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Public Service Commission  
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CC: Traci Matthews  
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Re: Comments on 2013 Ten-Year Plan Submittals

Dear Mr. Ellis and Ms Matthews:

Thank you for accepting these comments on behalf of the Sierra Club and its nearly 27,000 Florida members and on behalf of Earthjustice. We appreciated the opportunity to participate in the Public Service Commission (PSC)'s Ten-Year Plan review process in 2012, and are happy to continue our participation this year.

In last year's comments,<sup>1</sup> we asked that the PSC consider the implications of the retirement of Duke (then Progress) Energy's Crystal River Units 1 & 2, and of Gulf Power's Lansing Smith Units 1 & 2. We advised the PSC that the units had significant environmental compliance obligations which rendered them noneconomic to run in the near-term, but that neither company had included full analysis of that possibility in its submittal.

We appreciate that the PSC addressed these retirement issues in its review of the 2012 plans. *See, e.g., PSC, Review of the 2012 Ten-Year Site Plans ("2012 Review")* at 3. We respectfully submit that that analysis should continue in further depth this year because both utilities have now confirmed our retirement predictions from last year. Duke has committed to retiring Crystal River 1 & 2 for economic reasons and Gulf, though it has not made a final decision, has deferred further environmental compliance work on Lansing Smith and has requested PSC approval for transmission upgrades which would allow for Lansing Smith 1 & 2 to shut down.

In its review, the PSC assumed that the capacity of these retiring units would be replaced by natural gas, which would increase natural gas's share in Florida's electric generation to 62.9% by 2022 (up from 56.7% without the retirements, and from 57.7% in 2011). *Id.* The PSC states that it views "the growing lack of fuel diversity" within Florida as a "major strategic concern." *Id.* at 39. Although we certainly welcome the retirements of these dangerous coal plants, we share this fuel diversity concern: Undue dependence on natural gas leaves the state overly vulnerable to fuel price volatility, even as potential LNG exports and other shifts in the gas market seem likely to increase gas prices in the medium term. For this reason, we strongly suggest that the PSC consider planning scenarios which employ other, less risky, resources to make up some or all of the share of generation now served by the retiring plants.

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<sup>1</sup> Attached as Exhibits 1 & 2, for your reference.

In particular, we believe that demand-side management measures, including energy efficiency, other demand response programs, and demand-side renewable energy, can make up a significant portion of any resource gap left by the likely retirements. Increased supply side renewable energy can also increase the diversity of the state's resource mix. Because the PSC will be considering new goals for both Duke and Gulf under the Florida Energy Efficiency and Conservation Act (FEECA) this year, this is a particularly good time to develop the data needed for sensible planning.

## I. Coal Retirements

Both Duke and Gulf have confirmed that retirement is likely in the cards for their economically vulnerable plants, though Duke has gone further and confirmed that Crystal River 1 & 2 will certainly retire. Duke appears to be planning to address these retirements largely through adding new generating capacity. Gulf intends to rely on power imports in the near term.

### *Duke/Progress*

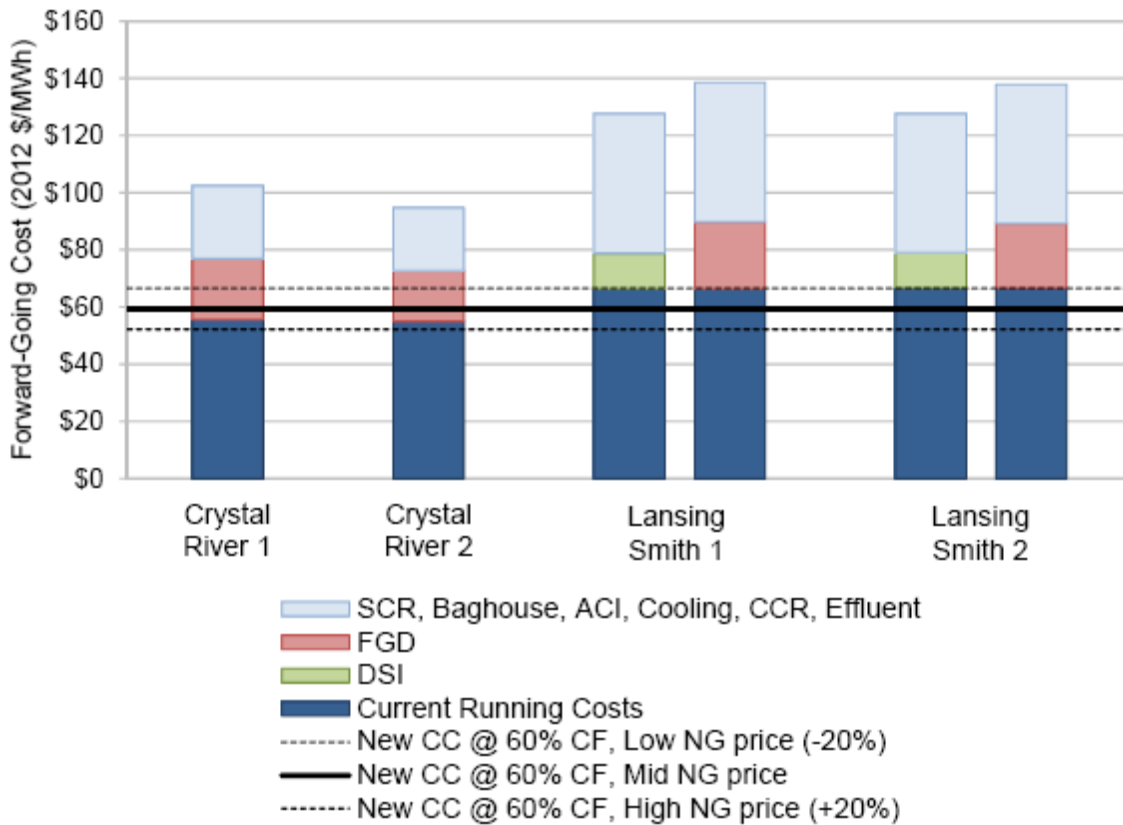
Duke has confirmed “expected retirement of Crystal River 1 & 2 in 2016.” Duke TYSP at 3-2. As Duke explains in testimony filed in the Environmental Cost Recovery Docket, the lifecycle projected system cost for retiring units 1 & 2 is far lower than the cost of retrofitting the units to comply with environmental compliance obligations: The difference between the retirement and retrofit scenarios is \$ 1.32 billion in Duke's base case analysis; retrofit is unfavorable only in the extremely unlikely case of very high gas prices and no CO<sub>2</sub> regulation. Direct Testimony of Benjamin M. H. Borsch on Behalf of Progress Energy Florida (Apr. 1, 2013) at 4, Docket No. 130007-EI; *see also* Progress Energy Florida, *Review of Integrated Clean Air Compliance Plan* (Apr. 1, 2013) (“*Duke Compliance Plan*”) at 25-26.

To be sure, Duke has held out the option of making short-term fuel mix adjustments which might allow the units to continue operating, perhaps as long as 2020. *Duke Compliance Plan* at 21. Continued operation would plainly be economically imprudent. As we demonstrated in our comments and workshop presentation on last year's plan, and as the figure below shows, the Crystal River units already verge on noneconomic when compared even against the substantial expense of constructing a new combined cycle natural gas plant to replace their capacity, much less against more sensible options, including demand side programs.<sup>2</sup>

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<sup>2</sup> This figure is drawn from our 2012 workshop presentation and is based on work by Synapse Energy Economics, using public cost estimates from the Energy Information Administration's cost reporting forms and the EPA's Integrated Planning Model, developed by Sargent & Lundy.

## Forward Going Costs of Existing Coal Units and Probable Environmental Controls



Because Crystal River 1 & 2 are uneconomic by almost any measure (as Duke acknowledges), the pertinent question is how best to replace any portion of their 965 MW in nameplate capacity which will be required going forward. (In practice, this lost capacity is smaller: both units have been relatively little used in recent years.) Lost capacity from the 860 MW Crystal River 3, the retired nuclear unit at the site, will also play a substantial role in system planning, of course.

Over the period from 2013 to 2022, Duke expects its firm summer peak demand to grow by 1287 MW, TYSP at 3-7, and increase of just shy of 15% over the next decade, or about 1.5% per year. At present, Duke reports that it intends to make up necessary capacity to match this growth through “planned power purchases from 2016 through 2020 and planned installation of combined cycle facilities in 2018 and 2020 at undesignated sites.” *Id.* at 3-2. According to Duke, these energy imports are likely to grow an additional 1470 MW above its current ~ 1900 MW of imported capacity, *id.* at Schedule 7.1. The addition of a 1307 MW (winter capacity) combined cycle facility in 2018, and a second 1307 MW facility in 2020 then replaces these imports. *See id.* at 3-7, 3-10 – 3-11. This additional capacity is 764 MW greater than the capacity which Duke is losing, leading to a 21% reserve margin by 2022.

As we discuss below, Duke’s strategy of increasing its built generating capacity substantially in response to projected growth, and relying on natural gas generation to do so, is not the prudent one for either the company or for Florida.

## *Gulf Power*

As the figure above indicates, Lansing Smith 1 & 2 are even less economically attractive to operate than the uncontrolled Crystal River coal units. Gulf has not yet committed to retirement publicly, but its filings in this docket and in the Environmental Cost Recovery docket make clear that it is preserving that option.

Specifically, Gulf has requested the PSC approve a \$77 million transmission upgrade project, which it explains is necessary to ensure that Lansing Smith is not a must run unit. Gulf Power, *Third Supplemental Petition of Gulf Power Company Regarding its Environmental Compliance Program*, Docket No. 13007-EI (Mar. 29, 2013) at 8. According to Gulf, these upgrades will allow Plant Smith to run at lower levels or to close, and would be “required if these units retire or are controlled as a result of [the mercury and air toxics rule.]” *Id.* at 8. Gulf, thus, maintains that it intends to “reserve the decision to install ... controls or to retire the two units for a future time when more is known with regard to costs of compliance requirements associated with additional environmental regulations.” *Id.*

Because Gulf Power – unlike Duke – has not shared cost information with the public comparing the cost of controlling versus retiring the plant, *see* Gulf Power, *Environmental Compliance Program Update*, Docket No. 13007-EI (Mar, 29, 2013) at 22-27, it is clear that it anticipates considerable additional compliance obligations at Plant Smith, including additional air, water, and waste rules. *Id.* at 22. Although Gulf has not provided economic analysis of a retirement option, it is clear that operating costs from the mercury rule alone would “greatly increase the variable operating cost of Smith Units 1 and 2,” *id.* at 23, enough so that spending \$77 million on transmission to reduce the operating need for the plant is more economic than continuing to run it, *id.* at 26.

We certainly agree that it is better to run Plant Smith less. The truth, however, is that Plant Smith is not economic to run *at all* under current conditions. It is certainly not economic to run going forward as environmental compliance costs increase. The appropriate course for Gulf Power is to retire the facility, rather than simply building transmission which will allow it to operate the costly plant somewhat less. Its transmission project, apparently, will enable that retirement, which remains an option. We urge the PSC to continue to analyze retirement possibilities.

In this regard, Gulf’s Ten Year Site Plan submission does not clearly discuss all the implications of Plant Smith. It acknowledges, again, that “potential incremental capital expenditures for compliance may be substantial,” Gulf TYSP at 3, but does not yet appear to provide a straightforward retirement analysis. Gulf anticipates 575 MW in summer peak demand growth by 2022 (about 20% growth over that period, or, according to Gulf, a 1.9% annual increase over the next decade). *See* Gulf TYSP at Schedule 3.1.

Gulf’s plan indicates that capacity additions are not necessary to manage this projected growth. Gulf reports that a power purchase agreement (PPA) which it has signed with Shell Energy for use of 885 MW of capacity from an existing gas combined cycle plant will meet its needs through 2023, after which it will construct additional in-system capacity. *Id.* at 2-3. For this reason, the PSC’s projection last year that Lansing Smith’s retirement will lead to gas generation increases in Florida appears to be incorrect in the near term. As with Crystal River’s retirement, however, we believe that demand-side

options and other non-gas resources should be emphasized to meet any capacity needs that eventually arise.

## II. Implications for the Ten-Year Plan and FEECA Goal-Setting Processes

Because the PSC will shortly move fully into the FEECA goal-setting process for the next five years, this is a particularly appropriate time to consider alternate futures for the Duke and Gulf power networks, with an emphasis on resources which the Legislature designed FEECA to encourage. The cost of adding new fossil capacity will almost always be higher than the cost of demand-side measures. The savings possible through an efficiency-focused strategy, coupled with efficiency's potential to help Florida avoid the undue dependence on natural gas which the PSC is seeking to avoid, argue strongly for a careful analysis of these questions in this year's Ten-Year Site Plan Review.

The Legislature has determined that it is "critical to utilize the most efficient and cost-effective demand-side renewable energy systems and conservation systems in order to protect the health, prosperity, and general welfare of the state and its citizens." Section 366.81, F.S. A study commissioned by the Legislature this past year confirmed these findings, concluding that "FEECA appears to provide a positive net benefit to ratepayers." Galligan *et al.*, *Evaluation of Florida's Energy Efficiency and Conservation Act* (Dec. 7, 2012) ("FEECA Study") at 9.

Despite these benefits, the PSC has, in the past, opted to suspend further program expansion for Duke and FPL, on cost grounds. *See, e.g., Re: Progress Energy Florida, Inc.*, Docket No. 1000160-EG, 2001 WL 3659327 (Aug. 6, 2011). The PSC should revisit this position during this year's goal-setting process in view of the positive findings of the legislative study, and the pressing need to address the retirements of vulnerable coal units in ways that best protect the ratepayers from further risk from fossil fuel price shifts and regulatory uncertainty. Ratepayers will face costs associated with new capacity and loss of fuel supply diversity which are far greater than those imposed by demand-side programs --- programs which the legislative study have determined have net *benefits*.

In particular, the PSC should view with skepticism Duke's proposal to construct 2614 MW of natural gas generation in just the next few years in order to cope with a 1.5% annual average growth rate in its predicted demand. Initially, Duke has a history of significant positive errors in its forecasts. As the PSC explained in its 2012 Ten Year Site Plan Review, Duke overestimated net energy for load forecasts by 11.36% on average between 2007 and 2011, and by 6.17% between 2006 and 2010. *2012 Review at 19*. Certainly the recession contributed to some of this overage, but the size of the error should give the PSC pause.

More importantly, however, the 1.6% demand growth rate which Duke forecasts, even if accurate, is within the range of load growth rates which demand-side management can address. According to the legislative FEECA study, many states require annual reductions far greater. *See FEECA Study at 177-180*. States requiring savings of at least 1% a year, according to that study, include Arizona, Indiana, Maine, Maryland, Michigan, Minnesota, New York, Ohio, and Texas, with many other states not far behind (still other states, including California, are listed as having very large reduction goals, but a percentage reduction is not specified). *See id.* Such reduction rates would entirely offset Duke's projected load growth, obviating the need for much, if not all, of its projected capacity needs in light of the Crystal River retirements.

Duke plainly has the potential to greatly expand its programs. It reports that only 25% (405,000 customers out of 1.6 million) take part in its demand response program, for instance. Duke TYSP at 1-1. This low participation is likely one reason that Duke is well below its FEECA goals for summer MW and annual GWh reductions – missing the annual target by more than 60%. *See* PSC, *Annual Report on Activities Pursuant to [FEECA]* (Feb. 2013) at 19. Duke has told the PSC that it was unable to reach its performance levels because “of the Commission decision to not approve a new DSM plan” for the company. *Id.* at 20. Thus, if the PSC engages with Duke to approve an improved plan, Duke may well be able to increase efficiency programs sufficiently to greatly decrease its capacity needs.

This analysis also applies to Gulf. Although Gulf does not plan new capacity for the next decade, it, too, has potential for further improvements, failing to meet even its modest existing FEECA goal by 12%. *Id.* at 19. If Gulf were performing at the level of nationally leading utilities – saving more than 1.5% of its demand per year – it could likely avoid those projected capacity additions.

Such enhanced performance could help Florida, as a whole, to meet the Legislature’s directive in FEECA. At present, Florida ranks in the bottom half of the states with regard to energy efficiency. *See* American Council for an Energy-Efficient Economy, *State Scorecard 2012* (ranking Florida #29).<sup>3</sup> The coal retirements before the PSC provide a strong incentive to do better.

We understand that the PSC will be conducting substantial analysis on this front during its FEECA goal-setting process, *see* Section 366.82, F.S., which requires careful consideration of the “full technical potential” of demand-side programs. We suggest that the PSC conduct that analysis in tandem with its Ten-Year Site Plan review, valuing demand-side programs as a resource which can be used to address capacity and energy issues arising from the coal retirements announced or likely in the site plan docket. Thus, in its 2013 Ten-Year Site Plan Review, the PSC could profitably evaluate the several different scenarios post-retirement, including scenarios in which capacity is replaced with more aggressive demand side measures. Other scenarios should also, of course, explore the potential of other energy sources, including enhanced in-state renewables, including solar, and out-of-state PPAs for renewable (and hence zero fuel cost) energy. In the FEECA process, meanwhile, the PSC can consider the costs and benefits of such measures, especially as compared with costly and risky new gas capacity. The two processes can and should reinforce each other as the PSC works to find ways to minimize risks and costs to ratepayers.

### **III. Conclusion**

Last year, we cautioned that a significant amount of coal-fired capacity in Florida was set for retirement. That process has continued. To manage any ratepayer risk from these retirements and the possible over-dependence on natural gas which they may promote, the PSC should emphasize demand-side management options as alternatives to gas-fired capacity. We look forward to working with the Commission to ensure that Florida ratepayers secure healthier air and a more reliable and efficient electricity system.

Sincerely,

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<sup>3</sup> Available at: <http://aceee.org/energy-efficiency-sector/state-policy/aceee-state-scorecard-ranking>.

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