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In RE: Florida Power & Light Company's Petition To Determine Need for Modernization of Port Everglades Plant

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e. The document attached for electronic filing is Florida Power & Light Company's Post-Hearing Brief

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BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Florida Power & Light Company's Petition To Determine Need for Modernization of Port Everglades Plant	Docket No. 110309-EI Dated: March 5, 2012

FLORIDA POWER & LIGHT COMPANY'S POST-HEARING BRIEF

Florida Power & Light Company ("FPL" or the "Company") pursuant to Order No. PSC-11-0565-PCO-EI hereby files with the Florida Public Service Commission (the "PSC" or the "Commission") its Post-Hearing Brief in Docket No. 110309-EI. In support of an affirmative determination of need for the modernization of the Port Everglades Plant in 2016, FPL states the following:

INTRODUCTION AND OVERVIEW

On July 18, 2011, FPL petitioned this Commission for an exemption from Rule 25-22.082, F.A.C., also commonly referred to as the "Bid Rule," for the modernization of the Port Everglades power plant (the modernized plant will be referred to as the Port Everglades New Generation Clean Energy Center ("PEEC")). No one intervened or otherwise opposed FPL's petition, and the Commission granted it on August 26, 2011, after finding that the Company had demonstrated that:

- PEEC will likely result in a lower cost supply of electricity to the utility's ratepayers by improving the fuel efficiency of FPL's generating resources;
- PEEC will likely increase the reliable supply of electricity to the utility's ratepayers by providing base load generation to the area of most concentrated use on FPL's system; and,
- PEEC will otherwise serve the public welfare by providing benefits beyond the provision of electric service.

Order No. PSC-11-0360-PAA-EI, at 3. In the same order, the Commission found that "it is unlikely that a respondent to an RFP could provide similar benefits." *Id.*

On November 21, 2011, FPL petitioned this Commission for an affirmative determination of need for PEEC in 2016. The modernized plant will employ state-of-the-art combined cycle ("CC") technology to produce 1,277 MW of power for customers in an efficient and clean manner. Because it will be located at an existing plant site, PEEC will take advantage of land, water and existing infrastructure already dedicated to FPL's electric system. Further, PEEC's location in Broward County is near FPL's most concentrated load and thus alleviates serious transmission concerns regarding a growing load-generation imbalance in the Miami-Dade and Broward County area.

After several rounds of discovery, FPL and the Commission Staff engaged in constructive negotiations aimed at resolving the issues identified in the Commission's Order Establishing Procedure (Order No. PSC-11-0565-EI). These efforts included two publicly-noticed meetings. *See* Document Nos. 00631-12, 00748-12On February 9, 2012, Staff and FPL reached stipulated positions on each of those issues, which would result in an affirmative determination of need for PEEC in 2016 (the "Proposed Stipulation"). Staff recommended approval of the Proposed Stipulation as reflected in the Prehearing Order. Order No. PSC-12-0063-EI, dated February 13, 2012, at 11-14. The Prehearing Order provided for the testimony of all of FPL's witnesses to be inserted into the record as though read and their exhibits admitted into the record, and for all witnesses except Rene Silva to be excused from attending the hearing if Commissioners did not have questions for them. *Id.* at 3-4. Staff subsequently confirmed to FPL that no Commissioners had questions for FPL witnesses other than Mr. Silva. Tr. 14.

On February 14, 2012, the Florida Industrial Power Users Group ("FIPUG") belatedly petitioned to intervene. The Commission granted FIPUG's petition but cautioned that FIPUG "takes the case as it finds it as set forth in Order No. PSC-12-0063-PHO-EI, issued on February 13, 2012." Order No. PSC-12-0070-PCI-EI, dated February 16, 2012. At the hearing, FIPUG was permitted to cross-examine Mr. Silva. FIPUG's cross examination attempted to interject issues that are both unauthorized under the Commission's Prehearing Order and irrelevant to this need determination. Those efforts to upend the proceeding fell flat. FIPUG's allegations are unsupported by any record evidence, and, in fact, were directly controverted by Mr. Silva. In short, FIPUG was unable to demonstrate any facts that call into question the need for PEEC.

FPL maintains that the Proposed Stipulation continues to provide appropriate guidance, and the Commission should grant an affirmative determination of need for PEEC. FPL acknowledges that the Proposed Stipulation imposes affirmative obligations upon the Company, namely the obligation to provide yearly construction cost estimates and to file status update reports on PEEC. Specifically:

> [Issue 3] FPL is considering a number of advanced combustion turbine designs which could impact the overall cost of the PEEC project. For this proceeding, FPL used projected costs and operating characteristics of the "J" combustion turbine technology, with which FPL has no direct experience. Therefore, FPL shall report annually to the Commission the budgeted and actual costs compared to the estimated total in-service costs of the proposed PEEC project relied upon in this proceeding. If FPL decides to utilize a different combustion turbine design from the one presented in this proceeding, then FPL will include in its annual report the comparative cost advantage of the alternative design chosen. Such a selection would only be made if the projected costs to FPL's customers would be lower as a result of the alternate design.
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> [Issue 7] The Commission's decision on a need determination petition must be based on the facts as they exist at the time of the filing with the underlying assumptions tested for reasonableness. It is prudent for a utility to continue to evaluate whether it is in the best interests of its ratepayers for a utility to

> participate in a proposed power plant before, during, and after construction of a generating unit. If conditions change from what was presented at the need determination proceeding, then a prudent utility would be expected to respond appropriately. In addition, the Commission has an ongoing authority and obligation to ensure fair, just, and reasonable rates for Florida's utilities and ratepayers. FPL should continue to report the status of the PEEC to the Commission in the annual report required under Issue 3.

As set forth more fully below, bringing PEEC into service in 2016 is the most cost effective source of power for customers. PEEC enhances system reliability, reduces dependency on gas and further improves FPL's already low emissions profile. Moreover, deferring PEEC's in-service date to later years results in cost penalties to FPL's customers. Accordingly, FPL respectfully requests that the Commission grant an affirmative determination of need for PEEC and has no objection to the Commission incorporating into its need order the language set forth above from the stipulated positions on Issues 3 and 7.

A. PEEC is the Best Option for Customers

PEEC will consist of a modern, highly efficient, state-of-the-art CC natural gas unit with about 1,277 MW (summer) of generation. FPL proposes to build PEEC at the existing Port Everglades plant site in Broward County and estimates that it will be available for commercial operation beginning in June 2016. Tr. 20-21 (Silva). In conjunction with this new addition, FPL will dismantle the four 1960s-era oil and natural gas fueled steam electric generating units that are currently in Inactive Reserve status at FPL's Port Everglades plant. Tr. 21 (Silva). PEEC's primary fuel will be natural gas, and it will have the capability to burn a light fuel oil, more specifically a distillate fuel oil with a maximum sulfur content of 0.0015 percent (15 ppm), as a back-up fuel. Tr. 59 (Gnecco).

An affirmative determination of need for PEEC beginning in 2016 is projected to provide several important benefits to FPL's customers and the state of Florida. First, PEEC is projected to enhance FPL's system reliability. Situated in close proximity to FPL's most concentrated load

center, PEEC will reduce transmission concerns regarding the load-to-generation imbalance in that area while eliminating the need to spend approximately $638 million in transmission upgrades. Tr. 127, 142-44 (Modia). Moreover, PEEC's location adjacent to a deep-water port that has significant oil storage allows the site to receive both waterborne shipments and truck deliveries of light oil back up fuel, and to store large quantities of that fuel, which provides fuel supply flexibility in emergency situations. Tr. 106 (Stubblefield), 254 (Silva).

Second, FPL's economic analysis projects that a resource plan including PEEC in 2016 (the "PEEC Resource Plan") is the most cost-effective option. FPL compared the PEEC Resource Plan against three other self-build alternatives, and assessed the cumulative present value of revenue requirements ("CPVRR") for each resource plan in order to determine which option represents the lowest cost for customers. Based on the information available to FPL at the time of the need determination filing, FPL's economic analysis shows the following:

- The PEEC Resource Plan is expected to save customers approximately $469 million CPVRR compared to a resource plan that would return to service the existing Port Everglades Units 1-4 in lieu of PEEC (the "Return To Service Resource Plan").
- Compared to a resource plan that would add a new FPL-built CC generating unit at a greenfield site in 2016 in lieu of PEEC, the PEEC Resource Plan is projected to save customers $838 million CPVRR (the "GFCC Resource Plan").
- The PEEC Resource Plan is projected to save customers $425 million when compared to a resource plan that adds two new FPL-built combustion turbines ("CT") in simple cycle mode at a greenfield site in 2016, and delays PEEC's operation to 2019 (the "GFCT Resource Plan").

Tr. 22-23 (Silva); 148, 160, 164 (Enjamio).

The PEEC Resource Plan is also projected to yield substantial customer savings compared to any resource plan that would include a capacity purchase from a third party's new advanced CC unit, in lieu of PEEC, due to several additional types of costs the third party would incur, such as the cost of land, water rights acquisition, transmission facilities and gas pipeline system expansion. Tr. 24-25 (Silva). These incremental capital investments would result in costs at least $900 million higher than PEEC and could potentially exceed $1.1 billion. Tr. 24-25 (Silva). These higher costs are exclusive of water costs, which also are likely to be higher for third party projects than for PEEC. Tr. 25 (Silva). Likewise, power purchases from an existing unit could not compete with PEEC's low costs. There is no third party facility in Miami Dade or Broward County available and willing to sell firm capacity to FPL, and any power source outside that load center would result in high energy costs to customers due to higher heat rates and transmission line losses in addition to capital costs for transmission upgrades that would be necessary to import that power. Tr. 47, 49-50, 188-189 (Silva).

Delaying PEEC for any reason is projected to increase the cost to FPL's customers. FPL has conducted an economic evaluation of the cost impacts from delaying PEEC one, two or three years. A one-year delay is projected to increase customers' costs by $9 million, while delays of two and three years are projected to increase customers' costs by $32 million and $72 million, respectively. Tr. 257 (Silva). And, as explained in further detail below, these cost penalties are quite conservative.

PEEC is also projected to provide significant environmental benefits. Compared to the Return to Service Resource Plan, PEEC will reduce carbon dioxide ("CO_2") emissions by about 22 million tons, sulfur dioxide ("SO_2") emissions by 40,000 tons and nitrogen oxides ("NO_x")

emissions by 33,000 tons over the thirty-year analysis period. Tr. 42-43 (Silva); 165 (Enjamio). The resulting air emission reductions will contribute significantly toward achieving whatever emission limits might be imposed in the future. Tr. 42 (Silva). Lower system emissions also help temper the risk that future environmental compliance costs may be greater than projected. Tr. 165-66 (Enjamio). Further, all Florida residents will enjoy the environmental benefits of cleaner air and lower greenhouse gas emissions.

PEEC also will enable FPL to reduce fuel use. PEEC's average heat rate will be approximately 35 percent lower than the existing Port Everglades units that PEEC will replace, and fuel efficiency will correspondingly improve. Tr. 26 (Silva). As a result, FPL's natural gas usage with PEEC is projected to decrease by about 90 million MMBtu and fuel oil usage is projected to drop by 10.4 million barrels (2017-2046), compared to returning to service the existing Port Everglades units. Tr. 167 (Enjamio).

Finally, PEEC is also projected to provide non-economic and societal benefits. PEEC avoids the use of new land, additional allocation of water resources to plant use, and the need for new rights-of-way for transmission facilities and gas pipelines. Tr. 58-59 (Gnecco). The aesthetics of the Port Everglades site will improve significantly, greatly benefiting one of Florida's waterfront areas that relies heavily on the tourism industry. Tr. 59 (Gnecco). Additionally, PEEC is projected to create an estimated 650 direct jobs at its peak and an estimated $20 million in new tax revenue to local governments and school districts during the first full year of operation. Tr. 59 (Gnecco).

For all of these reasons, PEEC is the best option for customers and the Commission should therefore grant an affirmative determination of need.

B. Nothing in FIPUG's Belated Attempt To Interject New Issues in this Proceeding Alters the Conclusion that PEEC is the Most Economic Resource Choice for FPL's Customers.

1. FIPUG's Attempt to Interject New Issues and Positions Violates the Order Establishing Procedure

The Order Establishing Procedure clearly outlines the process governing parties' rights and responsibilities for raising issues and taking positions on those issues. Pursuant to the Order, all parties must raise issues at or before the Prehearing Conference and must take a position on issues in its Prehearing Statement. Order No. PSC-11-0565 at 4-5. Failure to do so results in a waiver absent good cause shown. *Id.*, at 6. To establish good cause, the party must demonstrate that it was unable to identify the issue by the time of Prehearing Conference notwithstanding the exercise of due diligence and that introduction of the new issue will not prejudice the other party. *Id.*

FIPUG intervened in this proceeding well after the Prehearing Conference, and subsequently attempted during the final hearing to take positions on existing issues and introduce new issues. FIPUG made no effort whatsoever to demonstrate that it exercised due diligence, and the Commission made no finding of good cause for FIPUG's untimely positions. Accordingly, FIPUG should not be permitted to take positions. Nor should the Commission consider new issues FIPUG belatedly attempts to raise.

2. FIPUG Has Raised Nothing That Would Justify Denying or Deferring an Affirmative Need Determination for PEEC

a. Reserve Margin. FIPUG sought to interject as an issue in this proceeding FPL's reserve margin criterion, arguing that FPL should consider allowing its system reserves to fall from the established 20 percent reserve margin to 15 percent.[1] Putting aside FIPUG's

[1] FIPUG's counsel asserted at hearing that the Florida Reliability Coordinating Council (FRCC) uses a 15 percent reserve margin. Following the hearing, FRCC president Sarah Rogers was asked by *Electric Power Daily* about the

untimeliness, this proceeding is not the proper forum to discuss potential changes to the reserve margin criterion. FPL's 20 percent reserve margin criterion was previously approved by this Commission,[2] and reassessing it in this need determination proceeding is improper as a matter of law. *In re Petition To Determine Need for Hines Unit 3 in Polk County by Florida Power Corp.*, Docket No. 020953-EI, Order No. 03-0175 (issued Feb. 4, 2003) ("Hines 3"). In *Hines 3*, an intervenor opposed Progress Energy's request for a need determination on the ground that it should continue to operate under a 15 percent reserve margin criterion rather than 20 percent. The Commission disagreed, noting that it has "already determined that 20 percent is the correct reserve margin criteria, and the IOUs *are required to use this criteria,* unless modified in a subsequent proceeding." *Id.* at 4 (emphasis added). The Commission further decided that "the proper forum to address what minimum reserves are necessary is a generic docket, as [the Commission] has done before, not in a particular utility's power plant need determination docket." *Id.* at 4-5.

Moreover, even if the reserve margin issue could properly be addressed in this proceeding, implementing a 15 percent reserve margin criterion as suggested by FIPUG would create serious problems for FPL's system. Reserves would be insufficient to offset the effects of ordinary differences between projected load and plant operating characteristics on one hand, and FPL's actual load and plant operating conditions on the other. Ex. 40 (00237). For example, actual electricity demand may be higher than forecasted, or actual generation capacity availability may be lower than projected. Ex. 40 (00237). Additionally, FPL's reserves would

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use of a 20% reserve margin as a follow-up to FIPUG's assertions at the hearing on Monday. Ms. Rogers stated that the FRCC "fully supports the 20% reserve margin . . . . Lowering the reserve margin *is never a positive for* reliability," particularly on the Florida peninsula, where utilities like FPL have few, if any, options for importing supplemental power from other states." *See Platt's Electric Power Daily*, February 22, 2012 at p. 5. The article also summarizes FIPUG's positions; as established throughout this brief, those positions are wholly unsupported and lack merit.

[2] Docket No. 981890-EU, Order No. 99-2507-S-EU (issued Dec. 22, 1999).

be insufficient to offset the reduction in generating capability that occurs during scheduled maintenance outages in off-peak months. Ex. 40 (00237). In the absence of a 20 percent margin, the portion of projected reserves met with generating units as opposed to load control would drop significantly. Ex. 40 (00237). This could lead to excessive reliance on load control programs, which can significantly discourage customer participation over time. Ex. 40 (00237).

b. FPL's Motivation for Proposing PEEC. FIPUG asserted in its opening statement and cross-examination that FPL's decision to propose PEEC was motivated by shareholder, rather than customer, interests. That assertion fell flat, however, in the face of uncontroverted evidence to the contrary. FPL petitioned for this need determination because PEEC is the best option *for customers*. Indeed, all of FPL's resource planning decisions turn on which alternative benefits *customers* most. Tr. 212 (Silva). This focus on customer benefits drives all of FPL's resource planning. Tr. 214-15 (Silva). Indeed, FIPUG's own exhibit makes clear that FPL's goal in making investments is to "reward []customers with operating efficiencies, cleaner generation and reduced fuel costs, all while keeping [FPL's] bills the lowest in Florida." Tr. 214; Ex. 42 at p. 5.

c. FPL's Wholesale Power Sale to Seminole Electric Cooperative. FIPUG asked the Commission to question FPL's sale of wholesale power to Seminole, suggesting that FPL might have avoided the need to add PEEC to its system without that sale. There is no issue in the Prehearing Order concerning FPL's decisions on wholesale power, and the Commission determined that questions about those sales are outside the scope of this proceeding. *See* Tr. 239-241 (Commission sustained objection to this line of questioning). Moreover, wholesale power sales are within the exclusive jurisdiction of the Federal Energy Regulatory Commission. *In re: Petition for approval of Amendment No. 1 to generation services agreement with Gulf,*

Docket No. 110041-EI, Order No. PSC-11-0269, dated June 21, 2011. In any event, FIPUG's critique of FPL's decision to enter wholesale power agreements is misguided. Wholesale power contracts benefit all retail customers due to reduced jurisdictional separation factors, which in turn reduce the share of costs for which retail customers are responsible. *See In re: Fuel and Purchased Power Cost Recovery Clause*, Docket No. 970001-EI, Order No. PSC-97-0262-FOF-EI, dated March 11, 1997 ("When a utility enters into a wholesale transaction that is to be separated, the retail cost responsibility is adjusted by either a reduction in actual retail base rate revenue requirements . . . or through credits in the fuel adjustment clause. . . . This process protects the retail market from subsidizing the competitive wholesale market.").

In sum, FIPUG's attempts to interject arguments regarding FPL's Commission-approved reserve margin criterion, FPL's motivation for proposing PEEC, and FPL's decisions to enter into wholesale power contracts are belated, unauthorized and unsubstantiated. They should be rejected.

ISSUES AND POSITIONS

Issue 1: Is there a need for the proposed modernization of Florida Power & Light's Port Everglades plant, taking into account the need for electric system reliability and integrity, as this criterion is used in Section 403.519(3), Florida Statutes?

Yes. Adding PEEC in 2016 is the most cost-effective power source for customers. Delaying PEEC's in-service date results in increased costs for construction labor and equipment and carries the potential for substantial environmental cost increases. PEEC also enhances system reliability in terms of transmission load-to-generation balance and fuel supply.

Yes, there is a need for PEEC taking into account electric system reliability and integrity. The "need for power" that the Commission evaluates in need determination proceedings such as this one encompasses several aspects. *In Re: JEA/FPLs Application of Need for St. Johns River Power Park Units 1 and 2 and Related Facilities*, Docket No. 810045-EU, Order No. 10108, 81

F.P.S.C. 220 (Fla. P.S.C. June 26, 1981). The need for an electric power plant refers not only to additional capacity requirements, but also the economic need to provide energy to customers at the lowest possible cost, a socio-economic need to reduce the consumption of imported oil in the State of Florida, or the need for fuel diversity. *Id.*; Section 403.519, Florida Statutes; Rule 25–22.081(3), Fla. Adm. Code. In *In re Petition for determination of need for Hines Unit 2 by Florida Power Corp.*, Docket No. 001064, Order No. PSC-01-0029 (Jan 5, 2001)[3], for example, the Commission recognized that Progress Energy's (then known as Florida Power Corp.) Hines 2 project was accelerated by about 6 months in terms of capacity needed to meet the Company's 20 percent reserve margin. The Commission granted an affirmative determination of need, concluding that the decision to construct Hines 2 in the requested time frame was driven primarily by economics. Specifically, Hines 2 would provide savings to customers over the long-term and timing the project somewhat early allowed Progress Energy to secure discounted equipment prices. Moreover, the project's design called for backup fuel facilities, which would increase reliability. *See also Panda Energy International v. Jacobs*, 813 So. 2d 46, 54 (Fla. 2002) (holding that Commission properly considered Hines 2's economic benefit to customers and added reliability in granting affirmative determination of need).

The same is true here. The record clearly establishes that adding PEEC in 2016 is the most cost-effective source of power for FPL's customers and will enhance the reliability of FPL's electric system in terms of fuel supply and transmission load-to-generation balance. FPL's analyses also project that adding PEEC in 2016 will result in lower costs to FPL's customers than delaying the in-service date one, two or three years.

[3] Hereinafter "*Hines 2 Need Determination*"

PEEC is the Most Cost-Effective Option for Customers

As will be explained in Issues 3 and 5, FPL's economic analyses show that adding PEEC in 2016 saves customers $425 million to $838 million compared to other self-build alternatives. Also, compared to third party-build alternatives, PEEC saves customers at least $900 million.

Moreover, delaying PEEC for any reason would increase the costs to customers. Circumstances may change over time in ways that could either increase or decrease the projected need for capacity that PEEC will serve. For example, the assumption reflected in FPL's filing that power purchases from the St. Johns River Power Park ("SJRPP") will be suspended before the 2016 Summer peak has recently changed, indicating that SJRPP purchases will not be suspended until after the 2016 Summer peak. *See* Ex. 40 (00239). Because FPL is entitled to 375 MW (summer rating) of capacity from SJRPP Tr. 253 (Silva), this change in the suspension date means that FPL would not have to add PEEC in 2016 solely to meet capacity need. However, FPL's analyses continue to show that bringing PEEC into service in 2016 provides economic and reliability benefits to customers. Before the final hearing in this proceeding, FPL evaluated the economic consequences of delaying PEEC one, two or three years. These economic analyses were based on the mid-course correction fuel forecast, and they assume that power purchases from SJRPP will remain available through the 2016 summer peak season. Under all three scenarios, putting PEEC into service in 2016 remains the most cost effective option for customers, even if there were not a capacity need for the project until after 2016. A one-year delay is projected to increase customers' costs by $9 million, while delays of two and three years are projected to increase customers' costs by $32 million and $72 million, respectively. Tr. 257 (Silva).

These projected cost increases to customers as a result of delaying PEEC are very conservative, because they assume that FPL would experience only a three percent annual escalation in the cost to build PEEC during the delay. Tr. 257-58 (Silva). The true cost increase could be significantly higher, for several reasons. First, an economic recovery could cause greater competition for labor, materials, and equipment, which would raise the cost of the unit more than the inflation rate. Tr. 258 (Silva). Second, the combination of environmental laws and low gas prices could force utilities to shut down coal plants and add new gas generation, which, in turn, will increase demand for CC units throughout the country. That, again, could raise the cost. Tr. 258 (Silva).

Finally, a delay of even one year could significantly increase FPL's air permitting burden because of stricter environmental requirements under the Environmental Protection Agency's ("EPA's") prevention of significant deterioration ("PSD") regulations that will apply if PEEC does not go into service in 2016. Tr. 258 (Silva); Ex. 40 (00238). The EPA's comprehensive and potentially burdensome PSD review for new sources is triggered when a modification to an existing facility is projected to result in increased air emissions compared to historical emission levels, as measured by the two highest emission years out of the prior five years. Tr. 258 (Silva); Ex. 40 (00238). Currently, 2006 and 2007 represent the highest two years. Tr. 258 (Silva). If PEEC were deferred, those years will no longer fall within the five-year period, and subsequent years would not provide an offset because the existing Port Everglades units were placed in Inactive Reserve. Tr. 258-59 (Silva).

FPL and Staff have appropriately addressed the fact that planning assumptions evolve and are always subject to change, by providing in the Proposed Stipulation that: "[i]f conditions change from what was presented at the need determination proceeding, then a prudent utility

would be expected to respond appropriately .... [and that] ... FPL should continue to report the status of PEEC to the Commission in the annual report required under Issue 3." As indicated above, PEEC remains cost-effective for customers and will provide important reliability benefits to customers if placed into service in 2016 regardless of whether power purchases from SJRPP remain available in 2016. The record confirms that there will be increasing and compounding economic harm to FPL customers if PEEC is delayed beyond 2016.

PEEC Will Contribute to FPL's System Reliability

PEEC's ability to burn light oil as a backup fuel further enhances FPL's reliability in the event of disruption in the supply or delivery of natural gas. Because of PEEC's location adjacent to a deep-water port that has significant oil storage, the light oil can be re-stocked rapidly and allows PEEC to continue running on light oil for much longer than would be the case at land-locked CC facilities where the light oil must be re-stocked by truck deliveries. Tr. 106 (Stubblefield), 254 (Silva).

In addition, PEEC's location within FPL's most concentrated service area – Miami-Dade and Broward County – enhances reliability from a transmission perspective. Tr. 131, 142 (Modia). FPL transmission analyses have identified a concern with maintaining a regional balance between customer demand and generating capacity in the Miami-Dade and Broward County area, and the Company projects that by 2020 transmission needs will require either activation of additional generation units in the area (such as PEEC) or an additional investment of $638 million in transmission upgrades to import power from other areas. Tr. 126-27 (Modia). PEEC provides the best solution. Tr. 142-144 (Modia). PEEC's location reduces the load-to-generation imbalance in the Miami-Dade and Broward County area and also provides voltage support. Tr. 142-43 (Modia). Moreover, for purposes of transmission reliability, it is preferable

to have generation close to load than to rely on transmission lines. Tr. 143 (Modia). Thus, PEEC will be available to serve that concentrated load without either the expense or reliability concerns of long-distance power transmission.

In conclusion, there is a need for PEEC in 2016, taking into account the cost savings to customers and the need for electric system reliability and integrity.

FIPUG's Belated Objection to PEEC's Size is Misguided

FIPUG has argued that FPL should respond to its needs with small capacity additions rather than building a unit with a large generating capacity such as PEEC. That argument ignores both this Commission's precedent and fundamental principles of resource planning.

The Commission rejected a similar objection in the *Hines 2 Need Determination.* The intervenor in that case opposed the need request for Hines 2 on the ground that, *inter alia*, Progress Energy required only about one fourth of the unit's capacity by the proposed in-service date. The Commission rejected that argument, noting that Progress Energy was forecasted to continue growing beyond the in-service date, and the Hines 2 Unit would be available to fulfill the growing need. *See also Panda Energy International v. Jacobs*, 813 So. 2d 46, 54 (Fla. 2002) (holding that the Commission properly considered the fact that Progress would grow into the unit's capacity output in granting affirmative determination of need).

Here, too, FPL projects a steadily growing need that will reach 1,468 MW in 2021. Tr. 80 (Morley); 147 (Enjamio). PEEC will be available to meet that growth.[4] Small capacity additions are not always in the customers' best interest. As FPL witness Silva explained, FPL's resource planning process involves an evaluation of power purchases, small generation additions or larger generation additions. Tr. 247-48 (Silva). The choice among options is ultimately based

[4] The delay in the SJRPP suspension period does not alter the conclusion that FPL will face a growing capacity need over the period from 2016 to 2021 without PEEC. While the suspension period is projected to extend through the 2016 Summer peak, when it expires FPL's resource needs will revert to the levels projected at the time of this filing.

on what is most cost-effective for FPL's customers. Tr. 248 (Silva). The record establishes that, in this instance, PEEC is the most cost-effective alternative. *Id.*

> **Issue 2: Are there any renewable energy sources and technologies or conservation measures taken by or reasonably available to Florida Power & Light Company which might mitigate the need for the proposed modernization of Florida Power & Light's Port Everglades plant?**
>
> *No. FPL's forecast accounts for all projected DSM from Commission-approved cost effective programs. Additional cost-effective DSM cannot be counted on to contribute to system reliability. All anticipated cost-effective firm capacity that will be available from renewable resources and qualifying facilities through 2016 is already reflected in FPL's resource plan.*

Demand Side Management (DSM)

FPL's forecast accounts for all projected DSM from cost-effective programs approved by the Commission. Tr. 31, 185 (Silva); 147 (Enjamio). FPL has identified no additional cost-effective DSM that might mitigate the benefits of PEEC. Tr. 37 (Silva). FPL and its customers will have avoided a total of 6,171 MW of generating capacity by August of 2016 as a result of DSM programs. This is equivalent to more than 23 percent of the projected total amount of FPL-owned generating capacity that will be in operation. Tr. 37, 185 (Silva). Both FPL and the FRCC have expressed serious concerns that increased reliance on DSM to meet reserve margins could lead to excessive use of load control programs, and, consequently, abrupt customer defections. Tr. 39, 183 (Silva). In short, FPL has been active in developing DSM and FPL's reliance on DSM is already significant, but it is unrealistic to expect additional DSM could or should displace PEEC.

Renewable Resources

FPL's resource plans also already reflect all anticipated cost-effective firm generating capacity that will be available from renewable resources and qualifying facilities ("QFs") through 2016. Tr. 31 (Silva). In addition to existing contracts, FPL anticipates that it will secure

approximately 110 MW of additional firm purchased power from renewable resources for a total of 740 MW by 2016. Tr. 38 (Silva). Further, FPL is currently in negotiations for firm purchased power from renewable resources potentially totaling up to 180 MW. Tr. 38 (Silva). However, it is unlikely that these negotiations would result in firm capacity any earlier than 2019. Tr. 38 (Silva).

FIPUG suggested at hearing that FPL failed to pursue opportunities for renewable energy contracts with Florida Crystals and other QFs in Miami-Dade and Broward Counties. This suggestion was thoroughly discredited by FPL witness Silva's uncontroverted testimony. Mr. Silva testified that FPL undertakes ongoing efforts to solicit and encourage third parties to sell firm power to the Company from renewable sources, but such third parties in Florida have declined to do so. Tr. 189-90 (Silva). In fact, FPL issued two requests for proposals for supply of renewable generation, which were unsuccessful primarily because no entity wanted to offer firm power at a cost that would fall under FPL's avoided cost. Tr. 190 (Silva). It is likewise telling that no renewable energy facility intervened or otherwise opposed FPL's petition for an exemption from the Bid Rule (which would have required an RFP process into which they could have bid) and that no such facility has offered to sell firm power under FPL's standard offer contract as an alternative to PEEC. Tr. 256-57 (Silva).[5] Specifically with respect to the renewable energy facilities that FIPUG referenced:

[5] Comparing FPL's COG-1 tariff to its standard offer contract shows that QFs would receive a greater stream of revenues on a net present value basis under the COG-1, while requiring no firm capacity commitment on their part to FPL, and a comparison of the standard offer contracts of FPL, Progress Energy and TECO shows that QFs would receive lower payments from FPL than from the other two utilities. *See* FPL Second Revised Sheet No. 10.100 (COG-1) and Fifth Revised Sheet No. 9.030 (SOC); Progress Energy First Revised Sheet No. 9.400 (SOC) and Second Revised Sheet No. 9.100 (QF as available); and TECO Tenth Revised Sheet No. 8.020 (COG-1) and Tenth Revised Sheet No. 8.202 (SOC). In effect, FPL's success in keeping its cost of electricity low – which is such a boon to FPL customers – actually works against the Company in terms of attracting cost-effective power purchases.

- Florida Crystal's Okeelanta facility is currently under contract with FPL, but only to sell as-available energy. Florida Crystals does not want to commit firm capacity to FPL. Tr. 221 (Silva).

- The two Broward County waste-to-energy facilities previously sold firm capacity to FPL, but they rejected FPL's attempts to renew their contracts because they preferred to "play the market" by selling their power to the highest bidder each day. Tr. 187-88 (Silva).

- The Montenay waste-to-energy facility in Miami-Dade County has consistently chosen to sell its power independently rather than selling to FPL. Tr. 188 (Silva).

Issue 3: Is there a need for the proposed modernization of Florida Power & Light's Port Everglades plant, taking into account the need for adequate electricity at a reasonable cost, as this criterion is used in Section 403.519(3), Florida Statutes?

* Yes. PEEC's estimated installed cost is $1,185 million. PEEC will take advantage of an existing site, existing infrastructure and existing transmission system connectivity.*

Yes. There is a need for PEEC, taking into account the need for adequate electricity at a reasonable cost. PEEC's location at an existing generation site is a significant cost advantage that other options cannot overcome. First, PEEC requires no new land for a generating unit. Tr. 45, 48-49 (Silva). Second, PEEC will increase FPL's generating capacity without increasing the amount of water that must be allocated to FPL's use, which, in turn, eliminates additional water access costs. Tr. 45, 48-49 (Silva); 58 (Gnecco). Third, PEEC has existing natural gas infrastructure, which avoids costs for a new gas pipeline to deliver fuel. Tr. 45 (Silva); 58, 64 (Gnecco); 102 (Stubblefield). In fact, PEEC will require only modest upgrades for fuel delivery, primarily associated with adding the compression necessary to meet the delivery pressure

requirements of the plant. Tr. 102 (Stubblefield). Fourth, PEEC will interconnect to the existing transmission switch yard at the Port Everglades site, which eliminates costs for new transmission connections. Tr. 49 (Silva); 74 (Gnecco). Fifth, PEEC eliminates the need to expend $638 million in transmission upgrades, including new rights-of-way, because it is situated near FPL's service area with the highest load concentration. Tr. 127 (Modia). Finally, PEEC will operate with low fuel costs and low maintenance costs. Tr. 64 (Gnecco).

The estimated total installed cost for PEEC is $1,185 million, in 2016 dollars. Tr. 76 (Gnecco). Principal components include the power block at $1,041.1 million, transmission interconnection and integration at $32.5 million and allowance for funds used during construction (AFUDC) at $111.6 million. Tr. 76 (Gnecco). FPL's analyses show that the resource plan that includes PEEC in 2016 is projected to save customers $425 million to $838 million CPVRR as compared to the other available self-build alternatives, and at least $900 million CPVRR compared to third party-build alternatives. Tr. 148 (Enjamio).

FPL has extensive experience building CC plants on time and on budget. Tr. 66 (Gnecco). Moreover, as set forth in the Proposed Stipulation, FPL agrees to report annually to the Commission the budgeted and actual costs compared to the estimated total in-service costs of the proposed PEEC project relied upon in this proceeding. Tr. 76 (Gnecco). For this project, FPL is considering a number of advanced CT designs which could impact the overall cost of the PEEC project. Tr. 31-33 (Silva). For this proceeding, FPL used projected costs and operating characteristics of the "J" CT technology. Tr. 31-32 (Silva). FPL requests that, as part of the Commission's Order granting an affirmative determination of need for the PEEC Project in 2016, the Commission provide that its determination is not predicated on the use of a particular CT design, thus ensuring that FPL has the flexibility through its analysis and negotiations to

select the CT design that best meets customers' needs in terms of reliability and cost-effectiveness. If FPL decides to use a CT design other than the "J" technology, then FPL will include in its annual report the comparative cost advantage of the alternative design chosen. Tr. 32-33 (Silva). FPL will make such selection only if the projected costs to FPL's customers would be lower as a result of the alternate design. Tr. 33 (Silva).

Issue 4: Is there a need for the proposed modernization of Florida Power & Light's Port Everglades plant, taking into account the need for fuel diversity, as this criterion is used in Section 403.519(3), Florida Statutes?

* Yes. PEEC will be fueled primarily by natural gas and can burn light oil as a backup fuel. PEEC is projected to improve the plant's heat rate by 35%, thus reducing FPL's use of natural gas usage by about 90 million MMBtu and fuel oil by about 10.4 million barrels.*

Yes, there is a need for PEEC, taking into account fuel diversity. FPL is pursuing fuel diversity in many ways. Tr. 199 (Silva). A large part of that effort consists of improving system efficiency. Tr. 219 (Silva). FPL's investments from 2001 to date have increased system fossil fuel efficiency by 20 percent; in other words, 20 percent less fossil fuel is being burned than would have been in the absence of such investments. *Id.* FPL projects that by 2016, the improvement in system efficiency will increase to 26 percent. *Id.*

PEEC is an important part of this effort. PEEC's advanced technology will significantly improve the plant's heat rate, which indicates higher efficiency in the conversion of fuel to electrical energy and results in less fuel being burned to produce a given amount of electricity. Tr. 166 (Enjamio). Compared to the existing units at Port Everglades, adding PEEC will reduce the plant's heat rate from 9,800 Btu/kWh to 6,330 Btu/kWh, a 35 percent improvement. Tr. 42, 200 (Silva); 58, 66 (Gnecco). PEEC also improves FPL's overall system heat rate by 1.3 percent compared to the existing units. Tr. 26 (Silva). The improved heat rate is projected to reduce FPL's use of natural gas by about 90 million MMBtu and fuel oil by about 10.4 million barrels

over a thirty-year period. Tr. 167 (Enjamio). This, in turn, reduces FPL's dependence on natural gas. Tr. 200 (Silva).

While PEEC will be fueled primarily by natural gas, it will have the capability to burn light oil as a backup fuel. Tr. 59 (Gnecco). And because of PEEC's location adjacent to a deep-water port that has significant oil storage, the light oil can be re-stocked rapidly and allow PEEC to continue running on light oil for much longer than would be the case at land-locked CC facilities where the light oil must be re-stocked by truck deliveries. Tr. 184-85, 254 (Silva).

It is also important to recognize that FPL has substantial economic diversity in its fuel mix, a fact that is sometimes obscured by the relatively high percentage of FPL's generation that typically runs on natural gas at today's low natural gas prices. However, in the event that natural gas prices increased sharply, FPL has 3,200 MW of oil-fired generation at the Martin and Manatee plant sites as well as coal-fired generating units that currently run at low capacity factors but could displace large amounts of gas-fired generation. Tr. 202 (Silva). Shifting to those non-gas fired sources of power could reduce FPL's percentage of generation with gas from more than 60 percent to 48 percent. Tr. 202, 254 (Silva).

Finally, the use of natural gas as a primary fuel source with light fuel oil as a back-up fuel combined with combustion control technologies will minimize air emissions from the unit and ensure compliance with applicable emission limiting standards. Tr. 73 (Gnecco). PEEC is projected to reduce emissions of SO_2, NO_x, and CO_2 from FPL's system by approximately 40,000 tons, 33,000 tons, and 22 million tons, respectively, over the life of the project. Tr. 42-43 (Silva).

Issue 5: Will the proposed modernization of Florida Power & Light's Port Everglades plant provide the most cost-effective source of power, as this criterion is used in Section 403.519(3), Florida Statutes?

Yes. Compared to returning to service the existing Port Everglades units, adding a CC unit or adding a CT unit that defers PEEC to 2019, adding PEEC in 2016 will save customers $469, $838 million, and $425 million, respectively. PEEC saves at least $900 million compared to third party-build alternatives.

FPL's Economic Analysis

FPL's economic analysis focuses on the best option for customers. Tr. 187 (Silva). FPL's resource planning process consists of developing and evaluating viable options and determining the CPVRR amounts for each resource plan. Tr. 161 (Enjamio). The range of options that FPL considers includes power purchases, small unit additions, and large unit additions. Tr. 219, 247 (Silva). The ultimate selection is based on what is most cost-effective for customers; FPL adds capacity to serve customers at the lowest possible cost without consideration to whether the selection is a pass through or earns a return. Tr. 211, 215, 247 (Silva).

In this instance, FPL evaluated several self-build options, third party-build options and power purchases from existing third party facilities. The economic analyses revealed that bringing PEEC into service in 2016 is the most cost-effective option. The comparisons are discussed in more detail below.

Self-Build Alternatives

FPL compared the PEEC Resource Plan against three other self-build alternatives: the Return to Service Resource Plan, the GFCC Resource Plan, and the GFCT Resource Plan. Tr. 147 (Enjamio). FPL used using economic criteria to determine the most cost-effective and desirable option for FPL's customers based on the total CPVRR over a thirty-year period. Tr. 148, 161 (Enjamio). The economic analysis at the time of this filing showed that the PEEC

Resource Plan will provide savings to FPL's customers of about $469 million in CPVRR when compared to the Return to Service Resource Plan, about $838 million in CPVRR when compared to the GFCC Resource Plan, and about $425 million in CPVRR when compared to the GFCT Resource Plan. Tr. 148 (Enjamio).

Third Party Alternatives

New Construction. The unmatched advantages of the PEEC Project would result in significant customer savings compared to a third party's offer to build a new advanced CC generating unit. FPL estimates that a new third-party generator built in Miami-Dade County or Broward County would have an initial capital cost between $900 million and $1 billion higher than that of PEEC, in 2016 dollars, not including the cost of water, due to the cost of land, transmission facilities and the gas pipeline system expansion. Tr. 24 (Silva). A new third-party generator built outside Miami-Dade and Broward Counties is estimated to have an initial capital cost between $950 million and $ 1.1 billion higher than that of PEEC, in 2016 dollars, not including the cost of water nor that of a gas lateral, due to the cost of land and transmission facilities, including the cost of the transmission upgrades that would be required to address the growing imbalance between generation and demand in Miami-Dade and Broward Counties. Tr. 25 (Silva). Moreover, energy costs would be higher notwithstanding the CC technology due to line losses and the need to occasionally run peaking units in the Miami-Dade and Broward area out of economic dispatch. Tr. 203 (Silva).

Purchases From Existing Third Party Facilities. FPL's Energy Marketing and Trading group regularly communicates with would-be suppliers for hourly, daily, and long-term power purchases. Tr. 196 (Silva). FPL evaluates the power purchase options and pursues such agreements if they result in the most cost-effective source of power for customers. Tr. 219

(Silva). While FIPUG tried to argue otherwise at the hearing, nothing in the record suggests that any existing third-party facilities are ready and willing to sell FPL power on terms that are more favorable to customers than PEEC.

The absence of renewable energy facilities that could or would compete with PEEC has already been established in the discussion on Issue 2 above. There is likewise no evidence of conventional third-party generation that compares favorably to PEEC. FIPUG speculated that a few facilities outside the Miami-Dade and Broward County area – such as Osprey, Reliant Energy Indian River and Oleander – might be possible candidates for purchase power agreements, but presented no evidence demonstrating the viability of those facilities. Tr. 207-08. To the contrary, FPL Witness Silva explained that the Osprey facility utilizes older technology, Reliant Energy Indian River facility is oil-fired and uneconomic, and Oleander is a simple cycle CT which has too high a heat rate to be competitive. Tr. 207-208 (Silva). Moreover, those facilities would have to overcome large cost penalties inherent in all locations outside the Miami-Dade and Broward County area in order to compete with PEEC. Unless PEEC or another large generating resource is built in that area by 2020, customers would have to bear approximately $638 million in transmission upgrades to import power into the region. Tr. 50, 203 (Silva). In addition to those capital expenditures, customers would also pay higher power costs due to line losses resulting from long distance transmission and the need to occasionally run peaking units in the Miami-Dade and Broward County area out of economic dispatch in order to balance supply and demand. Tr. 203 (Silva). Neither the record nor common sense supports the notion that Osprey, Reliant Energy Indian River, Oleander or any other existing third-party facility could overcome these disadvantages and deliver power at a lower cost to customers than PEEC.

FPL also analyzed whether short-term power purchases would benefit customers by allowing PEEC to be deferred. As discussed in Issue 1, however, deferring PEEC actually *increases* the cost to customers by at least $9 million, $32 million and $72 million for one, two and three year deferrals, respectively. This is so even with the assumption that FPL will be able to purchase SJRPP power for the 2016 Summer peak. And these lost savings calculations are very conservative for the reasons discussed in Issue 1.[6]

In conclusion, the cost advantages of PEEC are unmatched by any other option. FPL's economic analyses demonstrate that adding PEEC in 2016 will result in customer savings of $425 million CPVRR to $838 million CPVRR compared to other self-build options and at least $900 million. Bringing PEEC into service in 2016 also saves customers millions of dollars CPVRR compared to delaying construction. Accordingly, PEEC is the most cost-effective source of power.

Issue 6: Based on the resolution of the foregoing issues, should the Commission grant Florida Power & Light Company's petition to determine the need for the proposed modernization of Florida Power & Light's Port Everglades plant?

Yes. As set forth in issues 1 through 5, bringing PEEC into service in 2016 is the most cost effective source of power for customers, and delaying PEEC results in cost penalties. PEEC enhances system reliability, reduces dependency on natural gas and further improves FPL's already low air emissions profile.

Yes. As demonstrated in detail under Issues 1-5, PEEC is the best option available for FPL's customers taking into account the need for electric system reliability and integrity, the need for adequate electricity at a reasonable cost, the need for fuel diversity and supply reliability, cost-effectiveness, and the availability of renewable or conservation alternatives. In

[6] At hearing, FIPUG referenced the short-term power purchase scenario analyzed in response to Staff's Interrogatory 59 (a), which showed customer savings compared to bringing PEEC into service in 2016. However, that scenario did not consider equal levels of system reliability to the PEEC Resource Plan, and hence its economics cannot be meaningfully compared to PEEC. Tr. 244-46 (Silva).

addition, PEEC will optimize the use of an existing site and is thus consistent with the Commission's belief that before a utility constructs a new generating unit at a greenfield site, it must consider the feasibility of modernization of existing units.

Issue 7: Should this docket be closed?

Yes. Upon issuance of an order granting FPL's petition to determine the need for PEEC, the Commission should close this docket. FPL has no objection to the Commission's including in the final need order the commitments that are set forth in Issues 3 and 7 of the Proposed Stipulation.

Yes. Upon issuance of an order granting FPL's petition to determine the need for PEEC, the Commission should close this docket. FPL has no objection to the Commission's including the following commitments in its final order granting an affirmative determination of need:

> [Issue 3] FPL is considering a number of advanced combustion turbine designs which could impact the overall cost of the PEEC project. For this proceeding, FPL used projected costs and operating characteristics of the "J" combustion turbine technology, with which FPL has no direct experience. Therefore, FPL shall report annually to the Commission the budgeted and actual costs compared to the estimated total in-service costs of the proposed PEEC project relied upon in this proceeding. If FPL decides to utilize a different combustion turbine design from the one presented in this proceeding, then FPL will include in its annual report the comparative cost advantage of the alternative design chosen. Such a selection would only be made if the projected costs to FPL's customers would be lower as a result of the alternate design.
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> [Issue 7] The Commission's decision on a need determination petition must be based on the facts as they exist at the time of the filing with the underlying assumptions tested for reasonableness. It is prudent for a utility to continue to evaluate whether it is in the best interests of its ratepayers for a utility to participate in a proposed power plant before, during, and after construction of a generating unit. If conditions change from what was presented at the need determination proceeding, then a prudent utility would be expected to respond appropriately. In addition, the Commission has an ongoing authority and obligation to ensure fair, just, and reasonable rates for Florida's utilities and ratepayers. FPL should continue to report the status of the PEEC to the Commission in the annual report required under Issue 3.

Respectfully submitted this 5th day of March, 2012.

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CERTIFICATE OF SERVICE
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I HEREBY CERTIFY that a true and correct copy of the foregoing FPL's Post-Hearing Brief was served via electronic delivery this 5th day of March, 2012 to the following:

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