e.g., workshops, to explore the development of additional cost-effectiveness evaluation methodologies that will fully evaluate all costs and benefits of solar, and other renewable measures and programs.

FDACS: The Legislature has declared that it is critical to utilize the most efficient and cost-effective demand-side renewable energy systems. The Commission should consider policy options that can be implemented to achieve least-cost strategies that take into account the cost and benefits of the programs and their impact on all ratepayers.*

OPC: The Commission should establish goals necessary to achieve the intent of FEECA Sections 366.81 and 366.82(2), F.S. to adopt goals and approve plans related to the promotion of demand-side renewable energy systems while adequately safeguarding the interests of the general body of ratepayers against undue rate impacts. OPC takes no position on what goals, if any, should be established for increasing the development of demand-side renewable energy systems.

* Position statement same as prehearing statement based on Order No. PSC-14-0356-PHO-EU.

Staff Analysis:

PARTIES' ARGUMENTS

The four IOUs, FPL, DEF, TECO and Gulf, assert that goals should not be established because the solar pilot programs were not cost-effective and not an equitable way to encourage demand-side solar development. (FPL BR 41; DEF BR 27; TECO BR 17; Gulf BR 5) The lack of cost-effectiveness places upward pressure on rates. (Gulf BR 5) Intervenors NAACP and FDACS concur that rates should be kept as low as possible and cross-subsidization should be avoided. (NAACP BR 1-2; FDACS BR 13). TECO, Gulf, and NAACP contend that it is

appropriate for the Commission to set a goal of zero when there are no cost-effective options. (TECO BR 21; Gulf BR 19; NAACP BR 9)

DEF contends in its brief that a goal does not have to be numeric. If the Commission establishes a goal, DEF suggests that the Commission approve a utility-owned conceptual community solar pilot program that would resolve issues of cross-subsidization and benefit all customers. (DEF BR 21-22, 24, 27)

In its brief, FPL explains a solar Research & Demonstration project would involve collecting data from existing solar PV installations and installing solar PV panels that would be metered and instrumented at various locations and on various circuits across the FPL territory. These panels would provide valuable data on customers' electric consumption and energy output of panels based on size, location and configuration. (FPL BR 44) FPL, TECO, and Gulf assert that the Value of Solar (VOS) methodology is not a true cost-effectiveness test, because it only focuses on the benefits of solar. (FPL BR 42; TECO BR 21; Gulf BR 5)

Walmart and SACE assert that a goal of zero will not encourage the development of demand-side renewable energy systems. (Walmart BR 5-6; SACE BR 4) EDF, Sierra Club, and Walmart agree that a study is needed, but contend that the topic of the study should be determining the true costs and benefits of solar to Florida utilities. (EDF BR at 10; Sierra Club BR 30; Walmart BR 10) These intervenors also believe that the VOS methodology must be fully evaluated to determine the cost-effectiveness of solar energy. (EDF BR 5; SACE BR 32; Walmart BR 10) Walmart contends solar energy has values that are not reflected in the standard cost-effectiveness tests, such as reduced exposure to fuel price volatility, reduced transmission and distribution costs, and reduced construction cost risk due to declining cost of installed PV. (Walmart BR 10-11)

FIPUG and Walmart believe the Commission should establish appropriate goals for the development of demand-side renewable energy systems as required by FEECA. (FIPUG BR 5; Walmart BR 14) While OPC did not take a position on what goals should be established for the development of demand-side renewable energy systems, it asserted that any goals established by the Commission should comply with the intent of FEECA and safeguard against undue rate impacts. (OPC BR 10)

In its brief, FDACS contends any goals established by the Commission should be for cost-effective demand-side renewable systems. In addition, the Commission should determine how to comply with FEECA directives without placing an undue financial burden on non-participating customers. (FDACS BR 13) PCS Phosphate states in its brief that goals proposed by DEF represent a reasonable balance of FEECA's requirements and the cost and rate impacts to Florida consumers. (PCS Phosphate BR 2)

ANALYSIS

Section 366.81, F.S., states, ". . . the Legislature finds and declares that it is critical to utilize the most efficient and cost-effective demand-side renewable energy systems and conservation systems in order to protect the health, prosperity, and general welfare of the state and its citizens." Later in this same Section it states, "Since solutions to our energy problems are

complex, the Legislature intends that the use of solar energy, renewable energy sources, highly efficient systems, cogeneration, and load-control systems be encouraged."

Section 366.82, F.S., requires the Commission to adopt appropriate goals for increasing the development of demand-side renewable energy systems. In developing the goals the Commission shall take into account the benefits and costs to the consumer participating in the measure and the benefits and costs to the general body of ratepayers.

The Commission found in the 2009 goal setting proceeding that solar measures did not pass the cost-effectiveness tests. However, the Commission ordered the FEECA Utilities to offer renewable solar pilot programs in order to address the intent of the Legislature to place added emphasis on demand-side renewable resources.[22] The Commission established a spending cap in order to protect ratepayers from undue rate increases.[23] The spending cap was established at 10 percent for the ECCR expenditures the last five years, and amounted to $24,483,051 a year for the five IOUs combined.[24]

Solar photovoltaics (PV) have been steadily growing in Florida. As seen in Table 10-1, from 2011-2013, 2,824 new solar installations have been added by the four largest IOUs. These new solar installations are from residential and business customers. This amount includes both systems installed that received a rebate and those systems for which no rebate was received.

Table 10-1 - Number of Solar PV Installations

Utility	2011	2012	2013	Total
FPL	531	553	467	1551
DEF	233	309	323	865
TECO	71	117	109	297
Gulf	n/a	69	42	111
Total	835	1048	941	2,824

Source: EXH 97, EXH 102, EXH 111, EXH 117

In addition to the solar pilot programs discussed in Issue 11, it appears that at least three factors have contributed to the growth of solar PV in the state over the past few years: federal income tax incentives, the decreasing cost of installed solar PV, and the Commission's Rule 25-6.065, F.A.C., Interconnection and Net Metering of Customer-Owned Renewable Generation. (TR 528, 844; EXH 135)

Federal Income Tax Incentives

The Federal Government has enacted laws that provide tax credits for solar installations made by residential and business customers. Current federal tax law provides a 30 percent tax credit for personal and corporate solar systems installed by December 31, 2016. There is no

[22] See Order No. PSC-09-0855-FOF-EG, issued December 30, 2009, in Docket Nos. 080408-EG, 080409-EG, 080410-EG, 080412-EG, 080413-EG, In re: Commission Review of numeric Conservation Goals.
[23] Ibid.
[24] Ibid.

maximum credit for the personal or corporate tax credit. Recipients of the personal tax credit may carry forward the tax credit to the next year if they do not have a tax liability. (EXH 135)

Decreasing Cost of Installed Solar Photovoltaic Systems

DEF witness Duff testified that the cost of installed solar PV dropped for residential installations from \$5.01/watt$_{dc}$ in 2011 to \$4.13/watt$_{dc}$ in 2013. The cost of commercial installations dropped even more, from \$5.33/watt$_{dc}$ in 2011 to \$3.89 in 2013. (TR 529) FPL and TECO report similar decreases in the cost of installed solar PV. (TR 216, 720) Gulf reports the installed cost of PV systems (residential and commercial) has dropped from an average of \$5.54/watt$_{dc}$ in 2011 to \$3.42 per watt for systems being installed in 2014. Gulf witness Floyd contends this price drop reflects a national trend of declining solar PV prices. (TR 844)

According to DEF witness Duff, "Over the course of the five years since that Commission order, the costs of solar technology has decreased and the subscription rates for solar devices have increased, mainly because solar technology has advanced since that time." (TR 528)

Rule 25-6.065, F.A.C., Interconnection and Net Metering of Customer-Owned Renewable Generation

The Florida Legislature has established policies to require utilities to facilitate customer-owned renewable energy resources. Sections 366.91(5) and (6), F.S., require electric utilities to develop a standardized interconnection agreement and net metering program for customer-owned renewable generation. The purpose of Rule 25-6.065, F.A.C., is to promote the development of small customer-owned renewable generation, particularly solar and wind energy systems.

A customer primarily benefits from a renewable energy system by using the energy for their own purposes and thus reducing electricity purchases from the utility. The Commission's rule requires each investor-owned utility to file for approval a Standard Interconnection Agreement for expedited interconnection of customer-owned renewable generation for systems up to 2 MW. The agreements specify nationally recognized standards for interconnection and safety for renewable systems to be interconnected with the utility.

In addition, the rule provides direction for the application and interconnection process, detailing specific due dates for action by the utility and the customer. The rule also requires the IOUs to submit for Commission approval all fees and charges related to the interconnection of customer-owned renewable generation. The rule acts to minimize costs associated with fees and liability insurance that customers might otherwise experience when attempting to interconnect renewable systems to their utility.

The rule recognizes the seasonal nature of some renewable energy resources and allows for a billing adjustment through net metering. During times when the customer's system produces more energy than is consumed on-site, the excess energy is delivered to the utility's grid and the excess energy is credited to the next month's utility bill. At the end of the calendar year, any excess energy is credited on the bill at the utility's cost of producing energy (fuel). DEF witness Duff testified that the rule will continue to be available to customers. (TR 673)

Community Solar

FPL witness Koch recommended a community solar program that is voluntary and community based. Witness Koch testified that the program would be an efficient way to promote solar to customers who cannot afford to install panels on their own property and would not rely upon subsidies from non-participants. The system would be grid-tied on utility owned property and not be a demand-side renewable. (TR 218; EXH 96)

DEF witness Duff testified that DEF would recommend a Community Solar program that:

> . . . would involve DEF using the existing solar set aside dollars to build utility-owned solar generation to initially serve all customers that could eventually be used as a community solar offering allowing individual customers to meet their renewable energy goals. (TR 531)

EDF witness Fine testified that utilities should establish a utility-owned commercial PV program to allow utilities to make more investments in PV. (TR 931) SACE witness Rabago testified that community solar programs provide an opportunity to allow more customers to participate in the benefits that distributed solar provides. (TR 1100)

However, in its brief, SACE contends:

> A utility owned solar system is a supply-side renewable. Nothing about the proposed solar conceptual programs proposed by FPL and DEF are demand-side in nature. A supply-side resource is not typically placed on the premise of a customer, and it certainly cannot assist that customer in offsetting the customer's electricity requirements. As such, the conceptual programs, such as these, are not consistent with the FEECA statute. (SACE BR)

Staff agrees with SACE that Community Solar does not promote the development of demand-side renewables. While the development of utility scale solar may have many benefits, it does not comply with Section 366.82, F.S., because it is a supply-side source, not demand-side.

Value of Solar

A Value of Solar analysis identifies and characterizes the attributes of solar generation by characterizing and quantifying the costs avoided by solar generation. SACE witness Rabago testified that a VOS analysis is an expansion on a full avoided cost approach that adds a long term value perspective that includes societal costs and benefits. (TR 1083-1084)

FPL witness Sim countered that the VOS methodology is not a cost-effectiveness test, ignores well-known system cost impacts and thus overstates the benefits of PV, and takes a one-sided view of PV. (TR 1359) He testified that the proposed VOS methodology only examines the benefits of solar. (TR 1368) For example, the FPL witness testified that the VOS methodology does not appear to account for administrative costs or examine whether a proposed solar program would have any impact on future rates. (TR 1368) Witness Sim concluded that the VOS methodology only examines system benefits and ignores system costs. (TR 1369)

The VOS methodology is discussed in greater detail in Issue 11.

Staff does not agree with the positions of SACE, Sierra, or Walmart that the Commission needs to open a new docket or hold a workshop on solar issues. Staff has recommended against adopting a Valure of Solar methodology in Issue 11, therefore, staff does not see any value in conducting additional proceedings on the subject. Further, no new proposal has been presented in this docket that warrants a new proceeding or the holding of a workshop.

Research and Development

FPL witness Koch recommends a solar research and development project. (TR 1296-1297) Witness Koch testified that FPL could benefit from additional research with a variety of PV installations located through their service territory. (TR 1296-1297) Each of these installations would be metered and instrumented to gather more information. (TR 1297) In addition, FPL would rely upon data gathered at the Desoto and Space Coast installations. (TR 1297)

Witness Koch testified that the use of a utility research and development project would be more useful due to the utility's ability to obtain more information. (TR 1298) He opined that FPL has learned little from the current pilots other than that, ". . . people will rush to get in line for giveaways." (TR 1298)

EDF, Sierra Club, and Walmart also suggest that a R&D program be conducted; however, they think the study should focus on the true costs and benefits of solar to the Florida utilities. (EDF BR 10; Sierra Club BR 30; Walmart BR 10) SACE witness Rabago recommends a workshop with staff, utilities, and stakeholders to create a VOS methodology similar to that now in place in Minnesota. (TR 1100)

Staff does not see sufficient value for ratepayers to warrant establishing new research and development PV programs at this time. Both FPL and DEF currently have solar R&D programs. FPL also has accumulated data from the 110 MWs of installed solar that were installed due to 2008 Legislation, and has conducted research similar to their proposed R&D program at these sites. (EXH 97) Accordingly, staff recommends that no additional research and development programs be approved at this time for funding through the Energy Conservation Cost Recovery Clause.

CONCLUSION

Each of the IOUs should continue to implement the provisions of Rule 25-6.065, F.A.C., Interconnection and Net Metering of Customer-Owned Renewable Generation. The rule is an appropriate means to encourage the development of demand-side renewable energy, as it expedites the interconnection of customer-owned renewable energy systems and benefits participating customers through net metering.

Issue 11: Should the Company's existing solar pilot programs be extended and, if so, should any modifications be made to them?

Recommendation: No. Staff recommends that the existing solar pilot programs be allowed to expire December 31, 2015. The programs are not cost-effective and experience gained since the last goals proceeding indicates that consumers have continued to install systems without any rebates. The current solar rebates represent a large subsidy from the general body of ratepayers to a very small segment of each utility's customers. (Clemence, Marr)

Positions of the Parties:

FPL: No, FPL's existing solar pilot programs should be allowed to expire at the end of 2014 consistent with their program terms. These pilot programs continue to fail the RIM and TRC tests. In addition to being demonstrably cost-ineffective, they result in significant, concentrated cross subsidies for the relatively few customers who install solar systems by all of FPL's 4.7 million customers. FPL believes that its customers can be better served by pursuing PV through other applications.

DEF: No, DEF's existing solar pilot programs should not be extended; they are not cost-effective and customer-owned solar installations have become more viable and less expensive on their own over time. However, if the Commission continues the solar set aside, it should consider DEF's conceptual pilot program, which may lead to the development of a community solar offering. This conceptual pilot program is designed to better utilize the solar set-aside funds to promote increased PV development in a fair and equitable manner (so all customers share in the cost and benefit of solar) by designing utility-owned community-sited solar, grid tied solar . . . . †

TECO: No. The solar pilot programs have demonstrated that they are neither cost-effective nor viable. Any continuation of expenditures on these programs would only cause unwarranted upward pressure on the ECCR clause charges and continue the payment of subsidies by non-participants to those customers installing the solar technologies.

Gulf: No. Based on the results of the pilot, Gulf recommends not continuing the programs past the pilot phase. Neither the PV nor the solar thermal water hearing technologies are cost-effective under the RIM or TRC test and therefore cause a cross-subsidy to occur. The solar pilots ultimately cost Gulf's general body of customers more than the benefits realized by these systems. This is not to say that PV systems cannot be cost-effective to the participating customer. In fact, the decreases in system costs have improved the cost-effectiveness of PV systems to the point that additional customer-subsidized funding is not appropriate.

EDF: Yes. The Commission should order: continuation of the distributed solar programs at the same or greater funding level; a comprehensive independently-supervised study of distributed solar benefits and costs; and incentive redesign to enhance program cost-effectiveness, increased customer participation, and greater deployment of distributed solar.

FIPUG: The existing solar pilot programs do not appear cost-effective and should not be merely extended in their present form without rigorous review and appropriate modifications.

NAACP: No. Based on the record in this proceeding, and unless new evidence suggests otherwise, the Company's existing solar pilot programs should not be extended. The Commission should consider discontinuing incentives and setting conservation goals for these programs to zero.[25]

PCS: No position*

SACE: Yes, the programs should be extended, but SACE Witness Rabago testified on how to prospectively improve program design by developing a Value of Solar methodology, and using such methodology in lieu of current DSM cost-effectiveness tests.

Sierra Club: The Commission should open a separate docket to investigate appropriate goals for customer-sited renewables, and to address some related issues, e.g., the effectiveness of the design, marketing and administration of solar rebate programs and the role of utility-owned solar photovoltaic (PV) and solar water heating systems.

Walmart: Yes, the Utilities' existing solar pilot programs should be extended, or replacement programs for the Solar Pilots should be developed.

FDACS: The Companies have documented that, while popular, the solar rebate programs resulted in wealth transfer from the general body of ratepayers to wealthy customers that can afford to invest in solar photovoltaic systems. If the pilot program is extended or modified, the Commission should consider policy options that can be implemented to achieve least-cost strategies that take into account the cost and benefits of the programs and their impact on all ratepayers.*

OPC: OPC takes no position on whether the solar pilot programs should be extended; however, if the Company's existing solar pilot programs are extended, the Commission should ensure the programs achieve the intent of FEECA Sections 366.81 and 366.82(2), F.S., while adequately safeguarding the interests of the general body of ratepayers against undue rate impacts.

* Position statement same as prehearing statement based on Order No. PSC-14-0356-PHO-EU.
† Position statement exceeds 100 word limit established by Order No. PSC-14-0356-PHO-EU and truncated.

[25] NAACP's position statement is labeled Issue 3 in its brief. (NAACP BR 9)

Staff Analysis:

PARTIES' ARGUMENTS

The IOUs and the NAACP believe that the existing solar pilot programs should be allowed to expire. (FPL BR 40; DEF BR 19-20; TECO BR 29; Gulf BR 5; NAACP BR 9) The solar pilot programs were not cost-effective when established in 2009, and continue not to be cost-effective. (FPL BR 40; DEF BR 19-21; TECO BR 29; Gulf BR 21) The solar pilot programs failed the RIM and TRC cost-effectiveness tests and created a cross-subsidy from non-participants to participants that caused upward pressure on rates. (TECO BR 18; Gulf BR 5; FPL BR 5, 41) The NAACP contends that "cross subsidization can result in rates that are higher than otherwise fair and equitable." (NAACP BR 1) Gulf asserted that these programs reflect the worse type of cross-subsidization -- from low-income customers to high-income customers. (Gulf BR 5)

Conversely, EDF, SACE and Walmart contend the solar pilot programs should be extended. (EDF BR 9-10; SACE BR 6; Walmart BR 4) EDF recommends an independently supervised study of the costs and benefits of distributed solar and a redesign of the incentives to enhance cost-effectiveness. (EDF BR 10) The Sierra Club believes a study should be conducted to investigate the effectiveness of the rebate programs and the role of utility-owned solar PV. Sierra Club also advocated an update of the marketing and incentive approaches for PV programs, to minimize the amount of incentives paid while installing as much PV as possible. (Sierra Club BR 28)

SACE asserts the Commission would benefit from a Value of Solar analysis to determine the appropriate costs and benefits of distributed solar on a utility's system. Extending the current solar programs would provide an opportunity for a thorough examination of the costs and benefits of solar energy, and to develop a Value of Solar methodology. (SACE BR 32)

FIPUG believes the solar pilot programs should not be extended in their present forms without a thorough review and appropriate modifications. (FIPUG BR 5)

OPC does not take a position on extending the solar pilot programs. However, if extended, the programs should comply with provisions of FEECA and protect the general body of ratepayers from undue impact on rates. (OPC BR 11)

FDACS believes any goals set by the Commission to meet FEECA directives should be cost-effective and avoid subsidization by the general body of ratepayers. Placing an undue financial burden on non-participants should be avoided. (FDACS BR 13)

PCS Phosphate did not offer argument on this issue.

ANALYSIS

In 2008, the Legislature amended Section 366.82, F.S., such that when DSM goals are established, the Commission is required to establish appropriate goals to encourage the development of demand-side renewable energy systems. "Demand-side renewable energy" is defined as a system located on a customer's premises using Florida renewable energy resources

with a capacity that does not exceed 2 MWs.[26] The system must be designed to offset part or all of a customer's energy needs.

Because of the revisions to the statute, the Commission requested that the utilities address demand-side renewables in the 2009 goals proceeding.[27] Demand-side renewables were not found to be cost-effective in the analyses conducted by the utilities. However, based on evidence presented during the proceeding, the Commission ordered that the IOUs develop and offer pilot programs in order to encourage such resources. In order to minimize the rate impacts to all customers, the Commission ordered the cost for these programs be limited to 10 percent of each utility's five-year average for costs recovered through the Energy Conservation Cost Recovery Clause.[28]

The Commission directed the investor-owned utilities to file pilot programs focusing on encouraging solar water heating and solar PV technologies in the DSM program approval process.[29] Each of the investor-owned utilities filed for approval of their Solar Rebate programs.[30] Each utility provided rebates for residential and commercial PV with rebates up to $2.00 a watt. (A summary of the rebates is shown in Table 11-1.) Rebate programs were also established for solar water heating. Residential customers installing a water heating system received a rebate of $550 to $1,000, depending on their utility. FPL offered a business water heating program that provided a rebate of $30 per 1,000 Btu/day. Each of the Utilities provided systems to qualifying schools at no charge under the Solar for Schools PV program and offered free low-income water heating programs. The IOUs were directed to collect information relating to customer acceptance rates, energy production, and other data to refine potential future program offerings for solar technologies.[31]

[26] See Section 366.82(1)(b), F.S.
[27] See Order No. PSC-09-0855-FOF-EG, issued December 30, 2009, in Docket Nos. 080408-EG, 080409-EG, 080410-EG, 080412-EG, 080413-EG, In re: Commission Review of numeric Conservation Goals.
[28] Ibid.
[29] Ibid.
[30] FPL - See Order No. PSC-11-0079-PAA-EG, issued January 31, 2011 in Docket No. 100155-EG, In re: Petition for approval of demand-side management plan of Florida Power & Light Company.
DEF - See Order No. PSC-10-0605-PAA-EG, issued October 4, 2012 in Docket No. 100160-EG, In re: Petition for approval of demand-side management plan of Progress Energy Florida, Inc.
TECO - See Order No. PSC-10-0607-PAA-EG, issued October 4, 2012 in Docket No. 100159-EG, In re: Petition for approval of demand-side management plan of Tampa Electric Company.
Gulf - See Order No. PSC-10-0608-PAA-EG, issued October 4, 2012 in Docket No. 100154-EG, In re: Petition for approval of demand-side management plan of Gulf Power Company.
[31] Ibid.

Table 11-1: Pilot Program Rebates

Utility	Program	Amount of Rebate
FPL		
	Residential PV	$2.00/watt $20,000 max
	Business PV	$2.00/watt first 10kW, $1.50/Watt 10-25KW, $1.00/watt >25kW $50,000 max
	Residential Water Heating	$1,000
	Business Water Heating	$30 per 1,000 Btu/day $50,000 max
TECO		
	Residential PV	$2.00/watt $20,000 max
	Commercial PV	$2.00/watt $20,000 max
	Residential Water Heating	$1,000
Gulf		
	Residential PV	$2.00/watt $10,000 max
	Commercial PV	$2.00/watt $10,000 max
	Solar Thermal Water Heating - Residential	$1,000
DEF		
	Residential PV	$2.00/watt $20,000 max
	Commercial PV	$2.00/watt first 10KW, $1.50/Watt 11-50KW, $1.00/watt 51-100kW
	Residential (SWH)w/ Energy Management	$550

Source: TR 214-215, 525-526, 713-715, 839-840

Results of Solar Pilot Programs

FPL

FPL has implemented three types of solar pilot programs: solar water heating; photovoltaic; and research and demonstration. The solar water heating programs included special programs for residential, business, and low-income, new construction customers. Photovoltaic programs were designed for residential and business customers. The business program included a special carve out program to install PV on schools at no charge. (EXH 25)

These programs were implemented on a first-come first-served basis and helped approximately 4,000 customers during 2011-2013 at a cost of $30 million, as seen on Table 11-2. FPL expended approximately $7,500 on the average installation. FPL reports some installations for 2013 are still pending. (TR 213; EXH 25)

Table 11-2: FPL Solar Pilot Programs (2011-2013)

Program Name	Number of Participants
Solar Water Heating - Residential & Low Income New Construction	2,968
Solar Water Heating - Business	38
Photovoltaic (PV) - Residential	774
Photovoltaic (PV) - Business	153
Photovoltaic (PV) - Business PV for Schools	29
Research & Demonstration	n/a
Non-program Specific	n/a
TOTAL PARTICIPANTS	**3,962**
TOTAL EXPENDITURES	**$29,853,514**
AVG. EXPENDITURE PER PARTICIPANT	**$7,535**

Source: EXH 25, EXH 97

The photovoltaic pilot programs had high participation. Residential and business customers quickly submitted requests for reservations each time an offering was announced. However, an average of 75 percent of the residential customers who received a pilot program reservation, actually installed solar PV equipment. The business customers had a lower average completion rate of 50 percent. (TR 215-216)

The Residential and Low-Income Solar Water Heating pilot program was initially popular. The 2011 and 2012 offerings had a high number of reservations and installations. However, in 2013 the number of reservations dropped by almost 73 percent, from 1,491 to 428. Only 47 residential and low-income solar water heaters were installed in 2013. (EXH 25)

FPL partnered with Habitat for Humanity to provide solar water heaters for low-income customers at no cost to the customer. FPL retained ownership of the solar arrays installed under the Solar for Schools program for the first five years. FPL provided maintenance during that time. (TR 214)

The Research and Demonstration pilot largely consisted of the installation of solar panels on science museums in FPL's service territory. These museums are dedicated to education and provided an appropriate venue for demonstrating renewable energy. FPL also conducted research on solar-powered swimming pool pumps. (TR 217)

FPL states that these solar pilot programs are not cost-effective, failing both the RIM and TRC cost-effectiveness tests. Table 11-3, reflects that these solar pilot programs also failed the Participants test, with the exception of the Low-Income New Construction Solar Hot Water Heater and the Solar PV for Schools pilots. However, FPL provided these two solar programs at no charge to the recipients. (TR 214)

Table 11-3: FPL Solar Pilot Programs: Cost-Effectiveness Test Results

Solar Pilot Program	Benefit Cost Ratio		
	RIM	TRC	Participant
Solar Water Heating - Residential	0.51	0.18	0.50
Solar Water Heating - Low Income New Construction	0.21	0.28	1.52
Solar Water Heating - Business	0.34	0.19	0.58
Photovoltaic (PV) - Residential	0.46	0.27	0.74
Photovoltaic (PV) - Business	0.64	0.33	0.67
Photovoltaic (PV) - Business PV for Schools	0.13	0.15	1.19

Source: EXH 25

FPL witness Koch testified that these solar pilot programs are not an efficient and equitable way to encourage the development of demand-side solar energy and should be allowed to expire. (TR 218)

DEF

DEF implemented six solar pilot programs: Solar Water Heating for Low Income Residential Customers, Solar Water Heating with Energy Management, Residential Solar Photovoltaic, Commercial Photovoltaic, Photovoltaic for Schools, and a Research and Demonstration Project. (TR 524)

As seen in Table 11-4, there were 1,318 DEF customers that participated in a solar pilot program at a total cost of $13,788,013 during 2011-2013. The average incentive cost approximately $10,461 per installation.

Table 11-4: DEF Solar Pilot Programs (2011-2013)

Program Name	Number of Participants
Solar Water Heating Low Income - Residential	63
Solar Water Heating Energy Mgmt. - Residential	847
Photovoltaic (PV) - Residential	346
Photovoltaic (PV) - Commercial	39
Photovoltaic (PV) for Schools	23
Research and Demonstration	n/a
TOTAL PARTICIPANTS	**1,318**
TOTAL EXPENDITURES	**$13,788,013**
AVG. EXPENDITURE PER PARTICIPANT	**$10,461**

Source: EXH 42

Like FPL, DEF's residential and commercial solar PV pilot programs were popular and had high participation. As seen on Table 11-4, there were 346 residential customers and 39 commercial customers that participated in the photovoltaic pilot programs.

DEF's average 2011-2013 completion rate for residential PV systems was 64 percent, while it was 45 percent for business systems. For this same period, the average completion rate for solar water heating with load management was 87 percent. (EXH 42, EXH 99)

DEF worked with Habitat for Humanity to provide solar hot water heaters to low-income customers in new construction. DEF fully funded the cost of installation and the equipment costs. (TR 525)

The DEF Solar Water Heating with Energy Management program is unique because it combines the hot water heating program with a demand response program. The participating customers receive an up-front rebate of $550 and a monthly bill credit for participating in the load management program. (TR 525)

The Research and Demonstration Pilot consisted of DEF working with the Electric Power Research Institute (EPRI), the University of Central Florida, and the University of South Florida to study various applications of wind and solar renewable energy. Some of the projects included: a study of small-scale wind energy potential, data collection for a distributed photovoltaic study, and a study of a PV array and energy storage system. (EXH 98)

As seen in Table 11-5, all programs failed the RIM and TRC cost-effectiveness tests. DEF witness Duff asserted that most solar pilot programs passed the participant test due to the availability of federal tax credits and the DEF subsidy. (TR 527)

Table 11-5: DEF Solar Pilot Programs: Cost-Effectiveness Test Results

Solar Pilot Program	Benefit Cost Ratio		
	RIM	TRC	Participant
Solar Water Heating for Low-income Residential	0.274	0.454	1.83
Solar Water Heating with Energy Management	0.596	0.580	0.79
Photovoltaic - Residential	0.376	0.547	1.23
Photovoltaic - Commercial	0.422	0.628	1.35
Photovoltaic for Schools	0.141	0.163	1.18

Source: TR 528

DEF witness Duff believes the solar pilot programs should not be continued because they are not cost-effective and the market for customer-owned photovoltaic has matured over the past five years. (TR 530)

TECO

Tampa Electric Company implemented the following solar pilot programs: Photovoltaic – Residential and Commercial; PV Systems for Schools; Solar Water Heating – Residential; and, Solar Water Heating - Low Income. (TR 714)

Table 11-6: TECO Solar Pilot Programs (2011-2013)

Program Name	Number of Participants
Photovoltaic (PV) - Residential	168
Photovoltaic (PV) - Commercial	24
PV Systems for Schools	3
Solar Water Heating - Residential	120
Solar Water Heating - Low Income	10
TOTAL PARTICIPANTS	**325**
TOTAL EXPENDITURES	**$3,793,723**
AVG. EXPENDITURE PER PARTICIPANT	**$11,673**

Source: TR 719, 720

Table 11- 6, reflects that during 2011-2013 TECO distributed $3,793,723 to fund 325 solar pilot installations. This resulted in an average incentive of $11,673 per installation. During the period 2011-2013, TECO's completion rate (installations divided by reservations) for residential PV systems was 62 percent, while the rate for business PV was 46 percent. During this same period the average completion rate for residential solar water heating was lower, at 24 percent. (TR 719; EXH 108)

The photovoltaic pilot programs were very popular with residential and commercial customers and were fully subscribed and quickly reserved each year. Customers had less interest than expected in the solar water heating pilot. Unused funds were redistributed from the solar hot water heating pilot to the photovoltaic pilots. (TR 717-718)

TECO offered five low-income water heating systems per year. Like FPL and DEF, TECO worked with Habitat for Humanity and other non-profit organizations to provide solar water heating on newly constructed homes.

The PV Systems for Schools program was in collaboration with the Florida Solar Energy Center Sunsmart/E-Shelter program. The Sunsmart/E-Shelter program involved installing photovoltaic panels on schools that were also being used as emergency shelters. TECO installed one PV system per year. The installed systems were up to 10kW and included battery backups.

As shown on Table 11-7, the solar pilot programs were not cost-effective:

Table 11-7: TECO Solar Pilot Programs: Cost-Effectiveness Test Results

Solar Pilot Program	Benefit Cost Ratio		
	RIM	TRC	Participant
Residential PV	0.38	0.41	1.20
Commercial PV	0.40	0.39	1.10
Residential Solar Water Heating	0.56	0.28	0.71

Source: TR 723

TECO witness Bryant contends that the solar pilot programs should not be continued. According to witness Bryant "cross-subsidies are flowing from non-participants to the participants without sufficient, cost-effective benefits being received by the non-participants." The TECO witness also stated, "It is simply not a responsible use of ratepayer dollars to promote these programs under any cost-effectiveness test." (TR 725, 730, 731)

Gulf

Gulf Power Company's solar pilot programs included photovoltaic for residential and commercial customers, PV systems for schools, and solar thermal water heating systems for residential and low-income customers. (TR 839) The photovoltaic pilot was popular and fully subscribed every year. However, customer interest in the solar thermal water heating pilot was less than Gulf had projected. (TR 840) Unlike FPL, TECO, or DEF, Gulf reported that its installations equaled its reservations, thus yielding a 100 percent completion rate. (EXH 46, EXH 117)

As shown on Table 11-8, from 2011 through 2013, Gulf provided incentives to a total of 240 customers at a total cost of $2,300,000. The average incentive per installation was $9,583.

Table 11-8: Gulf Solar Pilot Programs (2011-2013)

Program Name	Number of Participants
Photovoltaic (PV) - Residential & Commercial	132
PV Systems for Schools	2
Solar Water Heating - Residential	76
Solar Water Heating - Low Income	30
Administrative Expenses	n/a
TOTAL PARTICIPANTS	**240**
TOTAL EXPENDITURES	**$2,300,000**
AVG. EXPENDITURE PER PARTICIPANT	**$9,583**

Source: EXH 46

The PV for schools program was designed to install a PV system on one school per year in collaboration with the Florida Solar Energy Center E-Shelter program. Each system was up to 10 kW. No school was selected in 2011, but in 2012 and 2013, one PV system was installed each year to a school. (TR 843)

Solar thermal water heaters were offered to low-income customers at no expense to the customer. Gulf offered up to 15 solar thermal water heaters each year. Participation in this program was below Gulf's projections due to an increase in the installed cost of solar water heating systems from 2011-2013, and there being more cost-effective alternatives. In addition, many low-income customers could not afford to pay the long-term maintenance of the systems. (TR 842-843)

Like FPL, DEF and TECO, the Gulf solar programs were not cost-effective as shown on Table 11-9.

Table 11-9: Gulf Solar Pilot Programs: Cost-Effectiveness Test Results (2011-2013)

Solar Pilot Program	Benefit Cost Ratio*		
	RIM	TRC	Participant
Solar PV (combined residential and commercial)	0.88	0.67	1.005 – 1.05
Solar Thermal Water Heating (Single Family)	0.74	0.56	0.98

Source: EXH 46
* Results shown above did not include incentive payments

Gulf witness Floyd opined, "Cost-effectiveness is an important consideration in this docket, and it's the primary means of protecting the interests of Gulf's customers. Despite the well-publicized decreases in the cost of distributed PV systems, incenting these systems actually costs our customers more than the benefits they provide to the utility system." (TR 852)

Solar Trends: Costs and Installations

Photovoltaic Pilot Programs

The photovoltaic pilot programs of all four IOUs were fully subscribed each year shortly after the program reservations were made available. According to DEF witness Duff, "Over the course of the five years since that Commission order, the costs of solar technology has decreased and the subscription rates for solar devices have increased, mainly because solar technology has advanced since that time." (TR 528)

DEF reported that the installed cost of solar PV dropped for residential installations from $5.01/watt in 2011 to $4.13/watt in 2013. The installed cost of commercial installations dropped even more, from $5.33/watt in 2011 to $3.89 in 2013. (TR 529) FPL and TECO reported similar decreases in the installed cost of solar PV. (TR 720) Gulf reported the installed cost of PV systems (residential and commercial) has dropped from an average of $5.54/watt in 2011 to $4.27 per watt for systems being installed in 2013. Gulf witness Floyd contended that this price drop reflects a national trend. (TR 844; EXH 46)

During the period 2011 to 2013, the cost of installed PV throughout the nation had been decreasing. According to DEF witness Duff, the ". . . broader U. S. residential market has seen significant declines from about $5.03/watt from Q4 2012 to $4.59/watt in Q4 2013." (TR 529) TECO witness Bryant contended the existence of the Florida incentive program did not cause the price decrease. (TR 720)

The number of Florida customers (residential and commercial) installing solar PV has been growing. Table 11–10, shows that over 2,800 new solar PV installations were made from 2011 to 2013.

Table 11-10: Number of Solar PV Installations

Utility	2011	2012	2013	Total
FPL	531	553	467	**1,551**
DEF	233	309	323	**865**
TECO	71	117	109	**297**
Gulf	n/a	69	42	**111**
Total	**835**	**1,048**	**941**	**2,824**

Source: EXH 97, EXH 102, EXH 111, EXH 117

However, not everyone in Florida who installed solar PV on their home or business received a rebate or incentive from his/her utility. For example, DEF reported that of its customer PV installations made during 2011-2013, 46 percent of residential and 83 percent of commercial installations were made without receiving a DEF rebate or incentive. The other FEECA Utilities reported similar results. (EXH 46, EXH 97, EXH 102, EXH 111, EXH 117)

Solar Thermal Water Heating

FPL witness Koch testified that the Residential Solar Hot Water Program actually experienced an increase in its installed cost. He asserted that the average installed cost increased from $5,700 per installation in 2011 to $7,200 in 2013. (TR 214)

TECO witness Bryant testified that the average cost for a solar hot water heating systems had seen a modest increase in price. Witness Bryant testified that this was due to inflationary impacts and changes to the system size being installed. (TR 721)

Gulf witness Floyd testified that the installed cost for solar water heating increased between 2011 and 2013. (TR 842) Witness Floyd opined that customers are unwilling to make such a significant investment when alternatives, such as a heat pump water heater, are more cost-effective. (TR 842)

In contrast to the PV pilot programs, participation in the solar water heating programs for the IOUs was less than expected. TECO witness Bryant testified that its solar water heater pilot had moderate success, with 49 participants in the pilot. Unused funds were transferred to the more popular solar PV pilot program. Similarly, DEF witness Duff asserted that customers did not respond as well as expected to the solar water heater program. From 2011-2013, DEF reallocated $1,959,940 from the solar water heater programs to the solar PV programs to meet the soaring demands for PV. (TR 718; EXH 101) None of the intervenor or utility witnesses has recommended the continuation of the solar thermal programs. (TR 1362)

Summary of Solar PV Customers and Incentives

The IOUs all agree that the solar pilot programs were not cost-effective and the general body of ratepayers - in particular, non-participants - have been subsidizing the incentives provided to participants installing solar PV. According to FPL witness Koch, the FPL average

incentive from 2011-2013 for installing solar PV was about $16,500, while the average incentive from DEF for installing residential PV was $15,962 and TECO was $14,028. The average Gulf incentive for residential and business solar PV was $9,765. (TR 725, 1298; EXH 42) As testified by TECO witness Bryant, ". . . cross-subsidies are flowing from non-participants to the participants without sufficient, cost-effective benefits being received by the non-participants." (TR 725)

DEF witness Duff testified that the average household income for solar PV customers in its service territory was $100,926, and the average size home on which solar PV was installed was 3,133 sq. feet, with an estimated value of $350,903. Gulf witness Floyd also stated that its solar PV customers were more affluent, with 76 percent of solar pilot participants having an annual income greater than the northwest Florida median income of $47,800. Gulf witness Floyd further provided that housing values for 63 percent of solar PV participants exceeded the northwest Florida median value of $170,000. (TR 844; EXH 101)

During the hearing, alternatives were discussed relating to the continuation of the solar pilot programs. EDF witness Fine recommended that the Commission "ratchet down" the amount of the utility rebates. (TR 915) Witness Fine proposed that the total dollars allocated to the rebate programs remain unchanged and the individual rebates be reduced as the cost of installed systems falls. (TR 931) Witness Fine made no specific recommendations on rebate levels. In discussing cost trends of solar, witness Fine testified, "It is no wonder the Utilities have experienced very strong customer interest in the incentive program. It is also obvious that the amount of incentive for average or above-average electricity consuming homes can be ratcheted downward over time." (TR 930) Lowering the rebate level would generally improve the RIM cost-effectiveness results, but would lower the Participants test results.

Value of Solar

A VOS analysis identifies and characterizes the attributes of solar generation by characterizing and quantifying the costs avoided by solar generation. SACE witness Rabago testified that a VOS analysis is an expansion on a full avoided cost approach that adds a long term value perspective that includes societal costs and benefits. (TR 1081-1084)

SACE witness Rabago and EDF witness Fine recommended that the Commission adopt a VOS methodology, specifically the Minnesota Model. (TR 932, 1089, 1100) EDF witness Fine testifies that under a VOS methodology the Commission could identify all the costs and benefits associated with a PV installation. (TR 915)

Witness Rabago asserted that renewable generation is undervalued by the utilities. He testified that the cost-effectiveness tests employed by the IOUs do not account for the full value of solar. (TR 1081) Witness Rabago testified that:

> VOS analysis is an expansion on a full avoided cost approach that adds a long term valuation perspective, including, as appropriate and quantifiable, social costs and benefits. There are two basic steps: first, benefits and costs are identified and grouped, then, second, the benefits are quantified. These steps are essentially the same as traditional ratemaking functions inherent in cost of service analysis. The

> focus is on the net value that distributed resources bring to utility and grid finances and operations. (TR 1084)

FPL witness Sim countered that the VOS methodology is not a cost-effectiveness test, ignores well-known system cost impacts, and thus overstates DSM PV benefits, and takes a one-sided view of DSM PV. (TR 1359) He testified that the proposed VOS methodology only examines the benefits of solar. (TR 1368) For example, the FPL witness testified that the VOS methodology does not appear to account for administrative costs or examine whether a proposed solar program would have any impact on future rates. (TR 1368) Witness Sim concluded that the VOS methodology only examines system benefits and ignores system costs. (TR 1369)

Witness Sim recommended that the Commission continue using the RIM test and disregard the VOS methodology. Witness Sim testified that the VOS methodology is an incomplete and one-sided compilation of benefits. (TR 1367) Florida's approach of looking at actual costs is more appropriate than using the projections in the VOS methodology. (TR 1494-1495) FPL witness Deason testified that, "The Commission has had a long history of implementing FEECA in a manner that works to minimize rate impacts on all customers and prevent cross-subsidizations among customers." (TR 1232-1233) FPL witness Sim testified that "Using the VOS approach may be fine for someone who wished to promote any type of PV use regardless of whether it is cost-effective for a utility's customers." (TR 1375)

Staff does not recommend the adoption of a VOS methodology as it is not a cost-effectiveness test and staff does not have sufficient evidence in the record to support further efforts to explore this option. Since the VOS methodology is not a true cost-effectiveness test, it therefore should not be relied upon to evaluate programs in a DSM portfolio. Moreover, the VOS methodology does not provide any information about the potential effect of solar on rates.

Record evidence indicates that reducing the rebate levels will not make the Solar PV programs cost-effective. Even if the Commission eliminated all rebates, the programs would continue to fail the RIM and TRC tests. (FPL EXH 97; DEF EXH 102; TECO EXH 111)

TECO witness Bryant summed up why these solar pilots should be terminated:

> These subsidizing payments made through the collection of pilot program costs in the ECCR Clause are being levied against the non-participating general body of ratepayers who are not receiving their commensurate level of benefits. It is simply not a responsible use of ratepayer dollars to promote these programs under any cost-effectiveness test. (TR 730-731)

Staff agrees with TECO witness Bryant. Moreover, lessons learned from the pilots cast doubt on the extent to which primary driver contributed to the development of solar demand-side renewable energy systems. Instead, as discussed in Issue 10, staff believes continuing to promote the provisions of Rule 25-6.065, F.A.C., is an appropriate way to encourage the development of demand-side renewables. Accordingly, staff recommends that the solar pilots be allowed to expire December 31, 2015.

CONCLUSION

Staff recommends that the existing solar pilot programs be allowed to expire December 31, 2015. The programs are not cost-effective and experience gained since the last goals proceeding indicates that consumers have continued to install systems without any rebates. The current solar rebates represent a large subsidy from the general body of ratepayers to a very small segment of each utility's customers.

Issue 12: Should these dockets be closed?

Recommendation: Yes. These dockets should be closed after the time for filing an appeal has run. Within 90 days of the issuance of the final order, each Utility should file a demand-side management plan designed to meet the Utility's approved goals. (Tan, Murphy, Corbari)

Staff Analysis: These dockets should be closed after the time for filing an appeal has run. Within 90 days of the issuance of the final order, each Utility should file a demand-side management plan designed to meet the Utility's approved goals.

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Commission review of numeric conservation goals (JEA).	DOCKET NO. 130203-EM ORDER NO. ISSUED:

JEA PROPOSED STIPULATION ON ISSUES

ISSUE 1: **Are the Company's proposed goals based on an adequate assessment of the full technical potential of all available demand-side and supply-side conservation and efficiency measures, including demand-side renewable energy systems, pursuant to Section 366.82(3), F.S.?**

PROPOSED STIPULATION: Yes. JEA's proposed goals are based on an adequate assessment of the full technical potential of all available demand-side and supply-side conservative and efficiency measures, including demand-side renewable energy systems. pursuant to Section 366.82(3), F.S. (Vento, Wucker)

ISSUE 2: **Do the Company's proposed goals adequately reflect the costs and benefits to customers participating in the measure, pursuant to Section 366.82(3)(a), F.S.?**

PROPOSED STIPULATION: Yes. JEA's proposed goals adequately reflect the costs and benefits to customers participating in the measure, pursuant to Section 366.82(3)(a). JEA's proposed goals are based on forecasts of achievable potential that are driven primarily by measure-level assessments of cost-effectiveness to customers. Specifically, customer cost-effectiveness is assessed using the Participant Test, where benefits are calculated based on customer bill savings and costs are based on participant costs of acquiring and installing the energy efficiency measure (net of utility program incentives). Both the participant benefits and participant costs are assessed on present value basis over the life of the measure. (Vento, Wucker)

ISSUE 3: **Do the Company's proposed goals adequately reflect the costs and benefits to the general body of rate payers as a whole, including utility incentives and participant contributions pursuant to Section 366.82(3)(b), F.S.?**

PROPOSED STIPULATION: Yes. JEA's proposed goals are based on achievable potential that included consideration of the costs and benefits to the general body of ratepayers as a whole, including utility incentives and participant contributions, through use of the RIM and Participant tests. (Vento, Wucker)

ISSUE 4: **Do the Company's proposed goals adequately reflect the need for incentives to promote both customer-owned and utility-owned energy efficiency and demand-side renewable energy systems, pursuant to Section 366.82, F.S.?**

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PROPOSED STIPULATION: Yes. JEA has comprehensively analyzed customer-owned energy efficiency measures and none were found to be cost-effective. JEA's load forecast reflects the impacts of net metering associated with customer-owned rooftop solar photovoltaic (PV) systems, and this load forecast was used as the basis for the cost-effectiveness analysis performed for this Docket. As such, incentives to promote customer-owned demand-side renewable energy systems are adequately reflected in JEA's proposed goals. Utility-owned energy efficiency and renewable energy systems are supply-side issues. (Vento, Wucker)

ISSUE 5: **Do the Company's proposed goals adequately reflect the costs imposed by state and federal regulations on the emission of greenhouse gases, pursuant to Section 366.82(3)(d), F.S.?**

PROPOSED STIPULATION: Yes. There currently are no costs imposed by State and Federal regulations on the emissions of greenhouse gases (GHG). JEA will consider the US Environmental Protection Agency's GHG emissions guidelines for existing power plants in its resource planning and DSM portfolio review efforts when there is a clear indication of what those guidelines may ultimately require or their associated costs. Further, pursuant to Section 366.82(6), Florida Statutes, the Commission may change the goals for a reasonable cause. Once the costs associated with any EPA regulations on the emission of GHGs are known, the Commission has the authority to review established goals. (Vento, Wucker)

ISSUE 6: **What cost-effectiveness test or tests should the Commission use to set goals, pursuant to Section 366.82, F.S.?**

PROPOSED STIPULATION: For purposes of setting goals for JEA pursuant to Section 366.82, Florida Statutes, the Commission should continue to evaluate cost-effectiveness using the tests set forth in Chapter 25-17, F.A.C., and the publication "Florida Public Service Commission Cost Effectiveness Manual for Demand Side Management Programs and Self-Service Wheeling Proposals (7-7-91), with consideration of JEA's status as a municipal utility. Because the RIM test ensures no impact to customers' rates, it is particularly appropriate in establishing DSM goals for municipal utilities, such as JEA. Local governing is a fundamental aspect of public power. It provides the necessary latitude to make local decisions regarding the community's investment in energy efficiency that best suit our local needs and values. Accordingly, as the Commission has recognized in prior proceedings, it is appropriate to set goals based on RIM, but to defer to the municipal utilities' governing bodies to determine the level of investment in any non-RIM based measures. (Vento, Wucker, Para)

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Docket Nos. 130199-EI, 130200-EI,
130201-EI, 130202-EI, 130203-EM
Date: November 13, 2014

ATTACHMENT A

JEA PROPOSED STIPULATION ON ISSUES
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ISSUE 7: **Do the Company's proposed goals appropriately reflect consideration of free riders?**

PROPOSED STIPULATION: Yes. The screening criteria based on simple payback to the customer (2 years or less) were designed to remove measures from the achievable potential forecasts that exhibit the key characteristic most associated with high levels of free-ridership in utility rebate programs, i.e. measures with naturally high levels of cost-effectiveness to the customer. Using the payback proxy method is one way to reduce the likelihood that JEA will provide incentives to customers who may have installed conservation measures even without the incentives. The sensitivity of total achievable potential to this particular screening criterion was tested using alternative simple payback screening values (1 year and 3 years). In addition to this screening step, the naturally occurring analysis performed in estimating achievable potential represents an estimate of the amount of "free riders" that are reasonably expected to participate in the particular program offerings simulated. In this sense, the payback-based screening criteria were implemented to develop portfolios with necessarily low free-ridership levels, and within the achievable potential forecasts for those portfolios, the forecasting methodology produces explicit estimates of the expected level of free-ridership within those programs. Therefore, pursuant to Rule 25-17.0021(3), F.A.C., JEA's screening process results in goals that appropriately reflect consideration of free riders. (Vento, Wucker, Para)

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ISSUE 8: **What residential summer and winter megawatt (MW) and annual Gigawatt-hour (GWh) goals should be established for the period 2015-2024?**

PROPOSED STIPULATION: The Commission should continue to establish goals for JEA that recognize the role of the municipal utility's governing body to determine the appropriate level of investment in conservation programs and associated rate impacts. Although JEA's governing body is in the process of re-evaluating JEA's conservation programs, JEA has committed to continue to offer certain core programs, including neighborhood efficiency (low income), residential/commercial energy audits, solar water heating, and residential/commercial solar net metering. Based on the anticipated savings of those programs, the Commission should establish the following minimum goals for JEA's residential programs:

	JEA Residential Goals		
Year	Summer (MW)	Winter (MW)	Annual (GWh)
2015	0.94	0.96	2.5
2016	0.94	0.96	2.5
2017	0.94	0.96	2.5
2018	0.94	0.96	2.5
2019	0.94	0.96	2.5
2020	0.94	0.96	2.5
2021	0.94	0.96	2.5
2022	0.94	0.96	2.5
2023	0.94	0.96	2.5
2024	0.94	0.96	2.5
Total	9.4	9.6	25.0

JEA will annually report the savings achieved through implementation of all conservation program offerings, including non-FEECA programs. (Wucker, Vento, Para).

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ISSUE 9: **What commercial/industrial summer and winter megawatt (MW) and annual Gigawatt hour (GWh) goals should be established for the period 2015-2024?**

PROPOSED STIPULATION: The Commission should continue to establish goals for JEA that recognize the role of the municipal utility's governing body to determine the appropriate level of investment in conservation programs and associated rate impacts. Although JEA's governing body is in the process of re-evaluating JEA's conservation programs, JEA has committed to continue to offer certain core programs, including neighborhood efficiency (low income), residential/commercial energy audits, solar water heating, and residential/commercial solar net metering. Based on the anticipated savings of those programs, the Commission should establish the following minimum goals for JEA's commercial/industrial programs:

	JEA Commercial/Industrial Goals		
Year	Summer (MW)	Winter (MW)	Annual (GWh)
2015	0.14	0.007	0.08
2016	0.14	0.007	0.08
2017	0.14	0.007	0.08
2018	0.14	0.007	0.08
2019	0.14	0.007	0.08
2020	0.14	0.007	0.08
2021	0.14	0.007	0.08
2022	0.14	0.007	0.08
2023	0.14	0.007	0.08
2024	0.14	0.007	0.08
Total	1.4	0.07	0.8

JEA will annually report the savings achieved through implementation of all conservation program offerings, including non-FEECA programs. (Wucker, Vento, Para)

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ISSUE 10: **What goals, if any, should be established for increasing the development of demand-side renewable energy systems, pursuant to Section 366.82(2), F.S.?**

PROPOSED STIPULATION: The cost-effectiveness analysis of demand-side renewable energy systems shows that they are not cost-effective. JEA will continue to offer net metering for customer-owned renewable energy systems. During the upcoming review of its conservation programs based upon JEA Board policy, JEA will consider the addition of new or updated programs to encourage the development of demand-side renewable energy systems. (Vento, Wucker)

ISSUE 11: **Should the Company's existing Solar Pilot Programs be extended and, if so, should any modifications be made to them?**

PROPOSED STIPULATION: JEA was not required under the 2009 FEECA goals to offer Solar Pilot Programs. As such, there are no existing Solar Programs to extend. JEA will evaluate and consult with customers regarding potential implementation of solar PV pilot programs. (Vento, Wucker)

Table B-1: FPL Residential Annual Goal Proposals

Summer Peak Demand (MW)						
Year	Utility Proposed	RIM Achievable	TRC Achievable	Sierra Club*	SACE	Staff Rec.
2015	15.7	25.3	17.5	306.0	196.0	25.3
2016	15.9	25.6	20.0	399.0	266.0	25.6
2017	16.2	25.9	20.5	492.0	268.7	25.9
2018	16.5	26.2	21.1	587.0	326.4	26.2
2019	16.9	26.5	21.7	683.0	384.8	26.5
2020	17.4	26.9	22.3	n/a	417.5	26.9
2021	18.0	27.3	23.0	n/a	420.3	27.3
2022	18.7	27.6	23.8	n/a	425.4	27.6
2023	19.7	28.0	24.7	n/a	431.9	28.0
2024	20.8	28.5	25.6	n/a	438.5	28.5
Total	**175.8**	**267.8**	**220.2**	**2,467.0**	**3,575.6**	**267.8**

Winter Peak Demand (MW)						
Year	Utility Proposed	RIM Achievable	TRC Achievable	Sierra Club*	SACE	Staff Rec.
2015	12.3	15.6	16.6	n/a	156.8	15.6
2016	12.3	15.8	18.4	n/a	212.8	15.8
2017	12.3	16.0	18.9	n/a	214.9	16.0
2018	12.3	16.2	19.4	n/a	261.1	16.2
2019	12.3	16.4	20.0	n/a	307.8	16.4
2020	12.3	16.7	20.6	n/a	333.9	16.7
2021	12.3	16.9	21.3	n/a	336.2	16.9
2022	12.3	17.2	22.1	n/a	340.2	17.2
2023	12.3	17.5	22.9	n/a	345.4	17.5
2024	12.3	17.8	23.7	n/a	350.7	17.8
Total	**122.8**	**166.0**	**203.8**	**n/a**	**2,859.9**	**166.0**

Annual Energy Consumption (GWh)						
Year	Utility Proposed	RIM Achievable	TRC Achievable	Sierra Club*	SACE	Staff Rec.
2015	1.8	21.6	6.3	516.0	452.8	21.6
2016	2.2	22.2	17.2	673.0	614.6	22.2
2017	2.7	22.8	18.9	830.0	620.8	22.8
2018	3.3	23.5	20.8	990.0	754.0	23.5
2019	4.1	24.2	22.9	1,152.0	889.0	24.2
2020	5.0	25.0	25.2	n/a	964.4	25.0
2021	6.2	25.7	27.7	n/a	970.9	25.7
2022	7.7	26.5	30.5	n/a	982.6	26.5
2023	9.5	27.4	33.5	n/a	997.6	27.4
2024	11.7	28.3	36.7	n/a	1,012.9	28.3
Total	**54.0**	**247.2**	**239.8**	**4,161.0**	**8,259.5**	**247.2**

* Sierra Club's proposed goals are for both Residential & Commercial/Industrial and for the period 2015-2019 only
Source: EXH 23, EXH 24, EXH 134, EXH 136

Table B-2: DEF Residential Annual Goal Proposals

Summer Peak Demand (MW)						
Year	Utility Proposed	RIM Achievable	TRC Achievable	Sierra Club*	SACE	Staff Rec.
2015	26.4	26.4	26.2	n/a	65.3	26.4
2016	24.0	24.0	24.4	n/a	88.4	24.0
2017	22.2	22.2	23.7	n/a	89.8	22.2
2018	20.0	20.0	23.4	n/a	109.8	20.0
2019	17.7	17.7	23.1	n/a	129.6	17.7
2020	15.5	15.5	21.1	n/a	140.9	15.5
2021	13.7	13.7	17.6	n/a	142.7	13.7
2022	12.2	12.2	14.5	n/a	144.2	12.2
2023	11.3	11.3	12.7	n/a	146.5	11.3
2024	10.7	10.7	11.5	n/a	148.8	10.7
Total	**173.7**	**173.7**	**198.1**	**n/a**	**1,206.2**	**173.7**

Winter Peak Demand (MW)						
Year	Utility Proposed	RIM Achievable	TRC Achievable	Sierra Club*	SACE	Staff Rec.
2015	58.4	58.4	59.2	148.0	52.2	58.4
2016	53.1	53.1	54.3	190.0	70.7	53.1
2017	48.7	48.7	50.5	232.0	71.9	48.7
2018	43.2	43.2	46.2	277.0	87.9	43.2
2019	37.5	37.5	41.7	323.0	103.7	37.5
2020	32.2	32.2	36.3	n/a	112.7	32.2
2021	27.8	27.8	30.7	n/a	114.1	27.8
2022	24.5	24.5	26.2	n/a	115.4	24.5
2023	22.3	22.3	23.3	n/a	117.2	22.3
2024	20.9	20.9	21.5	n/a	119.0	20.9
Total	**368.6**	**368.6**	**390.0**	**1,170.0**	**964.8**	**368.6**

Annual Energy Consumption (GWh)						
Year	Utility Proposed	RIM Achievable	TRC Achievable	Sierra Club*	SACE	Staff Rec.
2015	25.5	25.5	27.0	180.0	150.9	25.5
2016	23.8	23.8	28.8	231.0	204.2	23.8
2017	20.8	20.8	31.1	283.0	207.5	20.8
2018	17.0	17.0	37.6	337.0	253.7	17.0
2019	13.0	13.0	43.9	394.0	299.4	13.0
2020	9.3	9.3	40.6	n/a	325.6	9.3
2021	6.2	6.2	28.1	n/a	329.6	6.2
2022	3.8	3.8	16.3	n/a	333.2	3.8
2023	2.2	2.2	10.0	n/a	338.4	2.2
2024	1.2	1.2	5.9	n/a	343.8	1.2
Total	**122.6**	**122.6**	**269.3**	**1,425.0**	**2,786.3**	**122.6**

* Sierra Club's proposed goals are for both Residential & Commercial/Industrial and for the period 2015-2019 only
Source: EXH 28, EXH 134, EXH 136, EXH 184

Table B-3: TECO Residential Annual Goal Proposals

Summer Peak Demand (MW)						
Year	Utility Proposed	RIM Achievable	TRC Achievable	Sierra Club*	SACE	Staff Rec.
2015	1.1	1.1	1.5	42.0	29.5	1.1
2016	1.6	1.6	2.5	52.0	39.8	1.6
2017	2.2	2.2	3.5	63.0	40.4	2.2
2018	2.7	2.7	4.3	74.0	49.1	2.7
2019	3.1	3.1	4.8	86.0	58.1	3.1
2020	3.3	3.3	4.8	n/a	62.9	3.3
2021	3.3	3.3	4.3	n/a	63.7	3.3
2022	3.0	3.0	3.8	n/a	64.5	3.0
2023	2.9	2.9	3.5	n/a	65.4	2.9
2024	2.5	2.5	3.2	n/a	66.3	2.5
Total	**25.7**	**25.7**	**36.2**	**317.0**	**539.8**	**25.7**

Winter Peak Demand (MW)						
Year	Utility Proposed	RIM Achievable	TRC Achievable	Sierra Club*	SACE	Staff Rec.
2015	2.6	2.6	3.4	n/a	23.6	2.6
2016	4.1	4.1	5.9	n/a	31.9	4.1
2017	5.2	5.2	8.0	n/a	32.3	5.2
2018	6.5	6.5	9.6	n/a	39.3	6.5
2019	7.6	7.6	10.3	n/a	46.4	7.6
2020	7.6	7.6	9.7	n/a	50.3	7.6
2021	8.0	8.0	7.9	n/a	51.0	8.0
2022	7.4	7.4	6.3	n/a	51.6	7.4
2023	6.8	6.8	5.3	n/a	52.3	6.8
2024	6.1	6.1	4.6	n/a	53.0	6.1
Total	**61.9**	**61.9**	**71.0**	**n/a**	**431.7**	**61.9**

Annual Energy Consumption (GWh)						
Year	Utility Proposed	RIM Achievable	TRC Achievable	Sierra Club*	SACE	Staff Rec.
2015	1.8	1.8	3.3	95.0	68.2	1.8
2016	3.5	3.5	6.3	118.0	92.0	3.5
2017	4.8	4.8	8.8	143.0	93.3	4.8
2018	6.1	6.1	10.9	168.0	113.4	6.1
2019	6.9	6.9	12.3	193.0	134.1	6.9
2020	7.4	7.4	12.5	n/a	145.3	7.4
2021	7.7	7.7	11.4	n/a	147.2	7.7
2022	6.9	6.9	10.0	n/a	149.1	6.9
2023	6.3	6.3	9.3	n/a	151.1	6.3
2024	5.5	5.5	8.6	n/a	153.2	5.5
Total	**56.9**	**56.9**	**93.4**	**717.0**	**1,246.9**	**56.9**

* Sierra Club's proposed goals are for both Residential & Commercial/Industrial and for the period 2015-2019 only
Source: EXH 45, EXH 134, EXH 136

Table B-4: GULF Residential Annual Goal Proposals

Summer Peak Demand (MW)						
Year	Utility Proposed	RIM Achievable	TRC Achievable	Sierra Club*	SACE	Staff Rec.
2015	2.3	2.3	3.1	33.0	18.0	2.3
2016	3.2	3.2	4.3	34.0	24.2	3.2
2017	4.1	4.1	5.6	35.0	24.3	4.1
2018	5.0	5.0	6.8	35.0	29.3	5.0
2019	5.9	5.9	8.0	n/a	34.4	5.9
2020	6.7	6.7	9.1	n/a	37.5	6.7
2021	7.5	7.5	10.2	n/a	38.0	7.5
2022	8.1	8.1	11.1	n/a	38.5	8.1
2023	8.8	8.8	11.9	n/a	39.0	8.8
2024	9.3	9.3	12.7	n/a	39.4	9.3
Total	**60.9**	**60.9**	**82.8**	**137.0**	**322.6**	**60.9**

Winter Peak Demand (MW)						
Year	Utility Proposed	RIM Achievable	TRC Achievable	Sierra Club*	SACE	Staff Rec.
2015	1.3	1.3	1.9	n/a	14.4	1.3
2016	1.8	1.8	2.6	n/a	19.4	1.8
2017	2.3	2.3	3.4	n/a	19.5	2.3
2018	2.9	2.9	4.2	n/a	23.4	2.9
2019	3.4	3.4	4.9	n/a	27.5	3.4
2020	3.8	3.8	5.6	n/a	30.0	3.8
2021	4.3	4.3	6.2	n/a	30.4	4.3
2022	4.6	4.6	6.8	n/a	30.8	4.6
2023	5.0	5.0	7.3	n/a	31.2	5.0
2024	5.3	5.3	7.8	n/a	31.5	5.3
Total	**34.7**	**34.7**	**50.7**	**n/a**	**258.0**	**34.7**

Annual Energy Consumption (GWh)						
Year	Utility Proposed	RIM Achievable	TRC Achievable	Sierra Club*	SACE	Staff Rec.
2015	2.3	2.3	6.0	103.0	41.5	2.3
2016	3.2	3.2	8.2	106.0	56.0	3.2
2017	4.2	4.2	10.6	109.0	56.2	4.2
2018	5.1	5.1	13.1	112.0	67.7	5.1
2019	6.0	6.0	15.4	n/a	79.5	6.0
2020	6.8	6.8	17.5	n/a	86.6	6.8
2021	7.6	7.6	19.5	n/a	87.7	7.6
2022	8.3	8.3	21.2	n/a	88.9	8.3
2023	8.9	8.9	22.9	n/a	90.0	8.9
2024	9.5	9.5	24.4	n/a	91.1	9.5
Total	**61.9**	**61.9**	**158.8**	**430.0**	**745.2**	**61.9**

* Sierra Club's proposed goals are for both Residential & Commercial/Industrial and for the period 2015-2018 only
Source: EXH 46, EXH 134, EXH 136, EXH 197

Table 1: FPL Commercial/Industrial Annual Goal Proposals

Summer Peak Demand (MW)						
Year	Utility Proposed	RIM Achievable	TRC Achievable	Sierra Club*	SACE	Staff Rec.
2015	10.5	22.8	29.9	306.0	142.5	22.8
2016	13.8	24.0	32.2	399.0	194.1	24.0
2017	15.0	24.9	33.7	492.0	196.3	24.9
2018	16.0	25.3	34.5	587.0	238.5	25.3
2019	17.5	25.8	35.4	683.0	280.9	25.8
2020	17.5	26.2	36.3	n/a	304.4	26.2
2021	17.6	26.6	37.2	n/a	305.8	26.6
2022	17.6	27.1	38.1	n/a	308.8	27.1
2023	17.7	27.5	39.0	n/a	312.8	27.5
2024	17.7	28.0	39.9	n/a	316.8	28.0
Total	**160.9**	**258.3**	**356.1**	**2,467.0**	**2,601.0**	**258.3**

Winter Peak Demand (MW)						
Year	Utility Proposed	RIM Achievable	TRC Achievable	Sierra Club*	SACE	Staff Rec.
2015	4.1	13.6	21.4	n/a	68.2	13.6
2016	5.9	14.3	23.1	n/a	92.9	14.3
2017	6.4	14.9	24.3	n/a	94.0	14.9
2018	6.7	15.3	25.2	n/a	114.2	15.3
2019	7.1	15.7	26.1	n/a	134.5	15.7
2020	7.1	16.1	27.0	n/a	145.8	16.1
2021	7.2	16.5	27.9	n/a	146.5	16.5
2022	7.2	16.9	28.9	n/a	147.9	16.9
2023	7.2	17.3	29.9	n/a	149.8	17.3
2024	7.2	17.7	30.8	n/a	151.7	17.7
Total	**66.2**	**158.2**	**264.6**	**n/a**	**1,245.6**	**158.2**

Annual Energy Consumption (GWh)						
Year	Utility Proposed	RIM Achievable	TRC Achievable	Sierra Club*	SACE	Staff Rec.
2015	0.6	19.6	57.7	516.0	414.3	19.6
2016	0.6	23.4	70.0	673.0	564.5	23.4
2017	0.5	24.7	74.5	830.0	571.0	24.7
2018	0.4	26.0	79.1	990.0	693.8	26.0
2019	0.1	27.3	83.7	1,152.0	817.1	27.3
2020	0.3	28.7	88.5	n/a	885.2	28.7
2021	0.5	30.1	93.2	n/a	889.5	30.1
2022	0.7	31.6	98.1	n/a	898.3	31.6
2023	0.8	33.1	103.0	n/a	909.9	33.1
2024	0.8	34.7	108.0	n/a	921.6	34.7
Total	**5.2**	**279.1**	**855.8**	**4,161.0**	**7,565.2**	**279.1**

* Sierra Club's proposed goals are for both Residential & Commercial/Industrial and for the period 2015-2019 only

Source: EXH 23, EXH 24, EXH 134, EXH 136

Table 2: DEF Commercial/Industrial Annual Goal Proposals

Summer Peak Demand (MW)						
Year	Utility Proposed	RIM Achievable	TRC Achievable	Sierra Club*	SACE	Staff Rec.
2015	12.0	12.0	23.5	n/a	49.9	12.0
2016	11.6	11.6	22.3	n/a	67.4	11.6
2017	11.0	11.0	20.2	n/a	68.0	11.0
2018	10.0	10.0	17.1	n/a	82.7	10.0
2019	9.1	9.1	14.2	n/a	98.7	9.1
2020	8.2	8.2	11.6	n/a	108.0	8.2
2021	6.9	6.9	9.1	n/a	108.9	6.9
2022	6.0	6.0	7.4	n/a	110.0	6.0
2023	5.6	5.6	6.4	n/a	111.3	5.6
2024	5.0	5.0	5.4	n/a	112.5	5.0
Total	**85.4**	**85.4**	**137.1**	**n/a**	**917.3**	**85.4**

Winter Peak Demand (MW)						
Year	Utility Proposed	RIM Achievable	TRC Achievable	Sierra Club*	SACE	Staff Rec.
2015	5.4	5.4	9.0	148.0	23.9	5.4
2016	5.4	5.4	8.7	190.0	32.3	5.4
2017	5.6	5.6	8.5	232.0	32.6	5.6
2018	5.1	5.1	7.5	277.0	39.6	5.1
2019	5.0	5.0	6.8	323.0	47.3	5.0
2020	5.2	5.2	6.5	n/a	51.7	5.2
2021	4.8	4.8	5.7	n/a	52.2	4.8
2022	4.7	4.7	5.2	n/a	52.7	4.7
2023	5.0	5.0	5.3	n/a	53.3	5.0
2024	4.6	4.6	4.8	n/a	53.9	4.6
Total	**50.7**	**50.7**	**67.8**	**1,170.0**	**439.3**	**50.7**

Annual Energy Consumption (GWh)						
Year	Utility Proposed	RIM Achievable	TRC Achievable	Sierra Club*	SACE	Staff Rec.
2015	14.5	14.5	47.6	180.0	145.0	14.5
2016	13.6	13.6	44.5	231.0	195.9	13.6
2017	12.0	12.0	38.9	283.0	197.8	12.0
2018	10.0	10.0	31.8	337.0	240.4	10.0
2019	8.0	8.0	24.4	394.0	287.2	8.0
2020	5.9	5.9	17.5	n/a	314.1	5.9
2021	3.9	3.9	11.6	n/a	316.8	3.9
2022	2.4	2.4	7.1	n/a	320.1	2.4
2023	1.4	1.4	4.1	n/a	323.6	1.4
2024	0.8	0.8	2.2	n/a	327.2	0.8
Total	**72.4**	**72.4**	**229.7**	**1,425.0**	**2667.9**	**72.4**

* Sierra Club's proposed goals are for both Residential & Commercial/Industrial and for the period 2015-2019 only
Source: EXH 28, EXH 134, EXH 136, EXH 184

Table 3: TECO Commercial/Industrial Annual Goal Proposals

Summer Peak Demand (MW)						
Year	Utility Proposed	RIM Achievable	TRC Achievable	Sierra Club*	SACE	Staff Rec.
2015	1.7	1.7	2.4	42.0	26.6	1.7
2016	2.5	2.5	3.5	52.0	35.8	2.5
2017	2.7	2.7	4.1	63.0	36.2	2.7
2018	3.3	3.3	4.9	74.0	43.9	3.3
2019	3.3	3.3	5.2	86.0	51.8	3.3
2020	3.5	3.5	5.8	n/a	56.1	3.5
2021	3.6	3.6	6.0	n/a	56.6	3.6
2022	3.3	3.3	6.0	n/a	57.2	3.3
2023	3.5	3.5	6.1	n/a	57.7	3.5
2024	3.2	3.2	6.0	n/a	58.2	3.2
Total	**30.6**	**30.6**	**50.0**	**317.0**	**480.2**	**30.6**

Winter Peak Demand (MW)						
Year	Utility Proposed	RIM Achievable	TRC Achievable	Sierra Club*	SACE	Staff Rec.
2015	1.2	1.2	1.6	n/a	12.7	1.2
2016	1.3	1.3	2.0	n/a	17.1	1.3
2017	1.6	1.6	2.6	n/a	17.3	1.6
2018	1.7	1.7	2.4	n/a	21.0	1.7
2019	1.6	1.6	2.7	n/a	24.8	1.6
2020	1.7	1.7	3.2	n/a	26.9	1.7
2021	1.9	1.9	2.9	n/a	27.1	1.9
2022	1.9	1.9	2.9	n/a	27.4	1.9
2023	1.8	1.8	3.1	n/a	27.6	1.8
2024	1.7	1.7	3.1	n/a	27.9	1.7
Total	**16.4**	**16.4**	**26.5**	**n/a**	**230.0**	**16.4**

Annual Energy Consumption (GWh)						
Year	Utility Proposed	RIM Achievable	TRC Achievable	Sierra Club*	SACE	Staff Rec.
2015	3.9	3.9	6.5	95.0	77.4	3.9
2016	6.0	6.0	10.6	118.0	104.1	6.0
2017	8.0	8.0	15.3	143.0	105.3	8.0
2018	9.2	9.2	16.1	168.0	127.8	9.2
2019	9.9	9.9	19.4	193.0	150.7	9.9
2020	10.3	10.3	20.8	n/a	163.2	10.3
2021	10.4	10.4	21.5	n/a	164.7	10.4
2022	10.2	10.2	21.8	n/a	166.3	10.2
2023	9.9	9.9	22.0	n/a	167.8	9.9
2024	9.6	9.6	21.6	n/a	169.4	9.6
Total	**87.4**	**87.4**	**175.6**	**717.0**	**1396.7**	**87.4**

* Sierra Club's proposed goals are for both Residential & Commercial/Industrial and for the period 2015-2019 only
Source: EXH 45, EXH 134, EXH 136

Table 4: Gulf Commercial/Industrial Annual Goal Proposals

Summer Peak Demand (MW)						
Year	Utility Proposed	RIM Achievable	TRC Achievable	Sierra Club*	SACE	Staff Rec.
2015	0.3	0.3	0.8	33.0	16.0	0.3
2016	0.4	0.4	1.1	34.0	21.7	0.4
2017	0.5	0.5	1.4	35.0	21.9	0.5
2018	0.6	0.6	1.8	35.0	26.4	0.6
2019	0.7	0.7	2.1	n/a	31.1	0.7
2020	0.8	0.8	2.4	n/a	33.7	0.8
2021	0.9	0.9	2.6	n/a	34.0	0.9
2022	0.9	0.9	2.9	n/a	34.4	0.9
2023	1.0	1.0	3.1	n/a	34.7	1.0
2024	1.1	1.1	3.3	n/a	35.0	1.1
Total	**7.2**	**7.2**	**21.5**	**137.0**	**289.0**	**7.2**

Winter Peak Demand (MW)						
Year	Utility Proposed	RIM Achievable	TRC Achievable	Sierra Club*	SACE	Staff Rec.
2015	0.1	0.1	0.3	n/a	7.7	0.1
2016	0.1	0.1	0.4	n/a	10.4	0.1
2017	0.1	0.1	0.5	n/a	10.5	0.1
2018	0.2	0.2	0.6	n/a	12.7	0.2
2019	0.2	0.2	0.7	n/a	14.9	0.2
2020	0.2	0.2	0.8	n/a	16.1	0.2
2021	0.2	0.2	0.9	n/a	16.3	0.2
2022	0.3	0.3	1.0	n/a	16.5	0.3
2023	0.3	0.3	1.0	n/a	16.6	0.3
2024	0.3	0.3	1.1	n/a	16.8	0.3
Total	**2.0**	**2.0**	**7.3**	**n/a**	**138.4**	**2.0**

Annual Energy Consumption (GWh)						
Year	Utility Proposed	RIM Achievable	TRC Achievable	Sierra Club*	SACE	Staff Rec.
2015	0.8	0.8	4.1	103.0	46.6	0.8
2016	1.2	1.2	5.7	106.0	63.0	1.2
2017	1.5	1.5	7.3	109.0	63.6	1.5
2018	1.8	1.8	9.0	112.0	76.9	1.8
2019	2.2	2.2	10.6	n/a	90.5	2.2
2020	2.5	2.5	12.1	n/a	98.1	2.5
2021	2.7	2.7	13.4	n/a	99.0	2.7
2022	3.0	3.0	14.6	n/a	100.0	3.0
2023	3.2	3.2	15.8	n/a	100.9	3.2
2024	3.4	3.4	16.8	n/a	101.8	3.4
Total	**22.3**	**22.3**	**109.4**	**430.0**	**840.5**	**22.3**

* Sierra Club's proposed goals are for both Residential & Commercial/Industrial and for the period 2015-2018 only
Source: EXH 46, EXH 134, EXH 136, EXH 197