BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Commission Review of Numeric Conservation Goals Florida Power & Light Company	)	DOCKET NO. 130199-EI
In re: Commission Review of Numeric Conservation Goals Duke Energy Florida, Inc.	)	DOCKET NO. 130200-EI
In re: Commission Review of Numeric Conservation Goals Tampa Electric Company	)	DOCKET NO. 130201-EI
In re: Commission Review of Numeric Conservation Goals Gulf Power Company	)	DOCKET NO. 130202-EI

SOUTHERN ALLIANCE FOR CLEAN ENERGY'S POST HEARING ISSUE STATEMENT AND BRIEF

The Southern Alliance for Clean Energy ("SACE"), by and through its undersigned counsel, and pursuant to Order No. PSC-13-0386-PCO-EU, as amended by the Commission at the evidentiary hearing, hereby submits its Post-Hearing Issue Statement and Brief.

EXECUTIVE SUMMARY

Southern Alliance for Clean Energy ("SACE") raises three main issues in this proceeding: that the two-year payback standard for free ridership should not be used because it does not actually capture free riders and it discriminates against low income communities; that efficiency goals should reflect measures that pass the total resource cost test, and adopt the 1% SACE goal, and that the governing statute specifically requires increased roof top solar. The utilities' flawed position on these issues, among others, has led the companies to propose gutting

their savings goals and terminating solar programs. These shocking proposals represent a dramatic step backwards for the state and are inconsistent with the Florida Energy Efficiency Conservation Act. To prevent the harms these proposals would cause, SACE presents alternative savings goals and a path forward for developing demand-side renewable resources.

The two-year payback standard is used as shorthand for free riders. Its premise is that consumers will always spend money on measures that reduce electric bills if the cost of the measure will be recovered in two years or less. Thus, the two-year standard is an irrebuttable presumption that incentives for measures paying back in two years are wasted because consumers would adopt those measures without incentives.

However, that premise isn't true. The two-year payback does not capture free ridership, is not based on any empirical evidence, and discriminates against low income consumers. The poor fit of the two-year payback standard is especially clear in low income communities. There, people don't have enough money to invest in even inexpensive measures that pay back quickly. While anti-convection loops for hot water heaters pay for themselves in under two years, their $17 cost makes them unaffordable in low income communities. All the utilities in these proceeding have outreach programs for low income communities but they reach only a very small fraction of that population. Outside of those small programs, consumers are not eligible for incentives unless they have a swimming pool or a central air-conditioning system. Almost all the efficiency measures identified in this goal setting proceeding are available only to consumers that can write big checks. That problem is solvable.

Rather than relying on this inaccurate proxy for free ridership, utilities elsewhere in the country – including the sister corporations of Duke and Gulf – conduct surveys and studies showing the degree of free ridership for each efficiency measure (referred to as Evaluation

Measurement and Verification, abbreviated as "EM&V" studies). The Commission can and should require the utilities to conduct such studies for all demand-side programs in Florida and to separately study the degree of free ridership in low income communities.

Throughout the proceeding, the utilities argued that only measures passing the RIM test should be considered because to do otherwise would require low income consumers to subsidize efficiency measures that benefit consumers that can write big checks. In fact, the data submitted in this proceeding shows that relying on the RIM test actually benefit the utilities financially. The data from Duke shows that the suite of measures that pass RIM generates a financial benefit of $47 million. Duke did not highlight this financial benefit of $47 million in their application to the Commission. It is these increased financial benefits, not solicitude for low income consumers, that drives utilities' advocacy for the RIM test. The Commission is rightly concerned about discrimination against low income communities. The statute does not limit efficiency measures to those that financially benefit the utilities. But that is plainly what the utilities are advocating to the Commission in this proceeding. That, along with the two-year payback standard, is what has produced the vanishingly small efficiency goals proposed by the utilities in this proceeding.

All cost-effective measures – those that produce net system benefits – should be included in the efficiency goals. That calls for use of the Total Resource Cost test, which test is faithful to the spirit and the letter of the statute. Section 366.82(b)(2), Florida Statutes, requires the Commission to set goals "to reduce . . . rates of electric consumption" and also to reduce the rates of "weather-sensitive peak demand." Rates of electric consumption means megawatt hours; weather sensitive peak demand means megawatts during peaks –the hottest part of the day in the summer and the coldest part of the day in the winter. Here, all the measures that passed the RIM

test are about heating and cooling – high-efficiency air-conditioners and the like. Because the statute requires reductions in *overall* rates of electricity consumption and not just peak demand, the Commission should set goals based on the Total Resource Cost ("TRC") test, which includes all measures that pass the RIM test as well as all other measures that are cost-effective for the system as a whole. Some of these measures reduce utility financial benefits and thereby could result in increased rates, but the free rider and low income community studies described above will make it possible to fashion a suite of efficiency measures that leave no consumers behind simply because they are unable to pay for them.

The statute by its terms has an absolute mandate to set goals to increase the use of rooftop solar by electric customers. Specifically, section 366.82(b)(2), Florida Statutes states that the Commission "shall adopt appropriate goals for increasing . . . the development of demand-side renewable energy systems." That means increasing roof-top solar by electric customers because the term "renewable energy systems" is defined by section 366.82(1)(b): " 'Demand-side renewable energy' means a system located on a customer's premises generating thermal or electric energy using Florida renewable energy resources and primarily intended to offset all or part of the customer's electricity requirements." The goals proposed by the utilities for increasing customer rooftop solar are zero; an increase of zero is not an increase.

STATEMENT OF ISSUES AND POSITIONS

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.?

POSITION: ***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.***

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.?

POSITION: ***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.***

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.?

POSITION: ***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.***

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.?

POSITION: ***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*.***

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.?

POSITION: ***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.****

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

POSITION: ***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.*

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

POSITION: ***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**.*

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

POSITION: ***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.***

ISSUE 9: What commercial/industrial summer and winter megawatt (MW) and annual Gigawatt hour (GWh) goals should be established for the period 2015-2014?

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

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.?

POSITION: ***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**.*

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

POSITION: ***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**.*

ARGUMENT

I. THE GOALS DETERMINE THE SCOPE OF ENERGY EFFICIENCY PROGRAMS AND THE UTILITIES HAVE PROPOSED TO GUT THE GOALS.

Energy efficiency programs reduce energy use and save customers' money on electricity bills. They also defer or eliminate the need for power plants and thereby reduce overall utility system . [Sim-Vol. 2, at 344, 392]. The goals set by the Commission are met by the utilities implementing demand-side management programs implement the goals set by the Commission in this proceeding. [Floyd- Vol. 7 at 1664]. It is these goals that dictate the scope and type of program offerings that customers can use to save on their bills. Yet, under the guise of helping low income customers and avoiding cross subsidization, the utilities have proposed to gut their energy efficiency goals by 87 to 99 percent. [Mims- Vol. 4 at 1026]. The proposed goals, especially those proposed by FPL, constitute historic reductions in energy savings—a mere 6% of the goals ordered by the Commission in 2004. [Koch – Vol. 1at 236-38].

The utilities dance around the issue of how the goals will affect customer program offerings. [Exh. 138 at 18-19 (Bryant Depo)]. But as noted by the NAACP, "energy efficiency produces a host of economic benefits, including household and consumer savings, worker productivity, and more." [Exh. 135 at 14597 (NAACP Report-on CD provided by staff in POD 1)]. Consequently, the NAACP recommends setting an energy efficiency goal at a minimum of a 2% annual reduction over each previous year's retail electricity sales. [*Id.* at 14602]. Yet the utilities' arbitrary screens in the potential study process, reliance on RIM, and assumptions in setting their goals will ultimately hurt customers, particularly lower income customers, by limiting the programs they can use to save money on their bills. As such, the Commission should reject this attempt to short change electric customers and instead set meaningful goals to the benefit of all communities.

II. THE TWO-YEAR PAYBACK STANDARD DISCRIMINATES AGAINST LOW INCOME CUSTOMERS, IS INACCURATE, AND SHOULD BE REJECTED.

The use of the two-year payback screen should be rejected because it is inaccurate and eliminates the measures that would most help lower income customers and customers on a fixed income. Those measures are low cost, high energy savings measures. The two-year screen is used to eliminate measures that have a financial payback of 2 years or less on the theory that all customers will adopt those measures without any utility incentive. In fact, they will not, as borne out by their own data and studies from sister utilities. Even worse, the screen discriminates against lower income customers who can't make even small financial investments, thus withholding energy savings from the customers that could benefit the most. Instead, almost all of these savings are reserved for customers that can write big checks.

As explained below, the methodology adopted by the utilities is akin to using a machete in the place of a scalpel. That methodology produces the wholesale exclusion of hundreds of the most cost-effective measures in the face of evidence that these measures will not be adopted in a significant way absent a robust program. There are measure-specific strategies which could solve this problem that are widely used in the Southeast – including by the sister utilities of Duke and Gulf.

The two-year payback screen also is inconsistent with the Legislature's intent in FEECA. The Legislature found that it is "critical to utilize the most efficient and cost-effective . . . conservation systems in order to protect the health, prosperity, and general welfare of the state and its citizens." § 366.81, Fla. Stat. It makes no sense from a regulatory perspective to eliminate the lowest cost, highest saving measures from utilities' potential and goals and programs.

A. <u>The Two-Year Screen Discriminates Against Lower Income Customers.</u>

The measures eliminated by the two-year payback screen save large amounts of energy and cost little to implement. [Exh. 138 at 71-72 (Bryant Depo.); Sims- Vol. 2 at 410]. These include hot water heater blankets that cost around $21 and save $21 in utility bills in 8 months; [Duff- Vol. 3 at 611, 613-14; Exh. 179]; faucet aerators that cost $4 and save $4 in utility bills in 5 months [Duff-Vol. 3 at 614-15]; low flow showerheads that cost $13 dollars and save $13 in utility bills in 6 to 7 months [Duff- Vol. 3 at 615-16;.Exh. 179]; and heat traps, or anti-convection loops in water heaters, which cost $17 and save $17 in utility bills in 8 months, [Duff-Vol. 3at 616; Exh. 179]. These measures are excluded based on the premise that it is rational for a customer to willingly invest in these because the return is within a year or two. [Koch- Vol. 2 at 263]. However, this premise disregards both reality and the low income customers and fixed income customers who do not have the disposable income to invest and wait for a one or two year return. Though the investment may be "rational," it is out of reach for these customers.

This fact is vividly illustrated by payday loans, or cash advances secured by personal checks or electronic transfers. These loans charge a fee and an interest rate that far exceeds traditional lines of credit.[1] Yet for many consumers, traditional lines of credit are unattainable because of poor or no credit history, lack of collateral, or other reasons. Although obtaining a payday loan may not be financially "rational" those customers are left with no choice other than a high interest short term loan. Unfortunately, this predicament is usually experienced by lower income consumers who are most financially burdened by the high interest rates. This is

[1] According to the Federal Trade Commission, annual percentage rates on payday loans can climb to 390%. *Available at* http://www.consumer.ftc.gov/articles/0097-payday-loans.

evidenced by the fact that in Tallahassee, payday loan lenders are located in low income neighborhoods but not in Southwood or Killearn.[2]

The elimination of measures that payback in two years leaves significant amounts of energy savings for customers "on the table." For instance, TECO eliminated 583 GWh from its RIM portfolio and 1133 GWh from its TRC portfolio because of the two-year payback screen. [Mims- Vol. 4 at 1001]. Without the two-year screen, TECO's numbers would be roughly five times higher. [Bryant- Vol. 3 at 769-770]. Further, Gulf eliminated14 GWh from its RIM portfolio and 287 GWh from its TRC portfolio—roughly half—due to the application of the two-year screen. [Floyd- Vol. 4 at 867]. This includes measures that can significantly reduce customers bills, such as refrigerator recycling that saves over 1,000 kWh annually – about a one month's savings on typical residential bill, to a commercial faucet aerator that can save a commercial customer over 49,000 kWh each year. [Exh, 156 at 3, 17].

By eliminating low cost measures that substantially reduce bills, the two-year pay back standard discriminates against low income customers. Although the utilities have some programs that focus on these customers, they reach only a very small fraction of eligible customers. TECO reports only a 6.5% penetration rate in low income communities. [Exh. 186]. In 3 years, Gulf has only been able to reach 7,400 of 135,000 eligible customers with its programs— 5.5%. [Floyd- Vol. 4 at 859-60]. In fact, Duke's 2013 Florida End Use Study found that only 37% of *all* residential customers were using low flow showerheads, and only 11% were using hot water heater blankets. [Exh. 182 at 04066]. With such low saturation rates, implementation of these measures would have a big impact on low income communities. While the utilities assert that programs could add measures targeted at low income communities, the Commission should not allow goals to be set based on the premise that low income communities

[2] The Commission can and should take judicial notice of this occurrence.

are going to be left behind. If low income communities are going to be treated fairly, the goals should reflect the measures that apply to them.

The discriminatory impact of the two-year screen can be seen even more clearly in the measures that pass the screens. Where low income communities are left out of efficiency programs, consumers that can write big checks are the big winners. For example, 72% of the residential savings, and 35% of the total savings from measures passing FPL's RIM test are from a single $725 air conditioner. [Sim- Vol. 2 at 429-30; Exh. 167 at 4; Exh. 159 at 10]. And 58% of the energy savings from measures that pass FPL's TRC test are from swimming pool pumps. [Sim- Vol. 2 at 424-26; Exh. 166 at 5]. This discriminatory impact is solvable. As explained by Witness Floyd, there are wide variations in the measures that different regions and populations may adopt. [Floyd-Vol. 7 at 1659-60]. For example, customers in Pensacola may not adopt the same measures or have the same rates of adoption as customers in Orlando. *Id.* Therefore, use of adoption rates not based on any analysis is inappropriate and studies from other states and regions are difficult to import. [Floyd-Vol. 7 at 1661; Duff-Vol. 3 at 652-53]. The utilities' witnesses admit that they could, but have not, performed any actual studies analyzing free ridership rates, which vary between measures. [Koch-Vol. 2 at 264-265; Exh. 138 at 72 (Bryant Depo.); Floyd-Vol. 7 at 1661-62]. In the face of the utilities' own admissions that an analysis must be performed in each service territory, the two-year payback screen should be abandoned. Both Gulf and Duke have sister utilities with ample experience in performing the necessary Evaluation, Measurement and Verification which has been wholly absent in Florida even though this methodology although used widely in the Southeast. [*See* Floyd-Vol. 7 at 1655, 1658-59; Duff- Vol. 3 at 652-53; Exh. 183 (Duke Carolinas Report); Mims- Vol. 4 at 1002]. Gulf Power's expert, John Floyd estimated that it would only take about a year to perform such a

study. [Floyd-Vol. 7 at 1661-62]. Thus, the Commission should require the utilities to conduct Evaluation, Measurement and Verification studies like those used in other states.

Having an accurate free rider estimate, and including a component that focuses on lower income communities, is essential to ensure all communities are included in energy savings and that all potential savings are realized. Changing from a two-year payback screen can produce dramatically different results. For example, Duke Energy would gain over 400 residential, commercial and industrial measures just from moving from a two-year payback sensitivity to a 1 year screen. [Exh. 100 at DEF-DSM-05018 – 25 (DEF response to Staff Rog #54)]. The additional measures include simple items that utilities could incorporate into existing programs such as Duke's Home Energy Improvement program or Low Income Weatherization Program to benefit more of their customers. [Exh.135 at 11357-58 (DEF Ten Year Site Plan)].

By screening out the measures that would most benefit low income and fixed income customers, the two-year payback discriminates against customers who cannot afford to invest in these measures. Accordingly, this Commission should reject the use of this screen and order the utilities to promptly undertake process and impact Evaluation, Measurement and Verification, including assessments of low income customers, to be used in future FEECA proceedings.

B. The Two-Year Screen Is Arbitrary And Only Addresses *Potential* "Free-Riders."

The two-year payback screen does not actually address free-riders. [Exh.138 at 72-73 (Bryant Depo.)]. It is instead a blunt instrument that assumes that all incentives for measures that pay back in under two years are wasted because consumers will adopt the measures without incentives. [Deason–Vol. 1 at 142]. It is based on three faulty principles: 1) that a customer has the information about the measure, [*Id.*]; 2) that a customer has the financial resources, [*Id.*]; and 3) the customer will act rationally on the information and the resources. [*Id.*]. TECO witness

Bryant, conceded when asked if the two-year payback screen is for *potential* free riders, that, "yes that's exactly what it is." [Exh. 138 at 72-73 (Bryant depo.)].

Moreover, there is an entire body of evidence on market barriers to energy efficiency that the two-year payback blindly ignores. [Mims- Vol. 4 at 1000]. If all customers were rational economic actors, the CFL saturation rate in Florida would be 100%. [Mims- Vol 4 at 1000-01, 1052-53]. In South Carolina, where utilities have been providing incentives for CFLs for several years, saturation is still only 18%. This means, even with an additional economic incentive, there are still non-financial barriers to efficiency measure adoption. Simply screening out measures based on an assumption that the technology will be adopted because it is economically rational is contrary to the history of energy efficiency barriers, and the policies to overcome those barriers in the United States for the last 40 years. [*Id.*]. While the utilities wish to use a payback curve or other estimation to justify their two-year screen, the variation in community adoption and the discriminatory impact of error compels the use of actual empirical evidence.

C. The Two-Year Screen Fails To Comply With FEECA's Direction To Utilize The Most Efficient Conservation Systems.

The two-year payback is contrary to the FEECA statute. It states that "it is critical to utilize the most efficient and cost-effective demand-side renewable energy systems and conservations systems…." § 366.81, Fla. Stat. The two-year payback screen has precisely the opposite effect because it eliminates some of the most cost-effective measures.

Thus, rather than helping Florida customers achieve the "most efficient and cost-effective" conservation measures, these measures will be ignored and customers will be asked instead to implement measures that deliver lower customer savings and longer paybacks.

For all these reasons, the arbitrary and discriminatory two-year payback must be abandoned and the Commission should order the utilities to promptly undertake process and

impact Evaluation, Measurement, and Verification, for all programs including analysis of the degree of free ridership in low income communities, and update those studies regularly for use in future FEECA proceedings.

III. THE COMMISSION SHOULD USE THE TOTAL RESOURCE COST TEST

A. Total Resource Cost (TRC) Test Is The Proper Test.

1. *TRC is the only test consistent with § 366.82(3)(b), F.S., as it measures impact to the general body of ratepayers as a whole and includes utility incentive and participant contributions.*

The language of FEECA requires that the Commission employ the TRC cost-effectiveness test. Section 366.82(3)(b), Florida Statutes, requires that the Commission consider "[t]he costs and benefits to the general body of ratepayers as a whole, including utility incentives and participant contributions." The TRC test is the only test that accomplishes this mandate. It does so by considering the total costs of an energy-efficient measure (regardless of whether the utility obtains a financial benefit), and compares that to the benefit the measure provides to the system as a whole (including the participant) as a result of cost-savings due to avoided generation, transmission, distribution, and environmental compliance. *See* Florida Public Service Commission Cost Effectiveness Manual for Demand Side Management Programs and Self-Service Wheeling Proposals at 5-7, *incorporated by reference into rule at* 25-17.008(3), F.A.C. In so doing, the TRC test looks at cost from a "system wide" perspective. [Exh. at 119 (Bryant Depo.)].

In addition, the TRC test, unlike the RIM test, includes both "utility incentives and participant contributions" in the calculation, because the test accounts for the *total* cost of the measure regardless of how that cost may be divided between the utility and participants. The utilities argue in their testimony that the TRC test does not include utility incentives, and

therefore the RIM test along with Participant test are the tests that should be used to meet the section 366.82 (3)(b) requirement. This is regulatory contortionism. TECO Witness Howard Bryant conceded that the TRC test includes incentive cost as part of the measure cost – "it is a pass through, it is buried in the [measure] cost." [Exh. 138 at 63-64 (Bryant Depo.)]. That measure cost is borne by the participant or the utility (in the form of an incentive). FPL Witness Thomas Koch, states that TRC test, as it relates to a utility incentive, "considers that just a transfer payment between a nonparticipant and a participant." [Exh. 140 at 28-29 (Koch Depo.)]. Therefore, the TRC test singularly meets the requirement of Section 366.82(3)(b), without having to cobble together two tests (RIM and Participant), as the utilities mistakenly do to purportedly meet the requirement of the statute.

2. *Utilities' reliance on RIM to purportedly reduce rate impacts is misplaced.*

The RIM test is incompatible with the statute and is poor regulatory policy because its focus is on lost revenue; it does not measure the benefit to the general body of ratepayers. As noted above, the RIM test is merely measuring utility financial benefit. Those lost revenues, integral to the financial benefits test, are calculated differently by each utility. For instance, TECO records such lost revenues for the life of the measure [Exhibit 138, Bryant Deposition, p. 59], while FPL records lost revenues for the life of the avoided unit that the measures would avoid. [Exh. 139 at 54-55 (Sim Depo.)]. One thing is clear, the lost revenue calculation disproportionally impacts the cost side of the RIM test. For instance, data supplied from Duke Energy Florida's commercial potential analysis indicated that ***over 90%*** of the estimated costs in the RIM test are from lost revenues. [Duke Energy Florida, Inc. Response to SACE's First Request for Production of Documents, No. 5, *Com Achievable.xlsx; Ind Achievable.xlsx*, Apr. 16, 2014]. Similarly, in DEF's industrial potential analysis, lost revenues contributed, on average, to

78% of the total measure cost. This was a significant factor in *all* industrial measures failing the RIM test. On average, DEF's residential lost revenue costs in the RIM test are 77% of total costs. [Mims Vol. 4 at 982].

The utilities in this case attack TRC, essentially, for the possibility that measures that pass that test might save so much electricity, and cause revenue to decline so much, that the utility *might* have to raise rates to cover its fixed costs at some point in the future. However, this is *always* a possibility, and should not be a reason for avoiding the statutory mandate to accomplish energy efficiency while lowering electricity bills for all customers. If electricity sales decline, *for any reason*, there will be fewer kilowatt-hours to spread fixed costs across, which may cause a rate increase. Consumer motivated energy efficiency investments, codes and standards, mild weather, and economic factors all cause a decline in sales that result in the same costs being spread over fewer kilowatt-hours.

Bills are a function of rates and consumption. When consumption decreases due to energy efficiency, bills decrease. While the RIM test suppresses the use of energy efficiency as a resource, it has the perverse effect of promoting the construction of more expensive power plants. Energy efficiency is the lowest cost investment when compared to all other options. The levelized cost of energy from energy efficiency is approximately $0-50 per MWh, less than all other resources. Keeping costs down by investing in energy efficiency instead of more costly alternatives will also keep rates down. [Mims-Vol. 4 at 984]. By keeping consumption lower, and choosing the least cost resource option, *i.e.,* energy efficiency, the utilities can protect Floridians from high bills both now, and far into the future.

There are other regulatory mechanisms that more appropriately address alleged lost revenue projections into the future. Policies need to be put in place in Florida to allow the

utilities to fully support energy efficiency as a resource, including a lost revenue adjustment mechanism and performance incentives for achievement of valid DSM goals. In North and South Carolina, Duke Energy Progress, Duke Energy Carolinas and SCE&G recovered lost revenues for 36 months as part of their energy efficiency cost recovery proceeding. By limiting the amount of time the utilities can recover their "lost" revenues, regulators ensure that the consumers and the utilities both receive the benefit of energy efficiency. [Mims-Vol. 4 at 970].

3. *Utilities reliance on RIM for limiting cross-subsidization is misplaced.*

a. Cross- subsidies are implicit in all resource decisions – focus on resource decisions that help customer save money on bills.

A cross-subsidy occurs when one customer pays for more, or receives less benefit, than another customer on the same electric system. [Mims-Vol. 4 at 980]. Cross-subsidies are implicit in all resource decisions. FPL Witness Sims states that cross-subsidies, such as generational subsidies, are unavoidable. [Exh. 139 at 48 (Sim Depo.)]. The power plant that best highlights the subsidization of supply-side resource decisions is the proposed Turkey Point nuclear plant. The net cumulative benefit for FPL customers – the point at which the customer recovers the up-front monies they have been charged for construction of the plant from future projected fuel savings – is 25 to 36 years from today – according to FPL's own testimony. Therefore, using the 2038 crossover date, a 60-year-old FPL customer today will not realize a net cumulative savings until the customer is 85 years old. [Exh. 135 (Transcript from 2013 NCRC hearing filed by SACE to Staff's POD request-on CD provided by staff in supplemental production POD 1)]. Using the 2049 crossover date, a 60-year old FPL customer today won't realize a net cumulative savings until the customer is 96 years old. [*Id*.] Using the 2038 crossover date, a 70 year-old FPL customer today won't realize a net cumulative savings until the customer is 95 years old. [*Id*.] Using the 2049 crossover date, a 70-year-old FPL customer

today won't realize net cumulative savings from the project until the customer is 106 years old. Oddly, FPL Witness Terry Deason did not view this outcome as problematic, [Deason-Vol. 1 at 143-44], but continues to argue against any cross-subsidization related to energy efficiency.

Generally, when a utility uses its capital to make additions to the electricity system, it asks its regulators to recover those costs. Regardless of whether the utility invests in supply side or demand side measures, there is a cost sharing associated with that decision that will be passed along to all consumers. So it's a matter of what is causing rates to increase, and how that choice affects customer bills. Energy efficiency is the lowest cost investment when compared to all other options. The levelized cost of energy efficiency is approximately $0-50 per MWh, less than all other resources. This fact is unrebutted by the utilities.

Keeping costs down by meaningfully investing in energy efficiency, such as the goals proposed by SACE, instead of more costly alternatives, such as prohibitively expensive nuclear reactors with massive cross-generational subsidies, reduces cross-subsidization, reduces non-participants, and will also help keep rates down.

b. <u>For all these reasons, every state, except for one, has rejected reliance on RIM.</u>

Of all the states in this country, there is only one state, Virginia, that primarily relies on RIM for the setting of energy efficiency goals. [Mims-Vol. 4 at 976]. Twenty-nine states (a full 71%) that rely on a primary cost-effectiveness test for the setting of goals, use the TRC test. [*Id.*]. Six states go even further, and incorporate societal benefits of energy efficiency into their cost-effectiveness tests, further increasing the cost effectiveness of energy efficiency. [*Id.* at 977]. Florida rules specifically allow for turning the TRC test into a Societal Test by "excluding tax credit benefits, by including costs and benefits of externalities, and by using a societal discount rate, assuming that the costs and benefits of externalities are quantifiable." Florida

Public Service Commission Cost Effectiveness Manual for Demand Side Management Programs and Self-Service Wheeling Proposals at 5, *incorporated by reference into rule at* 25-17.008(3), F.A.C. Although the Societal Test does a true accounting of the cost-effectiveness of an energy efficiency measure, the statute, at a minimum, requires the use of the TRC test.

B. TRC Offers Significantly More Energy Savings To Customers Than RIM

1. *TRC offers greater energy savings for each utility in this proceeding.*

FPL has an achievable potential of 526 GWh of energy savings under RIM, while more than double that, 1,096 GWh, under TRC. Exhibit 23. The same is true for TECO (144 GWh under RIM versus 269 GWh under TRC, exhibit 45 at 75), Gulf Power (84 GWh under RIM versus 268 under TRC, exhibit 46 at 21), and Duke Energy Florida (184 GWh under RIM versus 471 GWh under TRC, exhibits 39, 40). TRC measures whether a measure is cost-effective to the system, considering all the costs and benefits to the utility and the customer (omitting societal benefits), and produces far greater energy savings.

2. *The Commission's prior decisions support use of TRC.*

In 1994, the Commission specifically set goals based on RIM because the "energy saving between RIM and TRC portfolios are negligible." Order No. PSC-94-1313, p. 22. That is not the case this year, where the TRC achievable potential is usually twice that, and sometimes more, of the RIM achievable potential. In 2009, the Commission approved "goals based on the unconstrained E-TRC Test" for five utilities, including the four at issue in these dockets (setting goals for Progress Energy, Duke Energy's predecessor), and found that "consideration of both the RIM and TRC tests is necessary to fulfill the requirement of Section 366.82(3)(b), F.S." Order No. PSC-09-0855, p. 15.

C. The Utilities Rely On The RIM Test To Create A Portfolio That Only Creates Neutral Or Positive Financial Benefits.

The principal of the RIM test is simple: "[r]ates will go down more than they otherwise would have if the change in utility revenues minus the change in utility costs is positive." Florida Public Service Commission Cost Effectiveness Manual for Demand Side Management Programs and Self-Service Wheeling Proposals at 11, *incorporated by reference into rule at* 25-17.008(3), F.A.C. Whether "rates will go down" is determined by taking the net present value of program benefits, and subtracting the net present value of program costs. Benefits are defined to include avoided generation benefits (including avoided unit capacity costs, avoided unit operation and maintenance costs, avoided fuel costs, and replacement fuel costs), avoided transmission benefits, avoided distribution benefits, fuel savings from decreased sales, any increased revenues, and any other quantifiable benefits. Program costs include any increased supply costs, lost revenues from reduced sales, utility program costs, utility rebates/incentives for participants, and any other quantifiable costs. *Id.* at 11-13. By definition, for a measure to pass RIM, the benefits to the utility must equal or outweigh the costs to the utility. A RIM score of more than 1.0 results in a net increase in revenue over costs — a net financial benefit. It is *theoretically* true that a utility could and should seek to decrease rates as the result of using the suite of measures that pass the RIM test. However, none of the utilities participating in this proceeding appear to have ever sought a rate decrease in the State of Florida.

Table 1 lays out three energy efficiency measures which show that Duke Energy's proposed goal will only have neutral or positive financial benefits to the Company. In fact, these three measures will generate almost $20 million in financial benefit to Duke.[3]

[3] Exhibit 178/179.

Table 1: RIM Measure Examples

Measure Name[4]	**NPV**[5]	**2-yr Payback Incentive**[6]	**Final RIM Incentive**[7]	**Participation**[8]	**Financial Benefit ((NPV-Final RIM Incentive) x Participation)**[9]
Window Film/Single Detached	$172.58	$390.84	$172.58	616	$0
Duct Repair/Single Detached	$708.95	$47.67	$47.67	29,234	$19,332,000
Ceiling R-0 to R-19 Insulation/Single Detached	$711.47	$509.13	$509.13	410	$82,960

The first row of Table 1, "Window Film/Single Detached," shows how, as with about half of the measures in Duke's residential goal, the measure results in no negative financial effect on Duke. The entire benefit to the utility is consumed by the monetary incentive payment needed to make the measure cost-effective. This means that Duke does not expect to lose money from implementation of the measure. Thus, the financial benefit for implementing this measure is zero, and $0 is written in the financial benefit column.

However, in row two, "Duct Repair/Single Detached," Duke anticipates receiving a net financial benefit of $19,332,000. Again, in row three, Duke anticipates receiving a net financial benefit of approximately $83,000. Across all of Duke Energy's residential measures, the Company anticipates making $47,904,000 in extra financial benefit from the implementation of the measures included in its proposed residential goals based on RIM. These examples show that Duke Energy is proposing a goal that will only create financial benefit to them, not a goal that seeks to reduced and control electric consumption for customers. § 366.82(2), Fla. Stat.

[4] Column D.
[5] Column AJ.
[6] Column AV.
[7] Column AX.
[8] Column BG.
[9] SACE Analysis.

RIM truly is a financial benefits to the utilities test. Measures that pass RIM save money for the utilities by keeping peak load costs down, as was seen in this case where all the measures passing RIM affected either the heating or cooling efficiency of a building. [Sim- Vol. 2 at 400; Bryant- Vol. 3 at 767; Duff- Vol. 3 at 626; Floyd- Vol. 4 at 861]. Statewide, Duke Energy serves less than one quarter of the customers served by all of Duke Energy, Gulf Power, Tampa Electric Company, and Florida Power and Light. Given the similarity in methodologies for developing energy efficiency goals, it is likely that each of these utilities also anticipate making a net financial benefit based on their proposed goal. If the same rate of financial benefit that Duke is receiving on the measures that form its RIM achievable potential is true for the other utilities, the utilities in this case stand to make over $200 million in financial benefit from implementation of their RIM achievable potential. Although the utilities in this case claim to support RIM to avoid cross-subsidization, the true reason they support RIM is clear: it generates financial benefit to the utilities. At the same time, the utilities avoid the clear statutory mandate to engage in meaningful energy efficiency that will actually lead to lower bills for their customers as provided in the TRC test. The TRC test, unlike the RIM test, ensures that everyone on the system, namely, ratepayers, receive the most benefit, and focuses on providing the lowest electricity bills to customers, instead of the highest financial benefits to utilities.

IV. THE SACE 1% ENERGY SAVINGS GOALS SHOULD BE ADOPTED.

A. The SACE 1% Energy Savings Goal Has Lower Overall System Costs Than FPL 0.002% Energy Savings Goals.

The benefit of energy efficiency on overall system costs is well established – it reduces overall system costs, which benefits customers. [Mims-Vol. 4 at 971; Woolf-Vol. 5 at 1118]. It is common for utility commissions to compare various resource options by comparing the

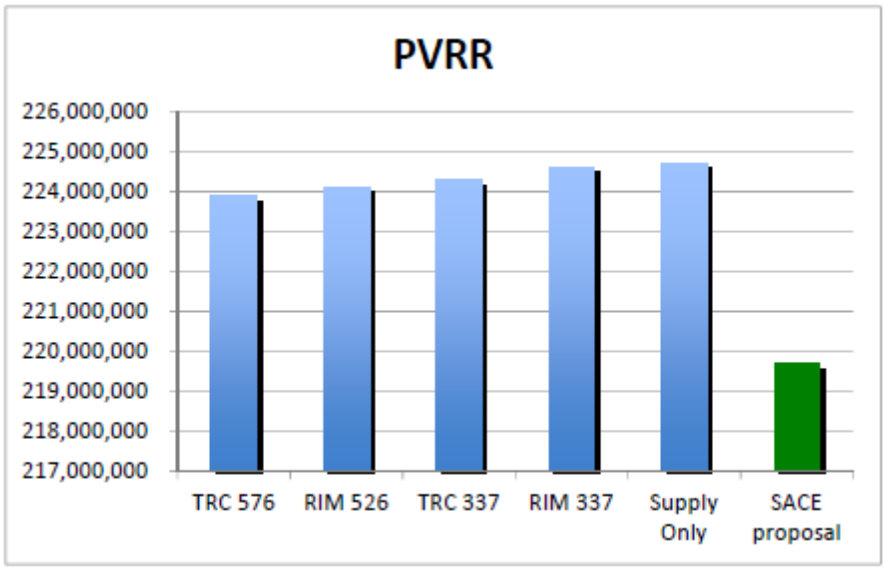
cumulative present value revenue ("CPVRR") in its approval process. *See e.g.* Order No. PSC-12-0187-FOF-EI at 10. This approach is used to save customers money when evaluating several resources choices. [*Id.*] In this proceeding, utilities such as DEF, utilized the same CPVRR approach. [Borsch-Vol. 6 at 1514]. Witness Benjamin Borsch states that "[m]inimization of CPVRR is one of the key objectives in the DEF process and is an explicit result in all of DEF's planning results." [*Id.*]

SACE has proposed a 1% of annual energy savings goal for the states investor owned utilities ["IOUs"]. [Mims-Vol. 4 at 1012]. FPL has proposed a 0.002% annual energy savings goal.[10] [Mims- Vol. 4 at 974]. That means that the SACE proposed goal provides 500 times more energy savings for customers than the proposed FPL goal.[11] The only testimony filed in the docket comparing the CPVRR of the SACE proposed goals to a utility's proposed goals was filed by FPL witness Steven Sim. Mr. Sim provided the Nominal System Revenue Requirement for each year from 2014 to 2054 for the proposed FPL "337 MW" resource plan. [Exh. 13 (column 5)]. In his rebuttal testimony he likewise provides to the Commission the Nominal System Revenue Requirement, for each year for 2014 to 2054, for the SACE 1% annual energy savings plan. [Exh. 148 at 1 (column 5)].[12]

If one adds the rows for every year (in column 5), the SACE 1% plan is cheaper than the proposed FPL 337 MW plan by over $31 billion through 2054, while providing 500 times more energy savings for customers. Witness Sim concedes that for each year after 2019, the operational date for the proposed FPL natural gas power plant, the SACE plan has a lower system revenue requirement, stating that "I'm happy to state that the revenue requirements will

[10] The energy savings goal for FPL is represented as 0.00% in the referenced table.
[11] .002% x 500 = 1.0%.
[12] To arrive at the CPVRR for both plans, one would apply the same discount rate to the nominal values and add the total revenue requirements.

be lower under the SACE plan than under the FPL plan for virtually every year after the first few." Sim-T. 1487. In fact, all the plans proposed by FPL have a higher CPVRR (higher system cost to customers) than the SACE 1% annual energy savings plan, as indicated by the graph below. [Exh. 153 at Bates # 23468].



This result should come as no surprise as meaningful energy efficiency goals provide significantly more customer savings at a lower cost than otherwise anemic goals. The Commission must encourage more robust goals to encourage more system savings for customers – both to be consistent with the requirements of the statute, and from a public policy perspective. This result is appropriately measured and achieved by the use of the TRC cost-effectiveness test. If not restricted by arbitrary screens, such as the 2 year payback screen, the TRC test will allow all measures to pass that that provide more benefit to customers than the next proposed power plant.

It should be noted that there is a distinct regulatory disincentive for a utility to provide meaningful energy efficiency opportunities to customers. An investor owned utility, like FPL, earns a rate of return for its shareholders on additions to its rate base, such as power plants, but earns no such return for shareholders from energy efficiency investments. [Exh. 135, Bates ##24056-7]. In fact, meaningful energy efficiency performance defers or eliminates the need for power plants, the very assets upon which shareholders earn a rate of return. The above example where the SACE proposed energy savings goals provide 500 times more energy savings than the proposed FPL energy savings goals, is an on-point example. As such, the utilities will need direction from the Commission to achieve these savings, as they never have and never will propose meaningful customer energy savings goals if left to their own accord. The companies will continue to drive down energy efficiency potential by the use of arbitrary 2 year payback screens and the use of the RIM test, discussed *supra*, and the use of unsupported "fuel penalty" assumptions, such as that used by FPL in its resource planning.[13]

The utilities' drive to undermine energy efficiency can be seen in FPL's RIM Achievable Potential. As seen in Exhibit 167, Measure RSF950 (a demand response measure) saves 15,000 kw of the achievable potential for summer every year, far more than any other measure. [Exh. 167 at 4]. However, energy efficiency programs offer a wider range of opportunities to a wider range of customers than load management programs. Energy efficiency allows customers to reduce their energy consumption by a much greater amount than load management programs. If

[13] FPL assumed a so-called naturally occurring "fuel penalty" for distributed solar power (and for all DSM measures). Tr. V. 6, 149. , There is no empirical evidence upon which the assumption is based, Even if FPL could support such an assumption, given the Company's current low adoption rates of solar power, the theory is implausible. For instance, FPL's Witness Koch states the solar program has established at total of 5.6 MW of solar PV from 2011 through 2013. Exhibit 25. FPL's next plan generating unit in 2019 is a 1269 MW natural gas plant. Exhibit. 11. As such, FPL's solar PV program, if continued at its current pace of 5.6 MW in 3 years, would have to perform at 200 times greater than its current pace to offset the MW requirement of the 2019 plant.

FPL or the other utilities rely too much on load management, then many customers will be deprived of opportunities to reduce their costs and bills. [Woolf-Vol. 5 at 1192-93].

B. Utility Potential Studies Have Too Many Flaws Upon Which To Base Goals.

SACE did not base its proposed goals on the utilities' studies because the utilities used methodologies that severely restricted technical, economic and achievable potential to a point where the utilities' data suffered from so many fundamental flaws that it was of very limited value for the purpose of setting DSM goals. [Woolf-Vol. 5 at 1195]. The companies used methodologies to restrain or eliminate potential from their analysis. These include the use of an arbitrary 2 year payback screen, the use of the RIM test, in the case of FPL – assigning lost revenue to measures for the life of the avoided unit, [Exh. 139 at 55 (Sim Depo.)] (even though the measures proposed do not avoid the proposed addition), FPL's use of a "fuel penalty" for energy efficiency measures, and all utilities limiting incentives for measures to a two-year payback (the 2-year payback essentially applied twice). [Mims-Vol. 4 at 1006]. Therefore, it's not surprising to see that the proposed goals by the IOUs are only a fraction of the utilities' technical potential that started the potential process. In the case of FPL, its goals represent less than 1/10 of 1% of its technical potential. [Sim-Vol. 2 at 446].

In the absence of meaningful analysis, Florida utilities should meet a goal of 1% of retail sales annually. Currently, 14 states are saving at least 1% of electricity sales each year, and the leading state saved upwards of 2% of electricity sales a year, based on the most recent data available. [Mims-Vol. 4 at 1012]. Gulf Power, in 2013 achieved 0.65% savings as a percent of sales – almost doubling its energy efficiency impacts from 2012. [*Id.*]. Certainly the other Florida utilities could perform similarly. [*Id.* at 1013]. While the utilities can and do offer excuses for an inability to achieve higher energy savings, performance by utilities in other states,

in some cases – sister utilities of Duke Energy, dispel the notion that such savings are unattainable. Duke Energy Carolinas ("DEC") and Duke Energy Progress ("DEP") are achieving at least double the energy savings of DEF. [Woolf –Vol. 5 at 1188]. The differences between these companies is more due to the regulatory environment in each state than the achievable efficiency potential. [*Id.*].

In addition, DEC and DEP have all have achieved greater savings than DEF in recent years; thus, the goals for these other Duke companies contradict DEF's argument that it has already achieved much of the achievable efficiency potential available in Florida. If that argument were true, then DEC and DEP could not have saved more energy than DEF in the past and still have higher goals for the future. [*Id.* at 1189]. All told, the proposed goals put for the by the state's IOUs ranging from a low of 0.002% by FPL, to a high of 0.11% by Duke, (Mims-Vol. 4 at 974], are woefully inadequate in providing customer savings, relative to leading utilities in the nation, including those right here in the Southeast.

V. THE COMMISSION MUST SET NUMERIC GOALS FOR INCREASING DEMAND SIDE RENEWABLES.

A. Section 366.82 Requires That The Commission Adopt Numeric Goals For Increasing Demand Side Renewables.

The FEECA statute is plain on its face – the Commission must set goals for "increasing" demand side renewables. The statute reads that: "[t]he commission shall adopt appropriate goals for increasing the efficiency of energy consumption and increasing the development of demand-side renewable energy systems …." §366.82(2), Fla. Stat. Demand-side renewable energy means a system located on a customer's premises generating thermal or electric energy using Florida renewable energy resources and primarily intended to offset all or part of the customer's electricity requirements provided such system does not exceed 2 megawatts." § 366.82(1)(b),

Fla. Stat. When the statute is clear and unambiguous, it is not necessary to look behind the statute's plain language for legislative intent or resort to rules of statutory construction to ascertain intent. *See Lee County Elec. Coop., Inc. v. Jacobs*, 820 So. 2d 297, 303 (Fla. 2002). In such instance, the statute's plain and ordinary meaning must control, unless this leads to an unreasonable result or a result clearly contrary to legislative intent. *See State v. Burris*, 875 So. 2d 408, 410 (Fla. 2004).

No further statutory construction is necessary to establish that there is a clear requirement for the Commission to adopt "appropriate goals" for "increasing" the development of demand side renewable energy systems. In fact, the Commission has previously reaffirmed the requirement to set goals when it first addressed the 2008 amendment to the FEECA statute to specifically require goals for increased development of demand-side renewables, such as rooftop solar:

> [w]e believe that the amendments to Section 366.82(2), F.S., clearly require us to set goals to increase the development of demand-side renewable energy systems. As indicated above, the Section states that the "Commission shall adopt appropriate goals for increasing the efficiency of energy consumption and increasing the development of demand-side renewable energy systems. We believe that in making these amendments to Section 366.82(2), F.S., the Legislature has placed additional emphasis on encouraging renewable energy systems… [w]e find that the amendments to Section 366.82(2), F.S., require us to establish goals for demand-side renewable energy systems .

Order No. PSC-09-0855-FOF-EG at 28, 29.

Contrary to utility arguments, an increase of zero is not an increase. The definition of "zero" denotes the absence of all magnitude or quantity,[14] or the number between the set of all

[14] Zero is a relatively new number that was introduced into our culture via the Hindu/Arabic numeral system, *see* Rowlett, Russ, *Roman and "Arabic" Numerals*, University of North Carolina at Chapel Hill (July 4, 2004), *available at* http://www.unc.edu/~rowlett/units/roman.html, which number was notably questioned by the Greeks and the Romans. *See* Shivprasad, *Zero: A philosophical history of an Indian Idea*, Critical Twenties (Aug. 20, 2010), *available at* http://www.criticaltwenties.in/philosophyreligionculture/zero-a-philosophical-history-of-an-indian-idea-%E2%80%93-i ("The Greeks clung firmly to the dictum *Ex nihilo nihil fit*: out of nothing comes

negative numbers and the set of all positive numbers.[15] An increase of zero therefore lacks any magnitude or quantity and cannot *increase* anything. Similarly, a number that is not a positive number cannot *increase* a value. Therefore, the Commission is statutorily required to set a numeric value above zero for demand-side renewables, such as rooftop solar.

In the past, the Commission has realized its statutory obligation related to setting conservation goals and has never set a goal of a zero increase for any of the big four investor-owned utilities. When an IOU has proposed zero goals, such as FPL attempted in the 1994 conservation goal setting proceeding, for the 2001 to 2003, the Commission clearly stated that "[o]ur rules require each utility to propose numeric goals …." Order No. PSC-94-1313-FOF-EG, p.32. FPL's decision not to propose DSM goals for 2001-2003 was contradictory to Commission rules. *Id.* at 33. The Commission order reaffirms Commission Rule 25-17.0021, F.A.C. that states "[t]he Commission shall establish numerical goals for each affected electric utility …." In that proceeding, the Commission subsequently set goals for FPL when the company proposed zero goals. *Id.* at 34.

The establishment of numeric goals is consistent with the framework of the FEECA statute. The statute requires the establishment of appropriate goals. Moreover, those goals must be numeric and greater than zero so programs can be developed to meet the goals and so they can be the basis for reward or penalty pursuant to the provisions below.

> Following adoption of goals pursuant to subsections (2) and (3), the commission shall require each utility to develop plans and programs to meet the overall goals within its service area…[t]he commission may authorize financial rewards for those utilities over which it has ratesetting authority that exceed their goals and may authorize financial penalties for those utilities that fail to meet their goals,….

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nothing."). The basis for the latter skepticism about the validity of the number was the paradox that "nothing" could simultaneously be "something." *Id.* In the context of these proceedings, the Greek and Roman view is plainly more consistent with the governing statute.

[15] Definition of "zero," at: http://www.merriam-webster.com/dictionary/zero

§ 366.82(7), (8), Fla. Stat.

Whether the context is a traditional DSM goal such as megawatts (MW) or gigawatt hours (GWh), or goals for demand side renewables, the Commission has established a precedent that zero goals are inconsistent with Commission rules and the amended FEECA statute which requires numeric goals that *increase* development of demand-side renewable energy systems.

Yet IOUs, such as Duke and FPL, have not proposed numeric goals for demand side renewables. [Koch-Vol.2 at 269-270; Duff-Vol. 3 at 530]. The four largest IOUs make an implausible argument that a goal of zero can be an increase. As discussed above, an increase of zero is not an increase.

The conceptual programs previewed by FPL and DEF are not demand-side renewable programs. The definition of a demand-side renewable is "a system located on a customer's premises generating thermal or electric energy using Florida renewable energy resources and primarily intended to offset all or part of the customer's electricity requirements provided such system does not exceed 2 megawatts." § 366.82(1)(b), Fla. Stat. The statute plainly requires that the system must be located on the utility customer's house or business, and offsetting part of their electricity use – commonly referred to as "behind the meter."[16]

Not only have the IOUs not proposed goals for increasing demand side renewables, to the extent the IOUs have proposed so-called "goals," they have come in the form of conceptual programs that are not consistent with the statute. Duke, for instance, revealed that it is considering a conceptual pilot program that "would involve Duke 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

[16] This definition is also consistent with the definition of the type of renewable energy system eligible for net metering. In order to "offset" one's electricity, a system must have an interconnection and metering agreement. *See* R. 25-6.065, F.A.C.

renewable energy goals." [Duff-Vol. 3 at 531]. FPL likewise proposes utility-owned solar that would serve as a "research and development" project in which FPL would gather data from existing PV installations and may include a limited number that will include "targeted additional PV installations at appropriate locations around the FPL service territory." [Koch-Vol. at 1297]. This program would purportedly help the Company better understand the impact of solar PV on the company's distribution system, energy output characteristics of PV generation, consumption patterns of PV use, and effects of locational diversity. [*Id.*].

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.

B. Traditional Cost-Effectiveness Tests To Measure EE And DR Are Not Well Suited For Measuring Cost-Effectiveness Of Demand-Side Renewables, Such As Solar Power.

Conventional cost-effectiveness tests do not capture the full value of distributed solar electricity generation. The Commission should adopt a modified, stakeholder driven approach to help establish a value for the both cost *and* benefits of solar and to encourage consistent methodologies for the valuation of solar. The utilities' analysis of solar power falls short on several levels, including its failure to account for solar power's hedge value against volatile fuel price spikes (such as natural gas). [Rabago-Vol. 5 at 1074]. Gulf Power for instance, reports that it spends ratepayer funds to purchase natural gas price hedges, but does not include this cost in evaluating the benefits of solar PV. [*Id.* at 1076]. Some of the assumptions used by the IOUs are also inconsistent with broader market information. DEF relies on a 20-year measure life for solar PV even though virtually all module providers warrant their equipment for 25 years. [*Id.*]. FPL

on the other hand takes the position of assessing a "fuel penalty" against distributed solar PV based on "avoiding fuel-efficient new generation," though the facts behind the premise relied upon for this approach are not explained in its witnesses' testimony. [*Id*.]. The assumptions, omissions, and methodologies used by each IOU are, to some extent, inconsistent with best practices in measuring the value of solar, [*Id*. at 1070, 1100], and inconsistent across utilities.

The Commission can benefit from a Value of Solar ("VOS"), or similar analysis, to determine the appropriate costs and benefits of distributed solar on a utility's system. SACE offered an expert in the field of the value of solar, Karl Rabago, but the utilities and the Commission chose not to cross examine him. [Vol. 5 at 1106-1107]. He also recommended that such a process should be a stake-holder driven process established by the Commission. [Rabago-Vol. 5 at 1103]. No utility offered evidence that such a process would not be useful to the Commission in establishing the appropriate value for solar and provide more consistent methodologies and practices across utilities for determining both the cost and benefits of solar.

The Commission should at least increase the existing solar programs and use them to better inform the value of the solar programs. A rigorous solar valuation would advance the Commission's ability to implement future solar programs. While the previous commission also found solar PV to be not cost-effective, under the traditional DSM cost-effectiveness test that potentially undervalue solar PV, that Commission found however, "that it could meet the intent of the Legislature to place added emphasis on these resources, while protecting ratepayers from undue rate increases by requiring the IOUs to offer renewable programs subject to an expenditure cap." Order No. PSC-09-0855-FOF-EG. p. 29. This Commission should do the same until such time the costs *and* benefits of solar have gone through a rigorous examination.

CONCLUSION

For these reasons, SACE respectfully submits that the Commission should:

1) order the utilities to conduct process and impact Evaluation, Measure and Verification studies to determine free ridership rates and effectiveness for all communities;

2) abandon the two-year pay back standard for free ridership;

3) adopt SACE's recommended goals for energy efficiency;

4) use the TRC test to determine cost-effectiveness;

5) increase the existing pilot solar programs; and,

6) use the pilot programs to develop a value of solar methodology.

Respectfully submitted this 30th day of September, 2014.

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CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a true copy and correct copy of the foregoing was served on this 30th day of September, 2014, via electronic mail on:

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DATED this 30th day of September, 2014.

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