BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

SOUTHERN ALLIANCE FOR CLEAN ENERGY

PETITION FOR DETERMINATION OF NEED

REGARDING THE OKEECHOBEE CLEAN ENERGY CENTER UNIT 1

DIRECT TESTIMONY OF NATALIE A. MIMS

DOCKET NO. 150196-EI

OCTOBER 14, 2015

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Florida Power & Light Company for Determination of Need for Okeechobee Clean Energy Center Unit 1	)))	DOCKET NO. 150196-EI

I. INTRODUCTION

Q. Please state your name, position, and business address.

A. My name is Natalie Mims. I am a principal at Mims Consulting, LLC and my business address is 1035 Santa Barbara Street, Suite 8, Santa Barbara, California 93101.

Q. On whose behalf are you testifying?

A. Southern Alliance for Clean Energy ("SACE").

Q. Please summarize your qualifications and work experience.

A. I graduated from the Pennsylvania State University in 2002 with a Bachelor of Arts degree in English and Political Science. I received a Master of Environmental Law and Policy from the Vermont Law School in 2004. Since then I have worked on a wide range of energy and environmental policy issues, including energy efficiency potential studies; energy efficiency program design and implementation; and evaluation, measurement and verification of efficiency programs. A copy of my resume is included as Exhibit SACE-NAM-1.

Q. Have you testified previously before the Florida Public Service Commission ("the Commission")?

A. Yes. I testified in front of the Commission during the 2014 Florida Energy Efficiency Conservation Act ("FEECA") proceeding. In addition, I presented to the Florida Commissioners during an Internal Affairs meeting in January 2012 on the importance of robust evaluation, measurement and verification ("EMV") of

DSM impacts. I have also testified before the North Carolina, South Carolina, Georgia and Indiana commissions.

Q. Are you submitting exhibits along with your testimony?

A. Yes. I am submitting the following exhibits with my testimony:

- Exhibit NAM-1: Resume of Natalie Mims
- Exhibit NAM-2: Letter re: Measures Not Included in FPL's EE Potential Study

Q. FPL is seeking approval from the FPSC to construct and operate a new natural gas combined cycle plant. What are the statutory requirements for the FPSC to determine the need for this power plant?

A. Florida statute requires that the Commission take into account several factors when determining if a new power plant is needed including: (1) the need for electric system reliability and integrity; (2) the need for adequate electricity at a reasonable cost; (3) the need for fuel diversity and supply reliability; (4) whether the proposed plant is the most cost-effective alternative available; (5) whether renewable energy sources and technologies; as well as conservation measures, are utilized to the extent reasonably available. Finally, the Commission shall consider the conservation measures taken by or reasonably available to the applicant or its members which might mitigate the need for the proposed power plant.

Q. Based on your review of FPL's application and their DSM plan, do you believe that FPL has met the statutory requirements for proving the need for the OCEC Unit 1?

A. No, I do not, for several reasons. Based on this fact, I recommend that the Commission deny FPL's Petition for Determination of Need for the OCEC Unit 1.

Q. Will you address any of these reasons in your testimony?

A. Yes, I will. The purpose of my testimony is to address (1) how increasing natural gas capacity does not maintain or enhance FPL's fuel diversity; (2) conservation measures are not being utilized to the extent reasonably available; (3) there are additional conservation measures reasonably available to FPL and its customers that might mitigate the need for the proposed power plant; and (4) the proposed plant is not the most cost-effective alternative for FPL's customers.

II. INCREASING FLORIDA'S DEPENDENCE ON NATURAL GAS DOES NOT MAINTAIN OR ENHANCE FPL'S FUEL DIVERSITY.

Q. As referenced above, the Commission is required by statute to consider the need for fuel diversity in making its determination regarding the need for FPL's proposed OCEC Unit 1. Will the OCEC Unit 1 improve FPL's fuel diversity if constructed and placed into operation?

A. No, and FPL witness Dr. Sim concedes as much in his prefiled testimony. In fact, even though FPL's 2014 ten year site plan, at p. 7, lists "maintaining/enhancing fuel diversity in the FPL system" as an ongoing concern, FPL still now seeks Commission approval to build another plant which will only increase its reliance on natural gas. This is certainly not maintaining, and much less enhancing, fuel diversity in the FPL system.

Q. However, Dr. Sim does state that OCEC Unit 1 will not "significantly" increase FPL's reliance on natural gas. Does this alleviate your concern?

A. No. In 2014, Florida was second in the nation to Texas in net electricity generation from natural gas.[1] As such, Florida's, and FPL's, reliance on natural gas is already significant, and OCEC Unit 1 will only exacerbate this reliance.

[1] US Energy Information Administration, Florida State Profile and Energy Estimates. Available at: http://www.eia.gov/state/?sid=FL

In fact, in FPL's 2015 Ten Year Site Plan, natural gas contributed to 68% of the Company's energy generation in 2014, and the Company forecasted that it is the only fuel type that will increase in 2016, and continue to grow from 2019 (when OCEC unit 1 is scheduled to come online) to 2024.[2] Ultimately, FPL anticipates that natural gas will be used to generate 73% of its energy in 2024.[3] However, FPL anticipates solar energy contributing about 0.5% annually from 2019 to 2024, and the amount of energy coming from nuclear declining as a percentage of total generation in the same time frame. It would seem that if FPL is truly trying to diversify its fuel sources, at least one of these resources would be increasing as a percent of total generation over time, not just natural gas.

Table 1. FPL's fuel mix as a percentage of total generation[4]

	Natural Gas	Nuclear	Coal	Solar
2015	66.7%	23.2%	3.5%	0.2%
2016	69.2%	23.3%	3.1%	0.3%
2017	64.0%	22.8%	2.7%	0.6%
2018	64.1%	22.7%	2.6%	0.6%
2019	69.5%	22.9%	2.9%	0.5%
2020	71.7%	22.3%	2.4%	0.5%
2021	71.7%	22.1%	2.6%	0.5%
2022	71.3%	22.3	2.5%	0.5%
2023	71.9%	21.8	2.5%	0.5%
2024	72.5%	21.5	2.3%	0.5%

[2] FPL 2015 Ten Year Site Plan, Schedule 6.2, Energy Sources % by Fuel Type
[3] *Id.*
[4] *Id.*

III. CONSERVATION MEASURES WHICH MIGHT MITIGATE THE NEED FOR THE PROPOSED OCEC UNIT 1 ARE NOT BEING UTILIZED BY FPL TO THE EXTENT THEY ARE REASONABLE AVAILABLE.

Q. FPL states that they took account of all identified cost-effective conservation measures prior to determining the need for the proposed OCEC Unit 1. Is this true?

A. No, they did not. FPL relies on its energy efficiency goals from the 2014 FEECA docket to determine the level of efficiency that is used as "all cost-effective efficiency" in this docket. In the FEECA docket, the Company used an erroneous methodology to calculate its DSM potential, and thus vastly underestimated the amount of cost-effective DSM available.

Q. What was the process that FPL used to determine its DSM potential?

A. First, the Company resurrected a five-year old DSM potential study to evaluate its technical potential, which I will refer to as the "2009 Potential Study," and utilized the 2009 Potential Study as the starting point for its 2014 Potential Study. In a DSM potential study, technical potential should take into account all of the savings that are available, regardless of economics or concerns about participation. The EPA's National Action Plan for Energy Efficiency ("NAPEE") defines technical potential as, "the theoretical maximum amount of energy use that could be displaced by efficiency, disregarding all non-engineering constraints such as cost-effectiveness and willingness of end-users to adopt the efficiency measures."[5]

Q. What flaws are there in FPL's technical potential analysis?

A. There were several. The most significant was the flawed assumption that codes and standards reduce FPL's technical potential by 4200 GWh.[6,7] The existence of

[5] US EPA National Action Plan for Energy Efficiency, Guide for Conducting Energy Efficiency Potential Studies. p2-4.
[6] FL PSC Docket No 130199-EI, Direct Testimony Koch (FPL). Exhibit TRK-4

a code or standard is not an engineering constraint, and therefore should not be an element in determining technical potential. Table 2 displays FPL's conclusion that summer MWs were reduced by 14%, winter MWs by 12% and energy savings by 13% due to this inaccurate assumption.

Table 2. FPL's flawed reduction in 2014 technical potential due codes and standards [8]

	Summer MW	Winter MW	Annual GWh
2009 Potential Study Technical Potential	8,000	4,784	31,849
Reduction due to codes and standards	1,086	575	4,183
2014 Potential Study Technical Potential, reduced from codes and standards	6914	4209	27,666

This flaw was both methodologically and statutorily incorrect. The statutory guidance for the technical potential study in Florida is Section 366.82, F.S., which directs the Commission to evaluate the technical potential of *all* demand side and supply side energy conservation measures, including demand side renewable energy systems. Clearly, eliminating measures associated with codes and standards results in the evaluation of less than *all* demand side and supply side conservation measures.

The second major flaw in the technical potential that FPL calculated for its 2014 Potential Study was the limited amount of efficiency measures evaluated. Again, the technical potential should, if properly calculated, include all energy efficiency measures except those that are impossible due to engineering constraints. SACE reviewed the measures from the 2009 Potential Study, as they

[7] The Company reduced the 2009 technical potential by 4200 GWh to account for codes and standards as the first step in updating the 2009 Potential Study. See Florida PSC Staff Recommendation in Docket 130199-EI, Table 1-1 for more detail.
[8] FL PSC Docket No 130199-EI, Direct Testimony Koch (FPL). Exhibit TRK-4

were the starting point for the 2014 Potential Study, and compared them to recent energy efficiency potential studies for TVA[9] and Georgia Power.[10] There are many measures that appear to have been excluded from both the 2009 and 2014 Potential Studies that were included in the TVA and Georgia Power energy efficiency potential studies, a list of which measures are included as Exhibit NAM-2.

Finally, as in the 2009 Potential Study, FPL excluded several sectors from the technical potential in the 2014 Potential Study. As stated in the 2009 Potential Study:[11]

> It should also be noted that energy and peak savings opportunities in a few end-use sectors were specifically excluded from this study. These sectors were agriculture, transportation, communications and utilities (TCU), construction, and outdoor/street lighting…the out-of-scope sectors accounted for just over 10% of total sales [for FEECA utilities].

Q. What is the impact of the technical potential, the starting point for determining the amount of energy efficiency that is available to FPL, being fundamentally flawed and inaccurate?

A. The technical potential is the first calculation that is made when determining energy efficiency potential, thus all other calculations are dependent on that calculation. This means that FPL's entire 2014 Potential Study is flawed, and furthermore, the basis for FPL's statement that it evaluated all cost-effective energy efficiency prior to determining its need for the proposed OCEC Unit 1 is inaccurate.

[9] Tennessee Valley Authority Potential Study. *Final Report*, December 21, 2011, Global Energy Partners, available at http://www.tva.gov/news/releases/energy_efficiency/GEP_Potential.pdf
[10] Achievable Energy-Efficiency Potentials Assessment. Submitted to Georgia Power Company by Nexant, January 31, 2012, available at http://www.psc.state.ga.us/factsv2/Document.aspx?documentNumber=140174
[11] Itron, Inc., *Technical Potential for Electric Energy and Peak Demand Savings in Florida*. March 2009.

Q. Putting aside the fact that the rest of the 2014 Potential Study was flawed from the start, were there other flaws when FPL moved to the second step of the potential study, calculating the economic potential?

A. Yes. The NAPEE defines economic potential as:

> the subset of the technical potential that is economically cost-effective as compared to conventional supply side energy resources…they [technical and economic potential] ignore market barriers to ensuring actual implementation. Finally, they only consider the costs of energy efficiency measures themselves, ignoring any programmatic costs (e.g. marketing, analysis, administration) that would be necessary to capture them.

Again, FPL did not use the best practices outlined by the EPA when it calculated economic potential in its 2014 Potential Study. FPL Witness Koch stated:

> After the TP [technical potential] was updated, FPL's resource needs during the DSM Goals timeframe were determined and other facets of FPLs resource planning process were then used to conduct an Economic Potential (EP) or cost effectiveness screening of the DSM measures.[12]

It is inappropriate to evaluate the Company's resource needs prior to determining if measures are economic. The only factor that should be considered when calculating economic potential is whether or not the energy efficiency is less expensive than avoided cost. By creating, and using, additional criteria to define both the technical and economic potential, FPL invalidated its 2014 Potential Study.

FPL further miscalculated the amount of cost-effective energy efficiency in the 2014 Potential Study by applying yet another inappropriate screen to calculate the economic potential – the "years to payback screening to account for free riders."[13] As explained by FPL:

[12] FL PSC Docket NO 130199, Direct Testimony Thomas R Koch (FPL). Page 17, lines 21-23.
[13] FL PSC Docket No 130199, Direct Testimony Steven R Sim (FPL). Page 6 lines 12-14.

> the intent of the years-to-payback test is to address the "free rider" issue so that the utility, and all of its customers, are not making incentive payments and incurring administrative costs, for DSM measures that customers will likely purchase even without an incentive payment.[14]

Evaluating free ridership, in every other jurisdiction I am aware of, is a component of utility evaluation, measurement and verification of energy efficiency programs. It is completely invalid and a flawed methodology to include this screen when calculating economic potential. As shown in Table 3 and 4, this screen eliminated 1,550 - 6,392 GWh from FPL's energy efficiency potential under the Company's RIM and TRC portfolio.[15]

Table 3. FPL's flawed reduction in 2014 technical potential due to free rider screen (RIM)

	Summer MW	Winter MW	Annual GWh
2014 Technical Potential	7,146	4,410	31,468
Reduction due to free riders – RIM portfolio	374	39	1,550
Technical potential reduced due to free riders – RIM portfolio	6,772	4,371	29,918

Table 4. FPL's flawed reduction in 2014 technical potential due to free rider screen (TRC)

	Summer MW	Winter MW	Annual GWh
2014 Technical Potential	7,146	4,410	31,468
Reduction due to free riders – RIM portfolio	374	39	1,550
Technical potential reduced due to free riders – TRC	6,772	4,371	29,918

[14] FL PSC Docket No 130199, Direct Testimony Steven R Sim (FPL). Page 23-24 lines 21-2.
[15] FL PSC Docket No 130199, FPL Response to SACE IR-45.

portfolio			

I am aware that Florida utilities are required to consider free riders when proposing their energy efficiency goals. There are other ways to "consider free riders" than using a proxy that arbitrarily eliminates energy efficiency and capacity savings. As I have suggested in the past, including free rider rates from other utilities in the Southeast would be more accurate than what FPL current uses. The free rider rates from other southeastern utilities could be applied at the residential, commercial and industrial class level as the last step of setting the goal, and that would also be more accurate than the two year proxy. Further, Southeastern utilities have found that with free ridership and spillover, their realization rates go above 100%, meaning that no savings would be eliminated from the energy efficiency goals when considering free ridership.

Q. How does the National Action Plan for Energy Efficiency define achievable potential?

A. The NAPEE breaks achievable potential into two categories, achievable potential and program potential. Based on these two definitions, FPL completely omitted calculating the achievable potential and instead moved directly to calculating the program potential. Achievable potential is defined as:

> the amount of energy use that efficiency can realistically be expected to displace assuming the most aggressive program scenario possible. This is often referred to as maximum achievable potential. Achievable potential takes into account real world barriers to convincing end users to adopt energy efficiency measures, the non-measure costs of delivering programs and the capability of programs and administrators to ramp up program activity over time.

In contrast, Program potential is defined as "the efficiency potential possible given specific program funding levels and designs."

Q. Did FPL's methodology have errors in its achievable potential?

A. FPL's calculation of achievable potential[16] is very illogical, and unconventional. FPL's ten year 2015-2024 Achievable Potential "is determined based on the maximum rebate levels for all measures that passed the prior [economic] screening."[17] I am not aware of any other utility that use this criteria to establish its achievable potential. Somehow, FPL managed to whittle its Summer MW savings from over 7,100 MW (technical potential) to a goal of approximately 50 MW a year of achievable potential.

Q. Please summarize the flaws present in FPL's energy efficiency potential study.

A. There are many flaws, including: (1) removing savings from codes and standards prior to calculating technical potential; (2) excluding entire sectors and measures from the technical potential; (3) determining utility resource needs prior to calculating economic potential; and (4) using a two year payback proxy to calculate economic potential. Finally, FPL used maximum rebate levels to determine achievable potential. While this is not necessarily impermissible, it is certainly not a best practice methodology.

Q. Do you believe that the flaws referenced above result in an inaccurate representation by FPL as to whether or not there are energy efficiency measures that are reasonably available to the Company that might mitigate the need for OCEC Unit 1?

A. Yes. Based on the erroneous methodology used by FPL to calculate its energy efficiency potential, there are additional measures that are reasonably available. First, there are savings associated with codes and standards. While FPL may

[16] As mentioned above, achievable potential, as defined by NAPEE, was not conducted by FPL. However, for simplicity, I will continue to refer to FPL's achievable potential as that, not as program potential, as defined by NAPEE.
[17] FL PSC Docket No 130199, Direct Testimony Thomas R Koch (FPL). Page 6 lines 12-14.

capture the reduction in consumption due to codes and standards in its load forecast, and not in its efficiency forecast, it could still implement an energy efficiency program to improve and assist in code compliance, therefore generating additional reasonable savings. Second, FPL did not include reasonably available energy efficiency measures in its 2014 Potential Study, and completely excluded several sectors from the 2014 Potential Study.

Finally, FPL further miscalculated the amount of reasonably available energy efficiency in the 2014 Potential Study by applying yet another inappropriate screen to calculate the economic potential – the "years to payback screening to account for free riders."[18] This inappropriate screen eliminated between 1,550 - 6,392 GWh from FPL's energy efficiency potential under the Company's RIM and TRC portfolio.[19]

IV. THE PROPOSED PLANT IS NOT THE MOST COST-EFFECTIVE OPTION AVAILABLE.

Q. Please summarize FPL's interpretation of "cost-effective" DSM?

A. FPL's interpretation of "cost-effective" DSM relies on the very restrictive perspective of the Ratepayer Impact Measure ("RIM") test. The RIM test focuses on the "cost" of reducing the Company's electricity sales and revenues over the lifetime of the demand-side measure.[20] Under this view, both customer-side energy efficiency and renewables result in unrecovered revenue requirements for the utility and upward pressure on rates for non-participating customers.

FPL's narrow perspective, however, disregards the overall and longer-term savings and benefits to all customers and society as a whole, which is the

[18] FL PSC Docket No 130199, Direct Testimony Steven R Sim (FPL). Page 6 lines 12-14.
[19] FL PSC Docket No 130199, Direct Testimony Natalie Mims (SACE); Exhibit NAM-SACE-9.
[20] FL PSC Docket No. 130210, Deposition of Steven Sim, p. 52.

goal of the Total Resource Cost ("TRC") test. The use of TRC to determine energy efficiency investments is a well-established best practice in the nation. In contrast, besides FPL and other Florida utilities, only one other state (Virginia) relies on the RIM test to make investment decisions.[21]

FPL has aggressively opposed the use of the TRC test to determine energy efficiency investments in Florida for many years. In 2014, FPL insisted that, between the RIM and TRC tests, "only the RIM test really addresses the issue of whether it makes sense for a utility to offer a [demand-side management] measure when considering all customers on a utility system."[22]

By focusing on the impacts on customers that do not participate in demand-side programs, FPL's narrow perspective ignores opportunities for benefits and savings for all customers. Likewise, by focusing on lost revenues, FPL's perspective does little to promote reduced customer usage and fossil fuel consumption, but rather serves to protect its utility business model against the impacts of reduced usage, whether through energy efficiency or renewable generation. Moreover, policy solutions are available to address the financial impact demand-side resources can have on electric utilities, yet FPL has opposed exploring any such mechanism to make it financially neutral to such resource decisions.[23]

The use of TRC and utility incentives to support efficiency adoption are not novel or advanced concepts, and have been recognized in the industry for decades, beginning in the early 1990s.

Q. Is the RIM test used as the primary cost-effective test to make energy

[21] http://database.aceee.org/state/evaluation-measurement-verification
[22] FL PSC Docket No. 130199, Direct Testimony Sim, p. 23, starting at line 16.
[23] FL PSC Docket No. 130199, Order No. PSC-14-0696-FOF-EU, p. 7.

efficiency decisions by regulators in the United States?

A. No. Only one state, Virginia, relies on the RIM test as its primary benefit-cost test. 71% of states that have designated a primary cost-test use the Total Resource Cost ("TRC") test.

Q. How does FPL justify this extreme perspective?

A. FPL justifies its reliance on this extremely conservative perspective by citing that the Commission found that "consideration of both the RIM and TRC is necessary to fulfill the requirements of Section 366.82(3)(b), F.S."[24]

Q. How does FPL interpret the word "consideration"?

A. FPL's interpretation of the word "consideration" clearly shows their conservative perspective on energy efficiency economics. Using FPL's interpretation, to "consider" the RIM tests means that energy efficiency goals are "set based on the use of the RIM test."[25] That does not appear to me to be the same as "taking into consideration the TRC test" and in fact, appears to be only using the RIM test.

Q. What was the difference between FPL's TRC and RIM DSM goals in the 2014 FEECA proceeding?

A. The energy savings FPL projected from 2015-2017, under the TRC test was 23-46 GWh higher than when using the RIM test. As FPL noted, there are not significant differences between the summer MW in the RIM and TRC cases – about 50 MW over the ten year planning period – but this is due to the flawed modeling I discussed above. FPL's refusal to allow energy efficiency to reduce the size of a natural gas power plant is just one of the factors that FPL used to undervalue energy efficiency in its 2014 ten year site plan, and subsequently in

[24] FL PSC Docket No 130199-EI, Order No. FPSC-14-0696-FOF-EU.
[25] FL PSC Docket No 130199-EI, Rebuttal of Terry Deason (FPL). June 10, 2014. Page 41, lines 7-8.

this docket.[26]

Table 4 shows the difference in the number of measures, and Table 5 and 6 shows the difference in the energy and capacity savings using TRC and RIM to define cost-effectiveness.

Table 4. Number of measures included in FPL's FEECA analysis under TRC and RIM tests [27]

	RIM	TRC
With CO^2 Costs	124	301
Without CO^2 Costs	120	300

Table 5. Energy and capacity savings in FPL's FEECA Achievable Potential analysis using TRC Test [28]

	FPL Achievable Potential - Combined (TRC)					
	Summer MW		Winter MW		Annual GWh	
Year	Annual	Cumulative	Annual	Cumulative	Annual	Cumulative
2015	47.4	47.4	38.1	38.1	64.0	64.0
2016	52.2	99.7	41.4	79.5	87.2	151.2
2017	54.2	153.8	43.1	122.6	93.4	244.7
2018	55.6	209.4	44.5	167.2	99.9	344.6
2019	57.1	266.5	46.0	213.2	106.7	451.3
2020	58.6	325.2	47.6	260.8	113.7	565.0
2021	60.2	385.4	49.3	310.1	121.0	685.9
2022	61.9	447.3	51.0	361.1	128.5	814.4
2023	63.6	510.9	52.7	413.8	136.4	950.9
2024	65.5	576.4	54.6	468.4	144.7	1,095.6

Table 6. Energy and capacity savings in FPL's FEECA Achievable Potential analysis using RIM test [29]

	FPL Achievable Potential - Combined (RIM)					
	Summer MW		Winter MW		Annual GWh	
Year	Annual	Cumulative	Annual	Cumulative	Annual	Cumulative
2015	48.1	48.1	29.2	29.2	41.1	41.1

[26] FL PSC Docket No 130199-EI, Direct Testimony of Tim Woolf (Sierra Club).
[27] FL PSC Docket No 130199-EI, Direct Testimony Sim (FPL). Exhibit SRS-5
[28] FL PSC Docket No 130199-EI, Direct Testimony Koch (FPL). Exhibit TRK-6
[29] FL PSC Docket No 130199-EI, Direct Testimony Koch (FPL). Exhibit TRK-6

2016	49.6	97.7	30.0	59.2	45.6	86.7
2017	50.8	148.5	30.9	90.1	47.5	134.2
2018	51.6	200.1	31.5	121.6	49.5	183.7
2019	52.3	252.4	32.1	153.7	51.5	235.3
2020	53.1	305.5	32.7	186.5	53.6	288.9
2021	53.9	359.3	33.4	219.9	55.8	344.7
2022	54.7	414.1	34.1	253.9	58.1	402.8
2023	55.6	469.6	34.8	288.7	60.5	463.3
2024	56.5	526.1	35.5	324.2	62.9	526.3

Q. Did SACE propose energy efficiency goals in the FEECA proceeding?

A. Yes, SACE proposed that FPL achieve 1% of prior year retail sales with energy efficiency. SACE proposed this level of savings because FPL's entire analysis was so flawed, that it could not be used as the basis for goal setting. I discuss these flaws above, and in particular the major flaw that the entire energy efficiency potential study is based on an inappropriate, inaccurate methodology that trickles down to the rest of the analysis.

SACE's energy efficiency goal would have resulted in the company saving over 15,000 GWh more than what FPL proposed (60 GWh) and what the Commission ultimately approved (526 GWh).[30]

Q. Did FPL find that SACE's proposed level of savings would cost less than FPL's proposed goals?

A. Yes. FPL found that the cumulative present value revenue requirement for SACE's energy efficiency goal would cost less than FPL's goal. This is particularly important because SACE's goal was 15,000 GWh more than the Commission approved FPL goal, and it still resulted in lower cumulative present value revenue requirements. Specifically, FPL witness Sim stated, "I would agree the SACE plan is lower in total cost or revenue requirements."[31]

[30] FL PSC Docket 130199. Order No. PSC-14-0696-FOF-EU. Tables 4-6 and 5-1.
[31] FL PSC Docket 130199. Hearing Transcript, Volume 6, page 1488, line 16-18.

Q. How does FPL use the cumulative present value revenue requirement in this proceeding?

A. FPL uses the cumulative present value revenue requirement to determine the best generation option from a cost and electric rate perspective. FPL does not allow DSM to be part of this calculation by holding it constant across each option.

The bottom line is that it is cheaper to operate FPL's system with more efficiency than with less. FPL continues to refuse to acknowledge this by falling back on to the argument that lost revenues, or "unrecovered revenue requirements" as FPL likes to call it, increase rates. However, the critical piece of knowledge that FPL refuses to discuss is that "unrecovered revenue requirements" result from policy decisions, not from resource decisions. The costs can be avoided or mitigated with minor changes to FPL's business model. These minor changes would result in a cleaner, cheaper, more efficient electric system.

Q. What are your conclusions in this regard?

A. Quite simply, FPL had the opportunity to seek and obtain much higher levels of energy efficiency, at a much lower cost than building new power plants, like the OCEC Unit 1, and did not do so. Thus, FPL, and more importantly its customers, missed out on more cost effective alternatives.

V. CONCLUSION

Q. Please summarize your conclusions.

A. In conclusion, I recommend that the Commission deny FPL's petition for affirmative determination of need of OCEC Unit 1. The Company has failed to demonstrate: (1) that OCEC Unit will maintain or enhance FPL's fuel diversity; (2) that all conservation measures are being utilized to the extent reasonably

available; (3) that there are not additional conservation measures reasonably available to it and its customers that might mitigate the need for the proposed OCEC Unit 1; and (4) that OCEC Unit 1 is the most cost-effective option its customers.

Q. Does this conclude your testimony?

A. Yes.

NATALIE A. MIMS

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RELEVANT WORK EXPERIENCE

MIMS CONSULTING, LLC
Principal, April 2015 - current

SOUTHERN ALLIANCE FOR CLEAN ENERGY
Energy Efficiency Director, January 2013 - current
Earlier position: Energy Policy Manager, October 2010– December 2012

- Testifies as expert witness before the Public Service Commissions on energy efficiency cost recovery, program plans and financial incentive mechanisms in Georgia, North Carolina and South Carolina
- Responsible for ongoing energy efficiency portfolio and program level quantitative and qualitative research and analysis of major utilities in the Southeast
- Track and participate in energy efficiency regulatory proceedings. Current regulatory proceedings include IRP, cost-recovery filings, energy efficiency program pilots and existing program modifications
- Responsible for reviewing and writing comments and/or testimony for all major energy efficiency regulatory proceedings for utilities in Tennessee, North and South Carolina, Georgia and Florida
- Responsible for managing energy efficiency staff and establishing and implementing efficiency strategy for the SACE
- Assists in development/fundraising to ensure energy efficiency work funded in upcoming years
- Lead participant for SACE at TVA, Duke Energy and Georgia Power energy efficiency working groups

ROCKY MOUNTAIN INSTITUTE
Senior Consultant, July 2009 – October 2010
Earlier positions: Intern, Fellow, Analyst, and Consultant October 2004- July 2009

- Project manager for nine-person team creating energy efficiency component of national analysis to eliminate US fossil fuel consumption by 2050
- Project manager for company-wide energy efficiency strategy and development
- Lead on energy efficiency analysis for major southeastern IOU low-carbon strategy
- Lead author on published national analysis on electric productivity
- Member of senior leadership of Energy and Resources Team at the organization. Contributed to team strategy, resource planning and staffing for 12-20 person team and hiring as well as organizational professional development strategy
- Contributed to writing Hawaii Energy Strategy 2007 and planning Hawaii Biofuels Summit Contributed to RMI filings in Energy Efficiency docket before Hawaii Public Utility Commission
- Participated in Hawaii Energy Policy Forum Energy Efficiency working group
- Significant contributor to consulting and research projects including: national and state energy policies, utility revenue adjustment mechanisms, utility regulatory structures, private sector investment in energy efficiency, corporate carbon management strategy, renewable energy market assessments, large and small scale sustainable development projects, Hawaii agricultural sustainability barriers and solutions

PUBLICATIONS

- Legislative Options to Improve Transportation Efficiency. November 2005, RMI.
- Feebates: A Legislative Option to Encourage Continuous Improvements to Automobile Efficiency. February 2008, RMI.

- Plug-In Hybrid Electric Vehicles and Environmentally Beneficial Load Building: Implications on California's Revenue Adjustment Mechanism, Presented at Association of Energy Service Professionals Conference, January 2008.
- Industrial Electric Productivity: Myths, Barriers, & Solutions. Presented at ACEEE Industrial Summer Study, July 2008.
- Assessing the Electric Productivity Gap and the U.S. Efficiency Opportunity. Presented at IEPEC, August 2009.

EDUCATION

MASTER OF ENVIRONMENTAL LAW & POLICY
Vermont Law School, South Royalton, Vermont
August 2004

- Relevant coursework includes: Environmental Justice, Environmental Law, Land Use, Water Law, Federal Natural Resource Law, Comparative Methods of Dispute Resolution, Environmental Law Principles, Extinction: The Endangered Species Act, Legal Research & Writing, Ecology
- Activities: Solutions Conference 2004

B.A. ENGLISH & B.A POLITICAL SCIENCE
The Pennsylvania State University, State College, Pennsylvania
May 2002

- Honors: Blue & White Scholarship; Dean's List five semesters; National Collegiate Honor Scholar
- Relevant coursework includes: Economics, Social & Developmental Psychology
- Activities: Shaver's Creek Outdoor School Camp Counselor, May 2001

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June 26, 2013

Tom Ballinger, Director
Division of Engineering
2540 Shumard Oak Blvd.
Tallahassee, FL 32399-0850

Dear Mr. Ballinger,

SACE wishes to thank Commission staff for holding an informal meeting on June 17th to discuss how to make the upcoming FEECA process more transparent and administratively efficient. In the spirit of that goal, we offer the following comments on the ideas and discussion that took place at the meeting to Commission staff and the parties that attended the meeting.

Quality Technical Potential Study

In 2009, Itron conducted the base technical potential study to determine the energy efficiency potential of the FEECA utilities. Based on the June 17th FEECA meeting, this study will be updated as part of the upcoming FEECA proceeding. SACE is concerned about the methodology that will be used to update this information. The concerns are twofold. First, we are concerned about what the source for the updated cost and deemed savings is; and second that the utilities will not update the cost and deemed savings for each measure using a uniform methodology. Both of these issues, if not appropriately addressed will result in an opaque and inaccurate representation of the technical potential for energy efficiency by FEECA utilities. We encourage the Commission staff to provide clear direction to the utilities about the sources for updating the cost and deemed savings for measures, and the methodology to do so; or request that the utilities hire a third party to update the entire catalog of measures to ensure it is done in a uniform fashion.

Additionally, the utility parties have provided a deadline of July 5th for SACE to submit any new measures for consideration in the technical potential study along with Florida-specific savings and cost data. SACE reviewed the measures from the 2009 energy efficiency potential study and compared them to TVA[1] and Georgia Power's[2] recent energy efficiency potential studies. There are many measures that appear to have been excluded from the 2009 Itron energy efficiency potential study that were included in the TVA and Georgia Power energy efficiency potential study. SACE has provided a list of these measures in Appendix 1, but will not be able to provide more detailed information beyond what is included in the TVA and Georgia Power potential

[1] Tennessee Valley Authority Potential Study, Final Report, December 21, 2011. Global Energy Partners, available at http://www.tva.gov/news/releases/energy_efficiency/GEP_Potential.pdf
[2] Achievable Energy-Efficiency Potentials Assessment, Submitted to Georgia Power Company by Nexant, January 31, 2012, available at http://www.psc.state.ga.us/factsv2/Document.aspx?documentNumber=140174

studies. As these measures were included in energy efficiency potential studies that were completed in 2011 and 2012, it seems reasonable to assume that an update to the Florida utilities' energy efficiency potential study will also include these measures as part of a thorough analysis, and should not rely on stakeholders to provide this information to the companies. Finally, as SACE pointed out during the 2009 FEECA proceeding, there are a number of energy sectors that were excluded from the energy efficiency potential study. We have also identified these in Appendix 1, and trust that the utilities will include energy efficiency measures for these sectors in the 2013 energy efficiency potential study.

Transparency in the Economic and Achievable Potential Analysis

In the past, SACE has expressed its concern about Florida utilities using a two year measure payback as a proxy for free ridership. As we have mentioned many times, this methodology is not used by other utilities in the Southeast, and results in an incomplete picture of energy efficiency savings. Based on the informal FEECA meeting on June 17th, it is our understanding that staff has asked the utilities to provide the economic potential, including kWh savings, and RIM and TRC scores for all measures as part of their testimony in the next FEECA docket. If this is not correct, please notify us as soon as possible. While staff's request to the FEECA utilities for a sensitivity analysis of 1 year and 3 year paybacks mitigates the lack of transparency of the 2 year payback screen, we believe that there should be a sensitivity analysis without screening out any measures related to customer payback assumptions. Such an analysis will promote full transparency and will fully inform the Commission on the complete universe of measures at a utility's disposal to meet conservation goals.

Consistent CO^2 Sensitivities

The FEECA statute requires that the Commission to consider costs imposed by state and federal regulations on the emission of greenhouse gases.[3] The staff's suggestion that the base case sensitivity be a zero dollar amount is inconsistent with utility filings in other dockets that utilize sensitivities for CO^2 emission compliance. For example, DEF uses CO^2 sensitivities ranging from $20 to $82 dollar a ton in the year 2020 in this year's nuclear cost recovery clause docket.[4] Using a base case of zero in the FEECA docket unfairly undermines the value of efficiency measures in this docket. Fundamental fairness and consistency dictate that CO^2 sensitivities used for supply side resources as well as demand side resources be judged under the same standard.

DSM Financial Incentives

SACE supports the use of DSM financial incentives for meeting meaningful goals in a cost-efficient manner. Investor-owned utility directors and executive officers have a fiduciary duty to maximize shareholder value. Investor-owned utilities do not earn a rate of return on efficiency implementation in Florida. Moreover, efficiency measures delay or displace the need for new supply side generation on which utility shareholders earn a return. Therefore, there is a distinct regulatory disincentive for an investor-owned utility to deliver meaningful cost-efficient energy efficiency services unless they can provide value to its shareholders. Properly designed energy

[3] §366.82(3)(d), Fla. Stat.
[4] Direct Testimony of Chris Fallon, Docket No. 130009, (CMF-4) p. 11 of 18, May 1, 2013.

efficiency incentives can place demand side resources on a regulatory "level playing field" with supply side options.

We look forward to working with the Commission staff and other parties to ensure a fair, transparent, and administratively efficient FEECA proceeding.

Sincerely,

Natalie Mims, SACE Energy Efficiency Director

George Cavros, Attorney for SACE

Attachment 1: List of Measures and Sectors to be Included in 2013 Energy Efficiency Potential Study

1) Residential Measures

- Interior and exterior LEDs
- Interior and external halogen
- T-5, Super T-8
- Occupancy sensors
- Efficient ballasts and fixtures
- Attic Fan
- Ceiling Fan
- Whole house fan
- De-humidifer
- Room AC SEER 10.8 (energy star)
- AC SEER 21
- Central AC ductless mini split
- Heat pump ductless mini split
- Geothermal heat pump EER 14.1, 16, 18, 30
- Heat pump SEER 19
- Duct sealing (could be part of duct repair, don't know)
- Locate ducts in insulated space
- New construction insulation (foundation, wall sheathing, wall cavity)
- Storm and thermal doors
- Refrigerator, freezer, dishwasher high efficiency versions beyond energy star
- Compact freezer
- Compact refrigerator
- Stoves
- Programmable thermostats
- Room air cleaner
- Printer/fax/copier
- Pool heater
- Hot tub pumps and heaters
- Well pump
- Hot water saver
- Solar hot water with peak period lock out
- Refrigerator, freezer and room AC recycling
- Smart strip surge protection
- Energy Star Home
- Behavior changes from utility provided information

2) Commercial Measures

- Building commissioning (in the measure list there is refrigerator commissioning)
- T-5, super T-8
- LEDs

- HID lighting
- Delamping and reflectors
- Daylighting
- Dimmable ballasts
- Indoor lighting controls
- Task lighting
- Air cooled chillers
- Duct less mini split for rooftop AC
- Rooftop heat pump EER 9.3 -12
- Heat pump maintenance
- Rooftop AC EER 11.2, 12
- Chiller economizer
- Energy Management System
- Programmable thermostats
- Hotel guest room controls
- Plug load occupancy sensors
- Pool Pump timers
- Refrigerator recycling
- Refrigerator door gasket replacement
- High efficiency windows
- Hot water saver
- Hot water pipe wrap
- Hot water high efficiency circulation pump
- Icemaker
- Hot food container
- Ventilation hoods
- Steamers
- Griddle
- POS terminal
- Dishwasher
- Server
- Pool pump
- Pool heater
- Elevator motor
- Data center virtualization
- Clothes washers
- Clothes dryers
- Refrigerated vending machines

3) Industrial Measures

- Properly sized fans
- Synchronous fans
- HVAC improved controls
- HVAC Recommissioning

- Efficient lighting
- Lighting controls
- Plant Energy Management
- Transformers
- Motor management plan for air compressors and other motors

4) Sectors omitted from 2009 FEECA energy efficiency potential study

- Agriculture
- Transportation, communications and utilities
- Construction
- Outdoor lighting
- Street lighting