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October 3, 2016

Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, FL 32399

Re: 2015 Ten Year Site Plans

Dear Commissioners and Staff:

Thank you for the opportunity to Southern Alliance for Clean Energy (SACE) to provide written comments on the utilities' 2016 Ten Year Site Plans and opportunities for providing additional customer value.

SACE is a non-profit, non-partisan clean energy group that advocates for lower cost, lower risk resources in meeting electricity demand. That includes moving away from high risk, high cost resources such as coal, and diversifying the state's energy mix into resources with vast potential – such as capturing more energy efficiency and integrating higher levels of clean, abundant and low cost solar power.

SACE supports policies and plans that meaningfully increase rooftop solar, larger commercial installations, and utility-scale solar. They are all part of a healthy solar market. Solar energy benefits Florida by diversifying its resource mix to include a resource that presents no long-term cost risk, an important hedge against the likelihood that natural gas fuel prices will increase over time. Furthermore, solar arrays require no water for generation and produce no emissions subject to regulatory abatement.

All forms of solar power are seeing continuing price drops, with utility scale power purchase agreements now being signed at 3.5 to 5 cents per kilowatt hour (kWh).ⁱ Even though Florida is one of the largest states, it ranked just 18th in total megawatts of solar installed in 2015.ⁱⁱ As it relates to utility-scale solar, there is a significant and growing opportunity to expand and bring Florida to the forefront of this industry where it belongs.

SACE recommends that the Commission require the utilities to study supply-side solar as a resource, and provide for more market entry for supply-side solar projects. To that end, we offer several recommendations below.

Require utilities to study solar as a supply-side resource in the resource planning process

To establish effective market competition and Commission regulatory oversight of solar energy supply decisions, the Commission should reform resource planning rules. Florida's current planning requirements include four steps: the Ten-Year Site Plan (TYSP); Request for Proposal (RFP) process; Need Determination; and Site Certification. Solar power projects under 75 MW are effectively exempt from these steps, except for a requirement to revise the TYSP to include those projects (but there is no clear deadline for such revisions as discussed below).

Utility resource plans are required to be described in an annual TYSP, which has extensive information and data requirements. The TYSP is submitted to the Florida PSC annually by electric generation utilities with a generating capacity greater than 250 MW.ⁱⁱⁱ The Commission reviews the plans within nine months following submission and reports its findings, along with any comments or recommendations, to the Florida Department of Environmental Protection and the utilities filing a plan. The Commission also creates a statewide TYSP from the provided information.

The Commission makes a preliminary study of each plan and classifies it as "suitable" or "unsuitable." It should be noted that "suitability" has not been defined in statute or rule, but unsuitability may be remedied by the utility providing additional data.^{iv} The Commission may suggest alternatives to the plan. It is recognized that 10-year site plans submitted by an electric utility are *tentative information* for planning purposes only and may be *amended at any time at the discretion of the utility*.^v

For any planned generating unit over 75 MW, the utility initiates regulatory oversight when the unit is identified as the utility's next planned generating unit in a TYSP revision. Until that point, any discussion of a planned generating unit is merely informational and does not appear to have any regulatory significance. Identification of the next planned generating unit is important for a number of reasons, including the practice of basing the avoided capacity rate in standard offer contracts on the next unit (and not, for example, on the opportunity to defer subsequent units or change the type of the next unit). Even more important is that Commission rules identify this unit as the benchmark for the alternatives analysis.

The only requirement for a Florida utility to consider alternatives to the next planned generating unit is the Commission's rule requiring a RFP process for projects over 75 MW. According to that rule, "The use of a RFP process is an appropriate means to ensure that a public utility's selection of a proposed generation addition is the most cost-effective alternative available."^{vi} The Commission's rules do not provide for any public review of the alternatives analysis.

However, by benchmarking alternatives against the "price and non-price attributes of its next planned generating unit," the RFP rule effectively excludes any requirement for the utility to consider alternative configurations of technology that might be more cost-effective in the long-term. FPL's RFP for 1,052 MW (March 16, 2015) provides a good example of how alternative resources are disadvantaged by such a benchmark process. Under the terms of the RFP, any proposed resources were compared to FPL's Next Planned Generating Unit, the Okeechobee Clean Energy Center, a 1,622 MW combined cycle natural gas plant.^{vii}

According to the RFP, the “firm capacity and energy proposed” must be “fully dispatchable under the operational control of FPL” which would operationally exclude solar PV resources from providing even a portion of the energy, not to mention any firm summer capacity.^{viii} In short, the RFP process is not capable of evaluating any alternative that is not a one-for-one replacement of the company’s next planned generating unit and thus does not ensure that the selected resource is the most cost-effective means to meet the utility’s identified resource needs.

Of course, Florida’s utilities do undertake a more comprehensive analysis of resource needs beyond that in the RFP, utilizing what is *presumed* to be a thorough IRP analysis including consideration of resource alternatives through a computer model optimization process. However, this process is not available to the public for review during either the TYSP or the RFP process. It is only when the results of the RFP process are made known,^{ix} and a request for a need determination is made, that the utility’s assumptions and methods for considering alternatives can be evaluated by interested parties and the Commission.

This review is ill-timed. By the time that a utility files a request for a need determination, the utility has likely waited until what it views as the last possible moment for building the power plant. At this point, the utility has constrained its options due to schedule and potentially missed opportunities. While significant changes can and have been made, they are typically substitutions of like resources, such as the recent Duke Energy Florida substitution of a purchase of an existing combined cycle gas plant for construction of a new combined cycle gas plant.

Together these policies form a less than coordinated state planning process. The assumptions used in the utility resource planning process are only revealed through intervention and discovery in a need determination (or FEECA) proceeding. Moreover, the Ten Year Site Plan process does not provide opportunities for stakeholder input of the type found in other Southeastern states’ IRP processes. The benefit of an integrated resource plan (IRP) is that it allows for meaningful stakeholder involvement and the consideration of alternate planning scenarios, which tends to place all resources on a “level playing field.” Hence, Florida customers may be shouldering unnecessary costs from a less than optimal resource planning process, and the policies and programs recommended here would help to ensure that utilities are pursuing the most effective, least-cost options for electricity generation.

In order to promote the development of supply-side solar systems, the Commission could initiate a rulemaking to revise the Ten-Year Site Plan process to incorporate best practices for integrated resource planning.^x Of particular interest would be the opportunity to ensure that the characterization of the cost and performance of solar resources is reasonable and unbiased, that the study methods are also themselves free of unreasonable bias, and that the Company leverages the resource planning process to properly evaluate a variety of market-supplied and self-build resource alternatives. To effectuate such reforms, the Commission could revise its rules to require a periodic review of the utility’s entire IRP (such as every two years) or could require a utility to submit its IRP for review at least two years in advance of an anticipated certification proceeding.

Establish a process for selecting cost-effective solar resource projects, including RFPs

Even if a Florida utility determines that solar resources are the most cost-effective available, it is not clear under what Commission rules a utility would request a determination of need. As discussed above, for any solar facility 75 MW or greater, §403.503, Fla. Stat. requires a determination of need by the Commission. However, Commission rules only prescribe the content of petitions for “Fossil, Integrated Gasification Combined Cycle, or Nuclear Fuel Electric Plants.”^{xi}

SACE recommends that the Commission initiate a rulemaking proceeding to revise Chapter 25-22 to incorporate a process for a need determination for renewable energy resources, particularly solar, taking into consideration differing performance characteristics. For example, a utility may reasonably wish to seek a determination of need for a large solar (or other renewable resource) facility solely on the basis that the capital investment will result in a more cost-effective method of supplying electricity to its customers, even in the absence of a need for capacity. The investment may help to defer fuel, operating and maintenance costs, or free up energy for resale to other utilities during peak periods, resulting in an overall cost savings. We also recommend that the Commission identify best practices, such as long-term contracts, similar to the Gulf Power solar PPAs, that ensure the competitive solicitation process results in the most cost-effective outcome. For example, in order to meet a need (or cost-effective opportunity) for solar power in excess of 75 MW, a utility might choose a reverse auction mechanism to, as SEIA describes it, “ensure that developers are paid a price that is sufficient to bring projects online, but also provide ratepayer protection against “overpayment.”^{xii}

Furthermore, we would recommend that the Commission make this RFP process available, and encourage its use, for all utility-scale solar projects. Economies of scale for utility-scale projects are often achieved at 20 MW, and few projects are constructed over 100 MW in scale (particularly in a landscape with as much land use variety and constraint as Florida). Thus, the 75 MW threshold for a need determination is an unwieldy threshold for triggering the opportunity to utilize a RFP process or obtain clear approval from the Commission for the costs and prudence of a substantial generation facility.

Solar standard offer contract

We recommend the establishment of a solar-specific standard offer contract, including a contract avoided cost rate, for solar Qualifying Facilities with a capacity of up to 5 MW. Florida rules and utility practice effectively exclude small solar projects from realizing the benefits of the standard offer contract available to other small power generators under the federal Public Utility Regulatory Policies Act (PURPA). PURPA is meant to increase energy independence in the United States by requiring states to establish the prices retail utilities must pay to third-party renewable energy developers – thus giving small developers a market for their power.

Yet, in practice in Florida, solar Qualifying Facilities are ineligible for any capacity payment due to the minimum performance standards for the delivery of firm capacity.

The system size in the standard offer contract is limited to a mere 100 kW.^{xiii} Developers tell us

that there is great interest for projects larger than this limit. In fact, it is not unusual for business customers to install larger systems, either through a developer or with their own financing. However, these customers may not wish to enter into expensive negotiations with the utility, and will desire a streamlined process such as a meaningful standard offer contract may provide.

If a solar developer does wish to negotiate a contract for a solar project over 100 kW, such contracts are entirely at the utility's discretion. There is limited legal basis for any party to challenge a utility's decision to refuse a contract, even if it is at the same time negotiating another similar contract at a higher price.

Policies such as these will help Florida realize more solar potential at the utility scale level. The Florida Reliability Coordinating Council's (FRCC) presentation during the Ten Year Site Planning Workshop show solar expanding in Florida by only 1445 MW in the next ten years. By comparison, nearly half that amount is already installed on Georgia Power's system, and up to 1900 MW more of renewable energy may be added by 2021. Florida has greater solar potential than our neighbor to the north, and we ought to ensure that this state's policies do not create an unnatural barrier to taking advantage of our vast potential.

Moving away from coal

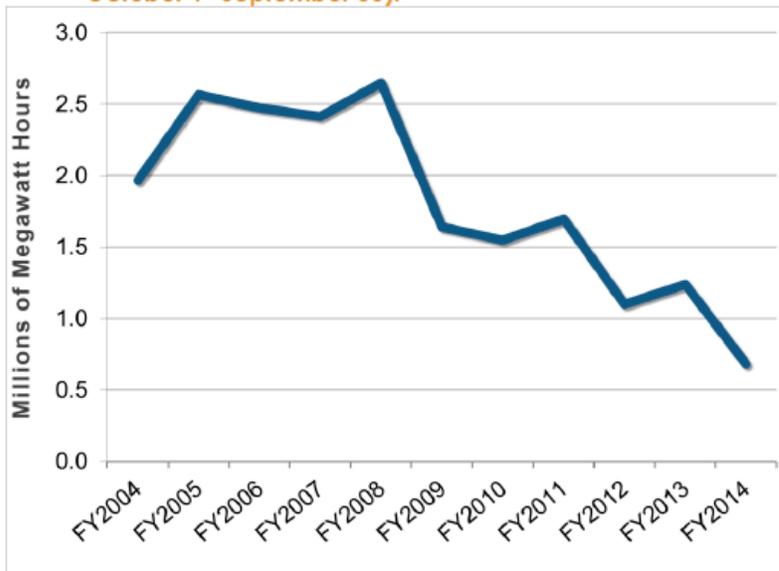
Many of the state's coal-fired power plants remain in the utilities' Ten Year Site Plans through the planning period.

This assumption is worth taking another look at, as keeping coal plants online is actually subject to a number of risks. There is good reason to plan for the case that the end of a unit's useful life falls within the next ten years. Utilities should demonstrate that they have factored these risks in, and publicly disclose scenarios in which coal-fired units are taken offline, including the relative costs of retirement compared with the continued costs and associated ratepayer risks of maintaining a coal-fired unit.

Coal is becoming a more costly choice. Coal-fired power plants have been dispatched less frequently for a number of reasons, but primarily because they are not cost-effective relative to natural gas-fired power plants. Yet many operational costs of coal plants accrue whether the plant runs or not. As a result, the cost per megawatt-hour (MWh) tends to increase when plants are run less frequently.

C.D. McIntosh Unit 3, a coal-fired unit operated by Lakeland Electric (and co-owned with Orlando Utilities Commission), exemplifies this trend. In a report commissioned by SACE, David Schlissel provides the following chart showing declining power production at the plant.^{xiv}

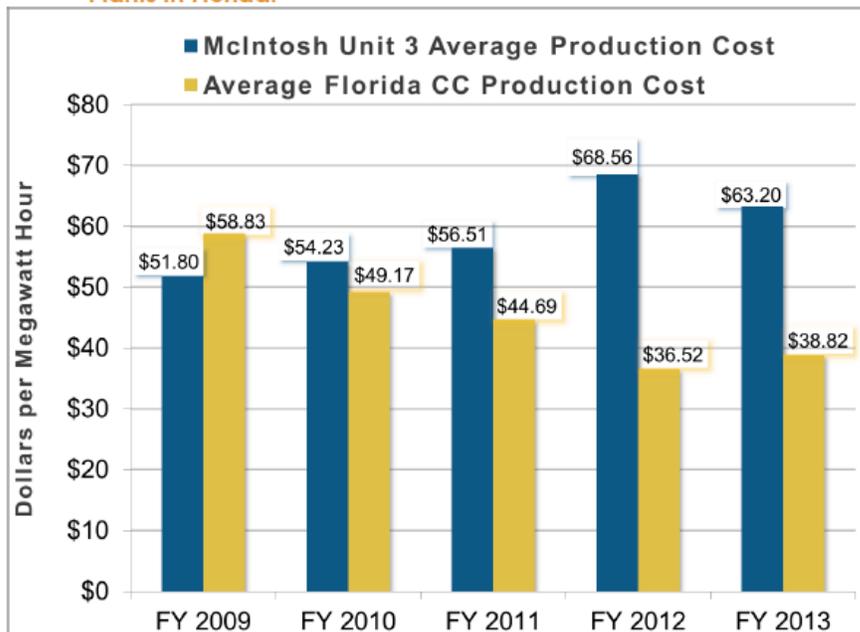
Figure 1: McIntosh Unit 3 Annual Generation in Megawatt Hours, 2004-2014 (Fiscal Years October 1- September 30).¹



¹ The October 1 through September 30 Fiscal Years shown in Figures 1 and 2 are used in the annual utility reports published by Lakeland Electric and OUC.

The report also compares the rising cost of operating the plant with the falling cost of power available on the Florida market from natural gas.

Figure 11: Average Production Costs - McIntosh Unit 3 vs. Natural Gas-Fired Combined Cycle Plants in Florida.⁶



Competition may not fully explain the reduced dispatch rate. The report also notes that the Equivalent Forced Outage Rate for the plant is unusually high; this suggests substantial maintenance issues, and in fact subsequent to the publication of this report, Lakeland Electric took the plant out of service for maintenance for months. While these issues may be plant-specific; their significant presence at this plant, one of Florida’s newer coal-fired plants, adds

to the need for caution in relying on coal-fired plants far into the future.

Adding to the lack of cost competitiveness are regulatory compliance liabilities. The regulations provide much needed public health and environmental protections for Floridians. Yet, in order to comply with these standards, many plants will need significant upgrades.

For example, Gulf's Crist units 4 and 5 and JEA's Northside units use once-through cooling systems that suck massive amounts of water from the river and return most of it to the water body at a higher temperature. Both should anticipate that in the plant's next water permitting cycle, that the plants will need to make provisions to reduce thermal impacts, likely by adding a cooling tower, upgrades with costs in the hundreds of millions of dollars.^{xv}

A cooling tower would also help meet modern standards for prevention of fish, fish eggs, and other wildlife from getting caught or sucked into the plant's intake, another regulatory obligation under section 316b of the Clean Water Act (CWA), which will apply upon renewal of the units' NPDES permits.

Meanwhile, Tampa Electric has already applied for cost recovery of \$400,000,^{xvi} just to study what will be needed to bring its Big Bend plant into compliance with new Effluent Limitation Guidelines (ELGs), which will come into play in its next CWA permit cycle. With such significant costs just for the studies, one can safely anticipate that the cost of actually converting to dry ash handling, and controlling heavy metals in the discharge water, will be significant, possibly enough to make retirement a more cost-effective option.

Coal cost risks are further increased by the need to comply with the federal Coal Combustion Residuals Rule (CCR Rule or Coal Ash Rule), which is a particular challenge for Florida coal plant operators. By 2018, operators will need to show their ash storage is not compromised by locational factors such as sinkhole-prone geology, proximity to aquifers, or being in a floodplain. Many Florida plants may be unable to comply due to Florida's geology, and may face the costly alternative of shipping the ash out of peninsular Florida.

Plant McIntosh is once again a salient example. Although dry ash storage is already in use at the site, a recent hydrogeological study found the likelihood that at a sinkhole will form under the ash landfill. Such a sinkhole could drop ash and contaminated groundwater into the Floridan aquifer. Groundwater flows in the area, as well as the presence of nearby sinkholes including at least two on the plant property, were used to determine this likelihood.^{xvii,xviii}

Utilities' and FRCC's presentations at the Ten Year Site Plan workshop on September 14, 2016 indicated that impacts of the Clean Power Plan on generation choices would be addressed in the future, once federal courts resolve the challenge of the rule. We strongly urge utilities not to wait, as there are no-regrets clean energy choices that can be made now. Nevertheless, the Clean Power Plan is just one of many upcoming public health and environmental protection rules that utilities will need to address; as we outline here, there are others that will impact prudent decision-making in the resource planning process.

Conclusion

It is prudent to investigate these risks now, and research alternatives. Piecemeal decision-making needlessly exposes Florida's families and business to higher priced power while also robbing them of the wide-ranging benefits of clean water and clean energy resources that are at record low prices.

SACE appreciates the opportunity to offer these comments and looks forward to working with the Commission and its staff in the resource planning process and associated dockets to reduce customer risk and realize additional value for customers.

Sincerely,

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/s/ Amelia Shenstone

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ⁱ Solar Energy Industries Association/GTM Research, *Solar Market Insights 2016, Q3*, September 12, 2016, at <http://www.seia.org/research-resources/solar-market-insight-report-2016-q3>

ⁱⁱ *Id.*

ⁱⁱⁱ R. 25-22.071, F.A.C. Pursuant to Rule 25-22.071(1), F.A.C., only generating electric utilities with an existing capacity above 250 megawatts (MW) or a planned unit with a capacity of 75 MW or greater are required to file with the Commission a Ten-Year Site Plan, at least once every two years. In 2014, 11 utilities met these requirements and filed a Ten-Year Site Plan, including 4 investor-owned utilities, 6 municipal utilities, and 1 rural electric cooperative. The investor-owned utilities, in order of size, are Florida Power & Light Company (FPL), Duke Energy Florida, Inc. (DEF), Tampa Electric Company (TECO), and Gulf Power Company (GPC). The municipal utilities, in alphabetical order, are Florida Municipal Power Agency (FMPA), Gainesville Regional Utilities (GRU), JEA (formerly Jacksonville Electric Authority), Lakeland Electric 8 (LAK), Orlando Utilities Commission (OUC), and City of Tallahassee Utilities (TAL). The sole rural electric cooperative filing a 2015 Plan is Seminole Electric Cooperative (SEC). Collectively, these utilities are referred to as the Ten-Year Site Plan Utilities (TYSP Utilities).

^{iv} *Id.*

^v § 186.801(2), Fla. Stat.

^{vi} R. 25-22.082, F.A.C.

^{vii} Florida Power & Light Company, *2015 Request for Proposals to Meet Generation Capacity Needs Beginning in 2019*, p. 40.

^{viii} *Id.*, p. 5.

^{ix} A utility's IRP analysis may also be obtained during the goal-setting proceeding under the Florida Energy Efficiency and Conservation Act (FEECA), which occurs every five years. However, utility-scale solar generation is not within the scope of that proceeding.

^x Rachel Wilson and Bruce Biewald, *Best Practices in Electric Utility Integrated Resource Planning: Examples of State Regulations and Recent Utility Plans*, Regulatory Assistance Project (June 2013).

^{xi} R. 25-22.081, F.A.C.

^{xii} Solar Energy Industries Association website. For example, California Public Utilities Commission's Renewable Auction Mechanism.

^{xiii} R. 25-17.250, F.A.C. *See also* R. 25-17.0825(1)(b), F.A.C. (Those qualifying facilities wishing to negotiate a contract for the sale of firm capacity and energy with terms different from those in a utility's standard offer contract may do so pursuant to subsection 25-17.0832(2), F.A.C. Where parties cannot agree on the terms and conditions of a negotiated contract, either party may apply to the Commission for relief pursuant to Rule 25-17.0834, F.A.C.)

^{xiv} Schlissel, David, *The Time is Right to Retire C.D. McIntosh Unit 3*. Institute for Energy Economics and Financial Analysis, October, 2015, at: <http://ieefa.org/study-concludes-costly-coal-plant-in-lakeland-fla-should-be-retired-in-favor-of-solar-expansion-and-energy-efficiency-initiatives/>. Attached.

^{xv} Section 316a, Clean Water Act

^{xvi} Tampa Electric Company, *Petition of Tampa Electric Company for approval of a new environmental program for cost recovery through the Environmental Cost Recovery Clause*, Florida PSC Docket No.160027. Filed Feb. 2, 2016.

^{xvii} Diana Csank, *Memorandum to Joel Ivy, General Manager, Lakeland Electric Re: Lakeland Electric Should Cease Burning Coal and Clean Up the CCR at McIntosh Unit 3 for Economic, Regulatory, and Public Health Reasons*, January 25, 2016. Attached.

^{xviii} Stewart, Mark. *Preparing for the U.S. Environmental Protection Agency's Coal Combustion Residuals Rule: Technical Assessment of the C.D. McIntosh, Jr. Power Plant CCR Storage and Disposal Facilities*, January 25, 2016. Attached.