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**BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION**

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| Petition for determination of need for Okeechobee Clean Energy Center Unit 1 By Florida Power & Light Company | ) ) ) ) | DOCKET NO. 150196-EI |

**ENVIRONMENTAL CONFEDERATION OF SOUTHWEST FLORIDA'S POST-HEARING ISSUE STATEMENT AND BRIEF**

The Environmental Confederation of Southwest Florida, Inc. ("ECOSWF"), by and through its undersigned counsel, and pursuant to Order No. PSC-15-0547-PHO-EI, hereby submits its Post-Hearing Issue Statement and Brief.

## EXECUTIVE SUMMARY

Florida Power & Light's ("FPL") petition for determination of need should be denied because FPL has achieved a reliable generating system. Adding an additional generating unit, at the cost of over a billion dollars, and adding an average of over $17.00 per year to each residential customer's bill, is not necessary when FPL's own documents created before this proceeding was planned show that its system reliability, as indicated by the loss of load probability criterion, is such that there is a vanishingly small risk of rolling blackouts. Building a new power plant is not necessary when compared to the fact that FPL's customers average over an hour of power outages each year from distribution issues. A rolling blackout once every 3,000 years does not justify billions of dollars in costs to FPL's customers any more than a one hour power outage each year would justify tripling customer bills to decrease the power outage time by putting all transmission wires underground and in concrete encasements. FPL's system is already like a bus that has two chase cars full of mechanics and parts running behind it to make sure that the bus can keep running. Adding another chase car with mechanics simply is not worth the cost given the marginal increase in reliability gain.

In responding to these arguments, FPL's best justification is that a) if their load projections are true (which is doubtful, considering that since 2005 they have over-estimated load by an average of 1725 MW five years into the future), they will have a 15.7% reserve margin in 2019, and b) if they had only had a 15% reserve margin during their highest load event ever (a cold event on January 11, 2010 — FPL's coldest weather event in its history), when FPL also had 1,980 MW of power offline, that they c) would only have been able to sell 458 MW of power to another utility, rather than the 526 MW of power they sold on January 11, 2010. Even if this scenario were to occur, there would still be no issues for FPL's customers, and all firm load for all of FPL's customers would be met. FPL's generating system should be planned to meet the needs of FPL's customers, not the customers of another utility that goes through a similar need determination process. Otherwise, every utility will have the benefit of double-counting each other's customers when it comes to building additional generating units. If anything, this scenario points to a 15% reserve margin being more than sufficient, because with a 15% reserve margin, assuming the highest peak event in FPL's entire history, FPL could lose 1,980 MW of power (more than its largest generating unit), sell 458 MW of power to another utility, and still meet all firm load and not have any blackout.

FPL, in an effort to decrease its load management capabilities (to better increase its need to build power plants), has cut the payments to residential customers participating in FPL's on-call programs. As a result, participation has fallen short of where it should be. Despite this fall-off, due to the continuing build-up of its generation system, FPL's system is still reliable, with its

own calculations showing that if conditions stay the same, FPL's customers probably will only face one blackout from lack of generation reserves in the next 3,000 years, or by the year 5000.[1]

In the face of this reliability, FPL seeks to add a 1,633 MW natural gas combined-cycle power plant, further increasing Florida's reliance on natural gas, because FPL seeks to have additional capital investments upon which to have a guaranteed rate of return in order to increase its profits. FPL has already started to vertically integrate when it comes to natural gas. Now that FPL is investing in the production of natural gas from fracking, FPL will extract the natural gas, transport it through the Sabal Trail pipeline that it is building as part of a joint venture, and deliver it to its own plant. When FPL pays for the natural gas, and passes that charge onto consumers, it will be paying itself. FPL does not need this plant for reliability for its customers. It wants this plant to increase its profits. The petition for need determination should be denied.

[1] To put this in perspective, 3,000 years ago was 1,000 years before the Roman Empire. This would be the time-period over which FPL should have experienced a single blackout if they had their current system reliability.

## STATEMENT OF ISSUES AND POSITIONS

**ISSUE 1**: Is there a need for the proposed Okeechobee Clean Energy Center Unit 1, taking into account the need for electric system reliability and integrity, as this criterion is used in Section 403.519(3), Florida Statutes?

**POSITION:** ***No. FPL's system will meet appropriate reliability and integrity standards without the proposed unit. The loss of load probability criterion projections prove that the proposed unit is not needed to maintain system reliability. FPL has a history of over-stating its load projections five-years out, but even if true, FPL will maintain a more than 15% reserve margin in 2019, which the evidence shows will maintain sufficient reliability. Additionally, the Commission should reject FPL's request to add the generation-only reserve criterion, as it is not necessary and does not assist in determining whether FPL has additional reliability needs.***

**ISSUE 2**: Are there any renewable energy sources and technologies or conservation measures taken by or reasonably available to Florida Power & Light, which might mitigate the need for the proposed Okeechobee Clean Energy Center Unit 1?

**POSITION:** ***Yes, renewable energy and conservation measures could obviate whatever alleged need would be met by the proposed unit. FPL should be expanding its demand response program in order to maintain reliability during freak weather events. By reducing payments, FPL has artificially reduced the number of customers who volunteer to participate in demand response programs. Rather than investing well over a billion dollars of ratepayer money in a new power plant, FPL should be increasing payments to participants in its demand response programs. Such participation will obviate any capacity need in FPL's system for the foreseeable future.***

**ISSUE 3**: Is there a need for the proposed Okeechobee Clean Energy Center Unit 1, taking into account the need for adequate electricity at a reasonable cost, as this criterion is used in Section 403.519(3), Florida Statutes?

**POSITION:** ***No. As stated in Issue 1, and as shown by the evidence, there is no need for the proposed unit in order to maintain adequate reliability. FPL's own calculations show that under current conditions, only one rolling blackout would be expected to occur from lack of generating resources in the next 3,000 years. Adding this unit will simply add an unnecessary cost to FPL customers, adding over $17 to each residential customer's bills each year. FPL already provides a more than adequate amount of electricity. Adding this unit will simply make the cost of providing electricity less reasonable.***

**ISSUE 4**: Is there a need for the proposed Okeechobee Clean Energy Center Unit 1, taking into account the need for fuel diversity, as this criterion is used in Section 403.519(3), Florida Statutes?

**POSITION:** ***No. The proposed unit will increase FPL's over-reliance on natural gas when FPL should be investing in clean energy to diversify its fuel portfolio. Instead, FPL is proposing to continue its natural gas vertical integration. While investing in the production of natural gas, FPL's parent company has also invested in pipelines to transport that gas. Natural gas prices are inherently uncertain, and by increasing FPL's reliance on natural gas to nearly 70% of its fuel-mix, the construction of this plant leaves FPL's customers more vulnerable to future price-swings in natural gas prices.****

**ISSUE 5**: Will the proposed Okeechobee Clean Energy Center Unit 1 provide the most cost-effective alternative, as this criterion is used in Section 403.519(3), Florida Statutes?

**POSITION:** ***No. First, no alternative is needed because FPL's system will stay reliable without the addition of the proposed plant. Second, to the extent there is any need, energy efficiency, clean energy, demand response and load management are more cost-effective alternatives. FPL's proposed plant should be subject to the same cost-effectiveness tests that the Commission imposes on energy efficiency measures and demand response programs – the RIM test. Under the RIM test, this plant is far from being cost-effective.****

**ISSUE 6**: Based on the resolution of the foregoing issues, should the Commission grant Florida Power & Light's petition to determine the need for the proposed Okeechobee Clean Energy Center Unit 1?

**POSITION:** ***No. The Commission should deny the petition based on the evidence adduced at the hearing and the findings that should be made under Issues 1-5. The plant is not needed, it increases FPL's reliance on natural gas, and the plant is not cost-effecitve.****

**ISSUE 7**: Should this docket be closed?

**POSITION:** ***Yes.****

## ARGUMENT

### I. FLORIDA POWER & LIGHT'S SYSTEM DOES NOT NEED A NEW POWER PLANT BECAUSE ITS RELIABILITY IS SUCH THAT A BLACKOUT IS NOT EXPECTED FOR 3,000 YEARS

#### a. The Loss Of Load Probability Criterion Directly Measures The Blackout Risk From Lack Of Generating Resources, And, In FPL's Case, Indicates That FPL Has A Reliable System That Does Not Require Additional Generating Units.

Section 403.519, Florida Statutes, requires that the Florida Public Service Commission ("Commission") determine the need for an electrical power plant, and in doing so, requires the Commission to "take into account the need for electric system reliability and integrity, [and] the need for adequate electricity at a reasonable cost . . . ." FPL uses three criteria to assess reliability. Vol. 1 at 53 (Sim). One of those, the 10% generation-only reserve margin, is not used by any other utility in the country, Vol. 2 at 144 (Sim), and is discussed in section IV, *infra*. The other two criteria are total reserve margin and loss of load probability. Vol. 1 at 53 (Sim). Total reserve margin is a deterministic calculation. Vol. 1 at 101 (Sim). It does not take into account forced outage rates or the increased reliability that comes from having more units. Vol. 1 at 101-02 (Sim). The loss of load probability criterion is a probabilistic methodology that does take into account forced outage rates and the increased reliability that comes from having additional units. Vol. 1 at 102 (Sim). It is a calculation that is a direct measure of the probability that FPL will not be able to meet all firm load; in other words, it is the probability of having a blackout from insufficient generation. Vol. 1 at 103 (Sim). The risk is calculated using the projected daily peak hourly load. Vol. 1 at 103 (Sim). The criteria that FPL uses, quite sensibly, is 0.1 days per year. Vol. 1 at 103 (Sim). This can be expressed as one day in ten years, meaning that over a ten year period, if the loss of load probability remained at 0.1 days per year,

you would expect there to be one occurrence[2] where there would be a blackout due to insufficient generation reserves. Vol. 1 at 104 (Sim).

FPL calculates the loss of load probability of its system on a regular basis. In 2014, FPL created a projection for the year 2015, without a 10% generation-only reserve margin, and found the loss of load probability to be 0.000387 days per year, or about one day in 3,000 years.[3] Vo. 1 at 105 (Sim); Ex. 64 (FPL answer to ECOSWF's First Set of Interrogatories, Interrogatory No. 1, Attachment No. 1, Tab 1 of 1, excel sheet). This means that if current conditions were to stay the same and the blackout risk from lack of generation was to remain at 0.000387 days per year, it would be expected that there would be one time where there would be a blackout from lack of generation over the next 3,000 years. Vol. 1 at 105 (Sim). In other words, if current conditions stay the same, there should be one rolling blackout between now and about the year 5000. This is not indicative of a system with dire generation needs.

**b. Comparing The Reliability Of The Generation System With FPL's Distribution And Transmission System Demonstrates That FPL's Generation System Is Reliable And That Additional Investments of Ratepayer Money Into The Generating System Are Not Justified.**

A good basis of comparison for the desired reliability of the generation system is the reliability of the distribution and transmission system. Overall distribution and transmission reliability is best gauged by the System Average Interruption Duration Index. Ex. 73 at 6. In 2014, FPL achieved an overall interruption duration index of 66.6 minutes, meaning that, on average, customers did not have power because of distribution and transmission issues for just

[2] Because loss of load probability is calculated using daily peak hourly load, the one day in ten years means that during one day there would be some point during that day that it would be expected that not all firm load could be met. In other words, it is a one occurrence in ten years standard.

[3] The easiest way to convert days per year to one day in x years is to divide 1 by the loss of load probability expressed as days per year. In this example, 1/0.000387 is 2,584, which, rounded up, is about 1 day in 3,000 years.

over an hour in 2014. Ex. 73 at 6. FPL characterizes this as "strong . . . reliability." Ex. 73 at 6. Given that losing power for over an hour each year is considered strong reliability, the probability of having a temporary rolling blackout once over the next 3,000 years does not indicate the need to build more generation resources. In fact, it indicates the opposite – FPL's generating system is reliable and blackouts are so unlikely that the system must be overbuilt, and in this proceeding, FPL seeks to continue to expand its overbuilding.

Over the past fifteen years, FPL has continued to add unnecessary generation that has resulted in an over-building of power plants. Vol. 4 at 453-54 (Rábago). By solely relying on the total reserve margin, rather than the loss of load probability criterion, as a driver of deciding to build more power plants, generation growth has continued to outpace the growth of demand. Vol. 4 at 455-56 (Rábago).

**c. FPL's 2015 Loss Of Load Probability Forecast Should Be Discredited Because It Forecasts September To Be The Riskiest Month For Loss Of Load With No Apparent Explanation.**

In 2015, FPL created a new loss of load probability projection as part of the ten-year site plan process. Vol. 1 at 106-107 (Sim). This projection was created after FPL had already anticipated its petition for need determination for a new combined cycle unit in Okeechobee County in 2019, Ex. 50 at 58-59, and thus had already anticipated this proceeding. With no changes in conditions that FPL has been able to point to, the loss of load probability projected for the year 2015 increased in the new projection by a factor of 10 from the 2014 projection. Vol. 1 at 107 (Sim). In the 2014 projection, the months with the highest loss of load probability, for four out of ten years, are August and July, in that order. Ex. 64 (FPL answer to ECOSWF's First Set of Interrogatories, Interrogatory No. 1, Attachment No. 1, Tab 1 of 1, excel sheet ("2014 LOLP Projection")) (true for 2018, 2019, 2023, 2024). In two out of ten years, the

highest month is still August, with September a distant second place. *Id.* (true for 2015, 2017). In one out of ten years, the month with the highest loss of load probability is July. *Id.* (true for 2020). In one year October actually has the highest Loss of Load Probability. *Id.* (true for 2016). In only two out of ten years does September have the highest loss of load probability, (2021, 2022), and considering that those years are after new generation resources were projected to be added in the 2014 Ten Year Site Plan, *see* Ex. 49 at 65 (projecting addition of combined cycle unit in 2019), these loss of load probability calculations do not represent current conditions.

The 2014 projection stands in contrast to the 2015 projection. In the 2015 projection, as noted before, the total loss of load probability is almost 10 times higher than in the 2014 projection, for the year 2015. Vol. 1 at 107 (Sim), Ex. 64 (FPL answer to ECOSWF's First Set of Interrogatories, Interrogatory No. 4, Attachment No. 1, Tab 1 of 1, excel sheet ("2015 LOLP Projection")). This is, in large part, driven by the month of September, which had a projected loss of load probability of 0.001906. 2015 LOLP Projection. This is 30 times higher than was projected in the 2014 projection for September, 2015. (2015 LOLP Projection of 0.001906 divided by 2014 LOLP projection of 0.000064). In the 2015 projection, September has a higher loss of load probability than all other months in 2015 combined. Vol. 1 at 107-08 (Sim). In fact, in 7 out of 10 years in the 2015 projection, September has the highest loss of load probability of any month. 2015 LOLP Projection (true for 2015, 2016, 2017, 2019, 2021, 2023, 2024). In 2019, the year for which FPL seeks a determination of need in this proceeding, September has a higher loss of load probability than July and August combined. Vol. 1 at 108 (Sim). These changes to the loss of load probability in September are suspect.

No explanation has been provided for the loss of load probability projection values to have changed between 2014 and 2015, and no explanation has been provided for the month of September to be driving the increase, especially since FPL never experiences peak load in September. Usually, September experiences a peak load lower than that experienced in three other months, usually August, July, and June, respectively. Ex. 50 at 51 (2014 months with highest peak load, respectively, July, August, June, September); Ex. 49 at 51 (2013 months with highest peak load, respectively, August, June, September, July); Ex. 48 at 56 (2012 months with highest peak load, respectively, August, July, June, May, September); Ex. 47 at 56 (2011 months with highest peak load, respectively, August, July, June, September); Ex. 46 at 62 (2010 months with highest peak load, respectively, January, August, June, July, December, and then September); Ex. 45 at 57 (2009 months with highest peak load, respectively, June, July, August, October, September); Ex. 44 at 58 (2008 months with highest peak load, respectively, August, July, June, September); Ex. 43 at 53 (2007 months with highest peak load, respectively, August, September, July); Ex. 42 at 49 (2006 months with highest peak load, respectively, August, July, June, September); Ex. 41 at 51 (2005 months with highest peak load, respectively, August, July, September, June). Over the last ten years, September has never been the month with the highest peak demand for the year, and only once was there only one month with a higher peak load.[4] More common was for September to have a lower peak load than that in August, July, and June, respectively.

Nor does FPL even *project* September to have the highest peak despite assigning it the highest loss of load probability in its new 2015 projections. In 2015, FPL projects the months with the highest peaks will be August, July, June, and then September. Ex. 50 at 51. In 2016,

[4] This was as common an occurrence as it was for September to have five months with higher peak loads (2010).

FPL again projects the order will be August, July, June, and then September, which matches the history described above. Ex. 50 at 51. It is suspect for September to now be the month with the highest blackout risk, especially since FPL has failed to point to any assumptions that have changed between the 2014 projections and the 2015 projections, except for the inclusion of the 10% generation-only reserve margin (discussed *infra*) in the 2015 projections, which FPL argues will increase reliability, not decrease reliability. One way FPL could have made the loss of load probability projections higher in September would have been to plan, for projection purposes, many plants to have scheduled maintenance in the month of September, instead of waiting for the shoulder months[5] of November and December. If enough plants were scheduled to be off-line, the loss of load probability results could have been driven up as a result (scheduling plants to be off-line will increase the risk of a blackout (more plants on-line leads to a lower blackout risk, Vol. 1 at 101-02 (Sim))). The Commission should instead rely on the 2014 projections, which on the eve of FPL's alleged need for new generation resources, project a loss of load probability of 0.007782 in 2018. 2014 LOLP Projection. This is the equivalent of less than 1 day in 100 years.[6] Vol. 1 at 106 (Sim).

Further evidence that FPL should not be projecting a significant portion of its generating fleet to be off-line in September for its loss of load probability calculations is FPL's own calculations regarding its equivalent availability factor. The equivalent availability factor is the percentage of time a unit is available to go into service. Vol. 3 at 319-20 (Kingston). Since 1990, FPL has had a substantial improvement in the reduction of its forced outage rates. Vol. 3 at 319 (Kingston). As a result, FPL has achieved an equivalent availability factor for its fleet of

[5] Shoulder months refers to those months where not much air conditioning or heating is needed.

[6] In the 2014 projection, the blackout risk gradually increases from 2015 through 2018 due to the load projections such that under 2015 current conditions the risk is about 1 day in 3,000 years and in their hypothesized 2018 it is less than 1 day in 100 years. 2014 LOLP Projection.

92.7%, when the industry average is 87.1%, meaning that FPL's generating units are available for dispatch a greater percent of the time than the United States industry average. Vol. 3 at 320 (Kingston). FPL can space scheduled maintenance throughout the shoulder months. There is no reason to project large capacity outages during the month of September except in order to increase the appearance of need for new generation resources.

Even with FPL's new loss of load probability analysis, which has a projection ten times higher than the 2014 analysis for the year 2015, it is not until 2022 that the loss of load probability criterion is violated, assuming no new generation sources being brought on-line. Vol. 1 at 108 (Sim). In 2019, under this September-driven projection, the blackout risk is still only about half of FPL's 1 day in 10 years criterion. 2015 LOLP Projection. Given the current reliability of their system, this does not support the granting of a need determination for 2019.

**d. FPL Has A History Of Over-Projecting Load Five-Years Into The Future.**

FPL's projections of increasing risk of loss of load and decreasing reserve margins are, of course, driven by their load projections. Vol. 1 at 47, 54 (Sim). The best way to determine the performance of FPL's load projections is to look at their past performance. The forecasted need in this proceeding was made as part of the 2015 ten year site plan, or five years out from 2019. Ex. 50 at 58-59. The summer peak load projection is what is driving this petition for need determination. Vol. 1 at 54 (Sim). Since 2005, FPL has, on average, over-projected summer peak load five years out by 1,725 MW. Vol. 2 at 264 (Feldman). FPL's latest enhanced design is a 1,633 MW plant, Vol. 2 at 209 (Sim), which is designed to meet an alleged need of 1,052 MW in 2019, and 1,409 MW in 2020, Vol. 1 at 54 (Sim). Both of these numbers are well below FPL's average over-projection of 1,725 MW five-years out.

FPL has not adequately explained why its forecast five-years out now is more credible than its previous forecasts. FPL tried to explain that over the last 27 ten-year site plans, their five-year forecast was more accurate than it has been since 2005, but their own witness, on redirect examination, explained that it is more appropriate "to look at the more recent history." Vol. 2 at 281 (Feldman). FPL noted that their recent ten-year site plans, one, two, and three years out, have been more accurate than their five-year forecasts since 2005. Vol. 2 at 281 (Feldman). It should be a given that their near-term forecasts are more accurate than their long-term forecasts, and does nothing to show that their long-term forecasts are more accurate now than they were since 2005. FPL also tried to explain-away their long-term over-forecasting by the 2008-2009 recession. Vol. 2 at 281. However, the 2009 and 2010 forecasts, created after the recession and which were taken into account in the 1,725 MW over-forecast average, still had an over-forecast of 673 MW and 640 MW, respectively. Vol. 2 at 263-264 (Feldman). This over-forecasting, after the recession, shows that this over-forecasting is not simply a result of the 2008-2009 economic recession, and the fact that the over-forecasts are so consistent demonstrates that the Commission should not rely on these load forecasts.

Going even further back, before the recession, FPL does no better. In 2004, FPL projected 2008 summer peak load to be 22,289 MW. Ex. 39 at 44. It was actually 21,060 MW. Ex. 11. That is an over-forecast of 1,229 MW. Considering that the summer of 2008 was before the economic recession really took hold, this demonstrates that FPL has a clear pattern of over-forecasting their summer peak load.

It is worth noting as demonstrated above that even if FPL's load projections are true, which is doubtful for all the reasons stated above, FPL's loss of load probability projections

demonstrate that there is no need for additional generating resources because FPL's system is over-built as it exists right now.

**e. The Events Of January 11, 2010 Support A Finding That The FPL System Is Reliable.**

FPL argues that the Commission should reject reliance on the loss of load probability criterion in this proceeding because in 2010, the loss of load probability was projected to be 0.002255 days per year, or about 1 day every 450 years (an occurrence more likely than FPL's current 1 day in 3,000 years), and that they came close to a rolling blackout on January 11, 2010. Vol. 4 at 494 (Sim). The events on January 11, 2010, do not disprove the accuracy of the loss of load probability criterion – it bears emphasizing that there was *no* loss of load that day, i.e., there was no blackout. Vol. 4 at 538 (Sim). The extraordinary events of that day, and the fact that FPL was able to keep the power on without any rolling blackouts, demonstrate how reliable the FPL system is.

First, the January 11, 2010 event had a record 919 heating degree hours, more than FPL had ever experienced before. Ex. 72. This led to a record weather impact of adding 4,410 MW peak to the system. Ex. 72. This was almost 1,000 MW higher than the next highest winter weather impact event. Vol. 4 at 475 (Feldman). As a result, FPL faced its all-time highest peak load. Vol. 4 at 537 (Sim). During that event, FPL had 1,980 MW of capacity that was not available. Vol. 4 at 554-55 (Sim). As FPL notes, its largest generating unit currently has 1,515 MW of capacity, and it typically only plans for 687 MW of generation to be unavailable. Ex. 70 at 20. Having 1,980 MW of capacity unavailable is unusual. Vol. 4 at 556 (Sim). As a side-note, considering that FPL emphasizes the risk of relying on larger generating units when it comes to reliability, *see, e.g.*, Ex. 70 at 20, it is ironic that FPL is advocating for permission to build its largest generating unit ever at 1,633 MW.

Despite not having 1,980 MW of capacity available, and its highest peak ever, FPL was able to sell 526 MW in emergency sales to another utility in Florida. Vol. 4 at 538 (Sim); Ex. 70 at 25. Despite the sale of 526 MW of power during the highest peak event, FPL still had 1,144 MW of reserves available in the form of load management. Vol. 4 at 538 (Sim).

FPL points to this event to argue that had FPL only used a 15% reserve margin, "[s]ervice to firm load customers would not have been maintained." Vol. 4 at 515 (Sim). However, what FPL fails to mention, is that the firm load to its customers would not have been maintained *only* if FPL had continued to sell 526 MW[7] of power to another utility. Ex. 69 at 2. As FPL's documents make clear, this 526 MW of power was recallable for FPL's own customers. Ex. 70 at 25. FPL could have still have sold (assuming 526 MW was the sale) 458 MW of power to another utility, Ex. 69 at 2 (526 minus 68), and still have maintained all firm load for FPL customers with an unusual 1,980 MW of capacity out of service. Although FPL argues that this might mean that there would be a blackout for some other customers not in FPL service territory, it is not FPL's duty to plan adequate reserves for all the utilities in Florida. Rule 25-6.035, F.A.C., sets out the requirements for reserves for sharing energy reserves. FPL, of course, complies with that requirement. *See, e.g.*, Ex. 70 at 20.

This Commission should not grant FPL's need determination on the basis that FPL has a duty to go above and beyond to ensure that under no circumstances will another utility's customers face a rolling blackout. Total reserve margin and loss of load probability are calculated based on FPL's system. FPL should not have a need determination granted on the basis of the reliability of another utility's system. Because FPL's system is still reliable, this need determination should not be granted. If another utility does face reliability concerns, it

[7] A 526 MW sale is indicated by Exhibit 70 at page 16, while a 561 MW sale is indicated in Exhibit 69.

should be incumbent on that utility to come to the Commission with a petition for need determination. The fact that even with a 15% reserve margin, FPL could lose 1,980 MW of capacity, and still sell at least 458 MW of power to another utility while maintaining all firm load for its customers during its highest peak ever is proof that FPL does not need a new power plant in 2019 when it projects a 15.7% total reserve margin with its over-forecasted load projections.

## II. FPL HAS FAILED TO JUSTIFY THE PROJECTED COST OF THE PROPOSED PLANT

Even during the course of this proceeding, the estimated cost of the plant has continued to rise. Now, the cost of the proposed plant is estimated to be $1.232 billion dollars. Vol. 3 at 335 (Kingston). This does not include the cost of a proposed lateral gas transmission connection to the Florida Southeast Connection, *see* Ex. 26, that will cost about $25 million. Vol. 4 at 358 (Stubblefield). Nor does it include the $150 million that represents the proposed plant's share of the Florida Southeast Connection and Sabal Trail pipeline that will be passed on to customers through the fuel clause. Vol. 4 at 377-78 (Stubblefield).

The bill impact of the proposed plant is contained in Staff exhibit 61, Staff's Fourth Set of Interrogatories, Interrogatory number 80, Attachment number 1, Tab 2 of 2 (customer bill impact with 1,633 MW Okeechobee 3X1 with Peak Firing and Wet Compression). For 2020, the first year the plant would be in full operation and all of the expected "fuel savings" projected by FPL could be realized, the nominal customer bill impact would be $1.22 per 1,000 kilowatt-hours. Vol. 1 at 120 (Sim). Given FPL's projected customer electric usage in 2020, that translates to a bill impact of $17.22 *per* customer, just in 2020. Vol. 1 at 120-21 (Sim). Given that demand side measurements were automatically excluded under the Rate Impact Measure

(RIM) test for having *any* upward impact on rates in the last FEECA proceeding,[8] a bill impact of $17.22 just in 2020, with no obvious gain to customers, is not justified under section 403.519(3), Florida Statutes. FPL uses the term cost-effective in efficiency proceedings to mean only those measures that are rate-neutral or tend to bring down rates. However, in this proceeding, FPL uses cost-effective to mean, of all the power plants that FPL could build, which one generates the most electricity for the least price impact on customers, without regard to whether it will actually increase customer bills or not, as this plant certainly will have a bill impact on customers.

The gain to customers can actually be measured in the 2014 LOLP projection discussed earlier in section I.a., which, as discussed, included the 2019 plant addition.[9] From 2018 to 2019, the loss of load probability went from 0.007782, or one time in about 130 years, to 0.002467, or one time in about 400 years in 2019 when the new plant goes on-line. 2014 LOLP projection. Although reliability increases, an incremental reliability increase such as that is not worth the increase in costs to customers. There needs to be a balance between cost and reliability, which is why FPL uses a 1 day in ten year standard. One day in 130 years is still reliable. The fact that FPL, with its historically over-forecasted load projections, expects a single rolling blackout by 2150 under 2018 conditions does not necessitate additional generation building. A balance must be struck, and FPL has already over-built its system.

[8] This is regardless of whether the measures could pass the Total Resource Cost (TRC) test which actually looked at impact on average bills.
[9] The 2014 LOLP Projection includes the addition of a combined-cycle generating unit in 2019, and therefore, can be used to measure the incremental reliability benefit of adding the unit in 2019 in terms of blackout risk.

## III. BUILDING THIS PLANT WILL INCREASE FPL'S OVER-RELIANCE ON NATURAL GAS AND WILL CONTINUE FPL'S VERTICAL INTEGRATION IN THE NATURAL GAS INDUSTRY

One of the factors that the Commission must consider in making its need determination is fuel diversity. § 403.519(3), Fla. Stat. Construction of this plant would increase FPL's dependence on natural gas to nearly 70% of total generating capacity, when Florida as a state has already been singled out for its overreliance on natural gas. Vol. 4 at 456-57 (Rábago); Ex. 58. This is problematic given that future natural gas prices are inherently uncertain. Vol. 4 at 358 (Stubblefield). This is because there are a number of unpredictable and uncontrollable drivers that influence the short and long-term prices of natural gas, including worldwide demand, production capacity, economic growth, environmental legislation, and politics. Vol. 4 at 358-59 (Stubblefield).

The Commission should closely examine FPL's reliability on natural gas in this proceeding. FPL has moved to vertically integrate its entire natural gas structure. FPL has been allowed by the Commission to invest money in natural gas hydraulic fracturing projects ("fracking"), *i.e.*, the means of production of natural gas, and pass those costs onto consumers. *See*, *e.g.*, Order No. PSC-15-0284-FOF-EI, July 14, 2015. FPL has contracted with Sabal Trail and the Florida Southeast Connection to supply natural gas to FPL, including the Okeechobee Plant. Vol. 4 at 357 (Stubblefield). NextEra Energy, which FPL is a subsidiary of, is one of the major investors in the Sabal Trail Project, and the Florida Southeast Connection is a wholly owned subsidiary of NextEra Energy. Vol. 4 at 358 (Stubblefield). Under this model, which FPL has already received permission to do, FPL or its parent company NextEra can produce the natural gas, and charge the ratepayers the costs of that production, transport that natural gas via pipelines it is building, pay itself for those transport costs, passing those costs onto the

ratepayers, and then use that natural gas in the plants it has built, not only selling that energy to its ratepayers, but charging the ratepayers the capital costs of those power plants, like the one proposed here. Given the incentive that FPL would have to build this natural gas plant to continue its vertical integration, its projections suggesting a need for a plant (and the evidence does not show such a need), should be viewed with skepticism.

## IV. THE GENERATION ONLY RESERVE MARGIN IS NOT NEEDED, NOR DOES FPL NEED TO CONTINUE TO MEET THE 20% RESERVE MARGIN CRITERION TO MAINTAIN SYSTEM RELIABILITY BECAUSE FPL'S SYSTEM IS RELIABLE AS IT CURRENTLY EXISTS

### a. The 10% Generation-Only Reserve Margin Criterion Does Not Meaningfully Add To FPL's System Reliability

The 10% generation-only reserve margin proposed by FPL calculates reserves solely based on those reserves provided by power plants, and ignores incremental energy efficiency and all load management. Ex. 50 at 62. As already stated in section I.c., most utilities in this country have lower generating unit reliability – a lower equivalent availability factor. FPL, as shown in section I.a., has a reliable system with only one expected rolling blackout over the next 3,000 years under current conditions. There is no need to add a generation-only reserve margin when FPL already has a reliable system.

FPL argues that the 10% generation-only reserve margin is necessary because 1) it leads to lower loss of load probability values and 2) because of what occurred on January 11, 2010. Vol. 4 at 517-18 (Sim). The events of January 11, 2010 were addressed in section I.e. As to number 1, the lower loss of load probability values, FPL argues that the generation-only reserve margin is needed because it increases reliability during the winter months because certain demand side measures – such as those dealing with air conditioners – do not have a winter

impact.[10] Vol. 4 at 592 (Sim). January of 2016 has the *highest* loss of load probability of any winter month in the 2014 projections without a 10% generation only reserve margin, at a probability of 0.000003. 2014 LOLP Projection. That is the equivalent of one day in 333,333 years. Under those conditions, it would be expected that there would be one rolling blackout between now and the year 335348 from lack of generation resources. Given the already miniscule chance of a loss of load during the winter months, implementation of the generation-only reserve margin yields little benefit. ECOSWF submits that decreasing the loss of load probability during the winter months even further is not a sufficient reason to include a generation-only reserve margin, as expecting one rolling blackout between now and the year 335348, based on January 2016 conditions, demonstrates that the system is reliable enough under current conditions.

**b. Because Of FPL's System Reliability, There Is No Need For FPL To Maintain A 20% Reserve Margin.**

Because of the reliability FPL has achieved for its system, there is no need for FPL to maintain a 20% total reserve margin. Given FPL has a significantly higher equivalent availability factor than the industry average, most utilities use only a 12% to 16% total reserve margin, Vol. 4 at 449 (Rábago), and the 2014 Loss of Load Probability projections, FPL has a reliable system and does not need to continue to have a 20% total reserve margin to maintain reliability for its customers. It has been 16 years since the Commission last examined the 20% reserve margin. During that time, the electricity industry has made dramatic improvements in load management, load control, and demand response, along with dramatic improvements in distributed generation and storage. Vol. 4 at 451 (Rábago). Florida's own rules only require maintaining a 15% planned reserve margin. Rule 25-6.035(1), F.A.C. Studies indicate that

[10] Of course, in a summer peaking utility such as FPL, the months that have the lowest loss of load probability projections are the winter months. 2014 LOLP Projection.

maintaining a reserve margin as high as 20% is uneconomic, and almost unheard of outside of the investor-owned utilities in peninsular Florida. Ex. 56. FPL has provided no reason that it needs to maintain a 20% reserve margin in order to avoid a blackout for its customers.

## V. FPL HAS DRIVEN DOWN COST-EFFECTIVE DEMAND RESPONSE PARTICIPATION BY CUTTING PAYMENTS TO PROGRAM PARTICIPANTS

FPL had two residential load management programs, with residential on-call being closed to new participants in 2003, and residential load control starting as a pilot in 2003, and becoming a permanent program in 2007. Vol. 1 at 115 (Sim); Ex. 74. The difference between the two programs is the amount paid to customers who sign up their water heaters and their central air conditioners. Vol. 1 at 115 (Sim). Between the two programs, payments for electric water heaters dropped from $3.50 per month to $1.50 per month. Vol. 1 at 115-16 (Sim). Electric water heaters are used all year-round, and the ability to turn off electric water heaters could be useful during a summer peak event, or a winter peak event. Similarly, payments to sign-up air conditioners were dropped by half from $6 per month to $3 per month. Vol. 1 at 116-17 (Sim). Air conditioner load management could be useful during a summer peak event, especially since it is the summer load projections for reserve margin that are driving this need determination proceeding.

FPL, since completely switching their customers to the residential load control program, the one with the lower payments, has continued to fail to meet its projections for sign-ups. Since 2010, FPL has projected a cumulative penetration rate of 2.7 percent with 94,700 cumulative participants. Vol. 1 at 117 (Sim); Ex. 76 at 5. The number of actual cumulative participants was only a bit more than half of those projected, with 54,522 participants at a 1.6 percent penetration rate, meaning that FPL is 40,178 participants below its projections. Vol. 1 at 117-18. Being almost half off its goal for participation in residential load management is a significant short-fall.

Although it is hard to know precisely why customers are not signing up in expected numbers, it does not seem like a coincidence that FPL has recently cut by more than half the bill credits given for participation in key programs like residential air conditioning or water heaters. If there is another extraordinary event like that which occurred on January 11, 2010, having additional load management would ensure that not even all load management participants would have to have their usage curtailed during such an event. Increasing the payments would attract more customers to such a program, and to the extent that FPL does have any need in 2019 (which is doubtful given their history of over-forecasting load projections five-years out), FPL can meet that need for extraordinary peak events with additional load management.

## CONCLUSION

For all the reasons stated above, the Commission should deny FPL's petition for need determination. The plant is not needed, and FPL's system will continue to be reliable without it. FPL's arguments to the contrary, when closely examined, do not hold up to scrutiny. FPL's customers do not need a rate increase, which they would experience if this Commission grants the need determination. During the highest peak event ever, FPL, down almost 2,000 MW from plant outages, still had over 1,000 MW of reserves. Even if FPL had planned to a 15% total reserve margin, no FPL customers would have lost power, and FPL would still have been able to sell almost 500 MW of power to another utility. Since 2005, FPL has over-projected its load five years out by an average of over 1,700 MW, almost twice FPL's projected "need" to maintain a 20% reserve margin in 2019. Even if FPL finds that it does have some incremental need in 2019, FPL can meet that need with demand response programs and additional energy efficiency. Implementing a small amount of energy efficiency and increasing the size of the demand response program will be cheaper for customers than investing over $1 billion in the construction

of an unneeded power plant. FPL wants to build this power plant because it can pass those costs onto its consumers and receive an almost guaranteed return on investment for its shareholders. This plant is not needed for system reliability. It only helps increase returns to investors. FPL seeks to lock in the construction of this plant before solar panels and battery technology become so cost-effective that customers everywhere start buying them and stop buying power from their utility. A solar revolution has already started. FPL should be looking to join and invest in that revolution, and should not be building another unnecessary fossil-fueled generating unit. For all of these reasons, the Commission should deny FPL's petition for determination of need.

Respectfully submitted this 9th day of December, 2015.

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## CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a true copy and correct copy of the foregoing was served on this 9th day of December, 2015 via electronic mail on:

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