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April 30, 2008

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VIA HAND DELIVERY

Ms. Ann Cole, Commission Clerk
 Office of Commission Clerk
 Florida Public Service Commission
 2540 Shumard Oak Boulevard
 Tallahassee, Florida 32399-0850

Re: Docket No. 08____-EI
In re: Florida Power & Light Company's Petition to Determine Need for Conversion of Riviera Plant

Docket No. 080246-EI
In re: Florida Power & Light Company's Petition to Determine Need for Conversion of Cape Canaveral Plant

Dear Ms. Cole:

Enclosed for filing on behalf of Florida Power & Light Company ("FPL") are the original and fifteen (15) copies of (i) FPL's Petition to Determine Need for Conversion of Riviera Plant; (ii) FPL's Petition to Determine Need for Conversion of Cape Canaveral Plant; and (iii) testimony and exhibits of Kennard F. Kosky, Dr. Rosemary Morley, Rene Silva, Dr. Steven R. Sim, Heather C. Stubblefield, Alan S. Taylor, and Cindy Tindell, which support both petitions.

Also enclosed for filing is FPL's Motion to Consolidate the above dockets with Docket No. 080203-EI, *In re: Florida Power & Light Company's Petition to Determine Need for West County Energy Center Unit 3 Electrical Power Plant.*

Included in this submittal is a computer diskette containing both of FPL's Petitions, as well as FPL's motion to consolidate, in Word format. Please contact me if you or your Staff has any questions regarding this filing.

Sincerely,

Bryan S. Anderson
 Authorized House Counsel No. 219511

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 Enclosures

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BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Florida Power & Light Company's)
Petition to Determine Need for Conversion)
Of Cape Canaveral Plant)
_____)

Docket No. 080246

Dated: April 30, 2008

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PETITION

Pursuant to Sections 366.04 and 403.519, Florida Statutes, and Rules 25-22.080, 25-22.081, 25-22.082 and 28-106.201, Florida Administrative Code, Florida Power & Light Company ("FPL" or the "Company") petitions this Commission for an affirmative determination of need for the conversion of FPL's existing Cape Canaveral plant in Brevard County, Florida. FPL also requests that the Commission exempt FPL from the requirements of the Commission's Bid Rule, Rule 25-22.082.

FPL proposes removing two 1960s-era oil and natural gas fueled steam electric generating units, and replacing them with one highly efficient combined cycle power plant for service beginning in 2013. FPL would also install equipment needed to integrate, interconnect and transmit energy from the new generating unit. The overall project is referred to in this petition as the "Cape Canaveral Conversion."

The Cape Canaveral Conversion will benefit customers in many ways. The conversion will provide additional firm electric generating capacity necessary to maintain system reliability, while reducing customers' electricity costs and FPL's system air emissions, all without using new land. The Cape Canaveral Conversion will also preserve use of much existing infrastructure including electric transmission facilities and rights of way.

Combined with FPL's proposed conversion of its Riviera plant in Palm Beach County, which is the subject of a separate petition filed on this date, customers are expected to save an

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estimated \$457 million in electricity costs. Altogether, customers should save more than an estimated \$1,193 million by converting FPL's Cape Canaveral and Riviera plants for service in 2013 and 2014, respectively, plus constructing FPL's proposed West County Unit 3 in 2011, for which a separate need determination petition was filed on April 8, 2008.

FPL's ability to convert the Cape Canaveral and Riviera plants depends on West County Unit 3 beginning operation in 2011, in order to ensure that there is sufficient generating capacity on FPL's system to allow removal of the existing Cape Canaveral and Riviera units from service while maintaining reliable electric service.

FPL's customers will receive all of the major fuel cost savings from the Cape Canaveral Conversion, shown by lower fuel charges on their bills, starting when the new unit begins operating. Capital cost savings will also be reflected in customers' charges over the life of the plant.

The Cape Canaveral Conversion will reduce FPL's electric system greenhouse gas emissions by millions of tons over its operating life. Combined together, the Cape Canaveral Conversion and the proposed Riviera plant conversion will reduce FPL's system cumulative CO₂ emissions by more than 15.7 million tons. This is in addition to other important air emission reductions. Thus the Cape Canaveral conversion will contribute significantly toward achieving the targets reflected in Governor Crist's Executive Order No. 07-127, and whatever specific legal requirements may be implemented as a result of that Order or pursuant to federal law.

I. Introduction and Overview

1. Florida is one of the most populous states in the nation and continues to be one of the fastest growing. FPL projects an annual average increase of approximately 81,000 new customers through 2017. With the increase in the number of electricity-consuming devices, electric usage per FPL customer has also increased over the past 20 years, even as end-use efficiency has significantly improved. Accordingly, FPL must continue to make significant investments in new infrastructure to keep pace with the increasing demand for adequate, reliable power associated with such growth.

2. FPL continues to advance energy efficiency and load management techniques through industry-leading conservation efforts and other demand side management (“DSM”) programs, and actively cultivates and pursues the development of additional renewable generating capacity within the state. These efforts by themselves, however, are not enough. FPL must also construct large, baseload capacity additions if the Company is to continue “keeping the lights on.” The proposed Project will provide baseload capacity, continuously supplying electricity year-round, and is the most economical option for customers, while helping FPL meet efficiency and CO₂ reduction objectives.

3. FPL seeks from the Commission an affirmative determination of need for the Cape Canaveral Conversion, involving installation of a combined cycle power plant with a summer capacity rating of 1,219 MW and a commercial operation date of June 1, 2013. The Cape Canaveral Conversion will replace two operating 400 MW dual-fuel fired steam generating units that entered service in the 1960s and are located at FPL’s Cape Canaveral plant in Brevard County, Florida. The converted plant’s primary fuel will be natural gas, and it will have the capability to use light oil as backup fuel.

4. FPL's request for an affirmative determination of need is the culmination of extensive investigation and analyses designed to identify the best, most cost-effective alternatives for meeting FPL's forecasted need for new generating capacity through 2017, after accounting for significant planned increases in FPL's DSM achievements to date. That work included FPL's assessment of its customers' capacity needs and analysis of various self-build options to select the most cost-effective self-build option, as well as comparison of those options with the recent results of its Request for Proposals ("RFP") conducted with respect to WCEC 3. This evaluation encompassed separate analyses by FPL and an Independent Evaluator, Sedway Consulting, Inc.

5. The implementation of the Cape Canaveral Conversion by 2013 is an integral part of FPL's strategy to meet the growing resource needs of its customers and reduce the emission of CO₂ and other substances through 2017 in the most cost-effective manner and thereby continue to deliver electricity at a reasonable cost, while complying with existing and anticipated environmental requirements.

6. Based on FPL's 2008 load forecast FPL projects that between 2011 and 2017, after accounting for FPL's projected DSM contributions, FPL will have to add about 4,844 MW of new generation capacity, or 4,037 MW if it could be met by DSM. This amount of capacity is equivalent to four generating units of the size of the Cape Canaveral converted unit. FPL is seeking to complete the implementation of the Cape Canaveral Conversion by June of 2013 because doing so will result in significantly greater benefits to FPL's customers than other resource plans evaluated by FPL.

7. In summary, if FPL's proposal to convert the Cape Canaveral plant by 2013 is approved, benefits to customers and Florida residents include:

- The conversion will provide additional firm electric generating capacity needed to maintain system reliability, while reducing customers' costs. FPL customers will receive substantial electricity cost savings. Savings will begin flowing directly to FPL customers through the fuel clause as soon as the converted plant enters service. Combining the Cape Canaveral Conversion with WCEC 3 in 2011 and the proposed conversion of the Riviera Beach plant is expected to result in more than \$1,193 million in customer cost savings.
- FPL cumulative system emissions of CO₂ will be reduced by millions of tons, and sulfur dioxide and nitrogen oxide emissions will also be significantly reduced. Lower system emissions translate into lower environmental compliance costs for FPL's customers, and all Florida residents will enjoy the environmental benefits of cleaner air and lower greenhouse gas emissions.
- FPL's overall system fuel efficiency will improve, decreasing FPL's fossil fuel usage cumulatively by millions of MMBtu of natural gas and oil, equating to millions of barrels of oil saved.
- Combined together the Cape Canaveral Conversion and the separately proposed conversion of the Riviera Beach plant will reduce FPL's system cumulative CO₂ emissions by more than 15.7 million tons. This is in addition to other important air emission reductions. Thus the Cape Canaveral conversion will contribute significantly toward achieving the targets reflected in Governor Crist's Executive Order No. 07-127, and whatever specific legal requirements may be implemented as a result of that Order or pursuant to federal law.

8. Achieving these benefits depends upon the Commission granting an affirmative need determination and Bid Rule exemption in this proceeding, and FPL implementing the Cape Canaveral Conversion in time to begin operations by June 2013. The forecasted cumulative fuel cost savings and emission reduction benefits for customers depend upon placing the converted plant into service by June of 2013. Denying the requested need determination would result in substantially higher electricity costs for customers and millions of cumulative tons of lost emissions reduction opportunities for FPL customers and all Florida residents. In order to secure these benefits for its customers and Florida residents, FPL requests that the Commission exempt FPL from the requirements of the Bid Rule, Rule 25-22.082, and issue an affirmative need determination with respect to the Cape Canaveral Conversion as requested in this Petition.

II. The Primarily Affected Utility (Rule 25-22.081(a)(1))

9. The Petitioner's name and address are:

Florida Power & Light Company
9250 West Flagler Street
Miami, Florida 33174

10. The names and addresses of FPL's representatives to receive communications regarding this docket are:

Jeffrey S. Bartel
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215 South Monroe Street
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11. FPL is a Florida corporation with headquarters at 700 Universe Boulevard, Juno Beach, Florida, 33408. FPL is a utility as defined in Section 366.82(1), Florida Statutes, and is an applicant as defined in Section 403.503(4), for purposes of Section 403.519, Florida Statutes. FPL is the primarily affected utility within the meaning of Rule 25-22.081, F.A.C.

12. FPL serves approximately 4.5 million retail customers throughout Florida. Its service area comprises about 27,650 square miles in 35 Florida counties. Approximately nine million people live within the area FPL serves, which ranges from St. John's County in the north to Miami Dade County in the south, and westward to Manatee County.

13. FPL is responsible for serving its existing customers, as well as new customers locating in its service territory. FPL forecasts continued growth of customers in its service territory. The Company is projecting an annual average increase of about 81,000 new customers amounting to an annualized retail customer growth rate of 1.7% between 2008 and 2017. Over the same period, FPL forecasts an annual growth rate of 1.4% in net energy usage per customer. Taking customer growth and increases in per-customer energy usage together along with the addition of the Lee County Electric Cooperative ("Lee County") power sales contract, FPL projects an average annual growth rate in energy sales of 3.4% between 2008 and 2017.

14. In 2007, FPL experienced a coincident peak demand of 21,962 MW (summer) and 16,815 MW (winter) and a Net Energy for Load ("NEL") of 114,315 Gigawatt-hours ("GWh"). FPL is projecting an average annual 2.8% increase in summer peak between 2008 and 2017. This amounts to an average annual increase of about 700 MW per year. By 2017, the cumulative increase over last year's summer peak is projected to be 6,659 MW. This summer peak load growth takes into account FPL's estimates with respect to increased numbers of customers, higher electricity usage per customer, as well as adjustments for increased energy

efficiency due to standards contained in the National Energy Policy Act of 2005. FPL's estimates also include summer peak load increases attributable to wholesale electric service to Lee County, which will begin with small amounts in 2010 through 2013 and larger amounts beginning in 2014. FPL expects that FPL's retail customers will not be disadvantaged and, in fact, will have lower electric rates as a result of the Lee County power sales.

15. FPL is part of a nationwide interconnected power network. It has multiple points of interconnection with other utilities that enable power to be exchanged among utilities. FPL's interconnection points with other utilities are addressed in more detail in FPL's RFP submitted as an exhibit in this proceeding. The FPL transmission system is comprised of 6,640 circuit-miles of transmission lines. Integration of the generation, transmission and distribution system is achieved through FPL's 573 substations.

III. FPL's Resource Mix, Conservation and Clean Energy (Rule 25-22.081(1)(a))

16. FPL has one of the cleanest generating fleets in the country, and is an industry leader in energy efficiency/conservation and load management through its DSM programs. FPL meets its customers' energy needs through a mix of fossil and nuclear generating units, purchased power including renewable generation, and DSM. FPL's existing generating resources are located at 14 sites distributed geographically throughout its service territory, and also include partial ownership of one unit located in Georgia and two units located in Jacksonville, Florida. In 2007, FPL's generating fleet totaled approximately 22,135 (summer) of capacity and its generating units consisted of four nuclear steam units, three coal steam units in which it holds partial ownership interests, 12 combined cycle units, 17 fossil fuel steam units, 48 combustion turbines, one simple cycle combustion turbine and five diesel units.

17. FPL presently has a long-term Unit Power Sales (“UPS”) contract to purchase up to 931 MW of coal-fired generation from Southern Company. FPL also has a long-term contract with Jacksonville Electric Authority for the purchase of 381 MW (summer) coal-fired generation from St. John’s River Power Park (“SJRPP”) Units One and Two. In addition, FPL has a number of short-term, firm capacity purchased power contracts with non-utility suppliers totaling 943 MW (summer) for 2008. However, the UPS contract expires at the end of 2015 and FPL currently projects that Internal Revenue Services regulations will require the Company to stop taking power under the SJRPP contract some time prior to the summer peak period of 2016.

18. FPL also has contracts to purchase firm capacity and energy from five cogeneration and small power production (“qualifying facilities”) totaling 738 MW. This value drops to 595 MW by 2011 due to the expiration of three contracts with municipal waste-to-energy facilities. Though analyses are still underway, for purposes of this filing FPL is optimistically assuming that it will be able to extend these contracts. The current total capacity under contract from these three purchases, 143 MW, is assumed to continue through 2026, contributing to a total assumption of 738 MW through 2020.

19. FPL continues to encourage the development of renewable sources of energy in Florida and elsewhere and seeks to enter into contracts with renewable energy suppliers that will benefit FPL’s customers. FPL issued a request for proposals for renewable capacity and energy during 2007. During April 2008, FPL issued another request for proposals for renewable energy with the objective of identifying resources available at prices supporting contracts consistent with existing regulations.

20. FPL is also fostering the expansion of renewable energy sources through development of its own renewable generation projects. FPL is pursuing development of a wind

project in St. Lucie County and has on-going initiatives involving solar, wind, biomass, landfill, waste water and ocean current resources. The Company is also continuing to pursue large-scale installation of photovoltaic and solar thermal generation. For purposes of this filing, FPL is projecting a total of 126 MW of firm capacity from new renewable purchases and/or FPL's development efforts.

21. With respect to energy efficiency/conservation and load management, FPL has been very successful in cost-effectively avoiding or deferring new power plant construction using DSM. Since the inception of its programs through the end of 2007, FPL has achieved 3,961 MW (at the generator) of summer peak demand reduction, 2,913 MW (at the generator) of winter peak demand reduction, and 42,301 GWh (at the generator) of energy savings. FPL has also completed more than 2,537,600 audits of customers' homes and facilities. This amount of peak demand reduction has eliminated the need for the equivalent of 12 power plants of 400 MW capacity each (after accounting for reserve margin requirements). FPL has achieved this level of demand reduction through DSM programs designed to reduce electric rates for all customers, DSM participants and non-participants alike.

22. FPL ranks at the highest level nationally in DSM achievement. The U.S. Department of Energy ("DOE") reports annually on the effectiveness of utility DSM efforts through its Energy Information Administration. DOE separately measures both energy efficiency/conservation and load management. Based on the most recent comparative data available, which is for the year 2006, FPL is ranked number one nationally for cumulative energy efficiency/conservation achievement and number three in load management. FPL continually seeks ways to refine, improve and expand its portfolio of cost-effective DSM

programs through its on-going program monitoring work as well as its research and development activities.

23. FPL's projection of resource needs takes into account all DSM found to be cost-effective and approved by the Commission. This includes both FPL's current DSM Goals established by the Commission plus additional DSM found to be cost-effective after FPL's DSM Goals were established. In addition, it also assumes a continuation of DSM implementation for 2015-2017 at annual implementation rates commensurate with planned DSM implementation rates in the years immediately preceding 2014.

IV. The Need for the Cape Canaveral Conversion (Rule 25-22.081(1)(c))

24. Based on FPL's 2008 load forecast, FPL projects that between 2011 and 2017 FPL will have to add, after accounting for its projected DSM contributions, about 4,844 MW of new generation capacity, equivalent to four generating units of the size of the new unit to be installed in implementing the Cape Canaveral Conversion.

25. The resource plan that includes the Cape Canaveral Conversion in June of 2013 will result in significantly greater benefits to FPL's customers than the other resource plans that FPL has evaluated. The resource plan without conversions used in FPL's comparisons would retain the existing older generating units at the Cape Canaveral and Riviera plants and add a new FPL-built combined cycle generating unit at a Greenfield site in 2014, instead of removing the existing units at the Cape Canaveral and Riviera plants and completing the conversions of the Cape Canaveral and Riviera plants in 2013 and 2014, respectively ("Resource Plan without Conversions"). As shown in the testimony and exhibits submitted jointly in support of this

petition and the separate Riviera plant conversion petition, the significantly greater benefits of the plan including the Cape Canaveral Conversion fall into six categories.

26. First, implementing the Cape Canaveral Conversion by 2013 will help maintain adequate FPL electric system reserve margins while resulting in substantial customer savings. Combining the Cape Canaveral Conversion in 2013 with the Riviera plant conversion in 2014 (Resource Plan with Conversions) will result in total expected customer cost savings of about \$457 million CPVRR compared to the Resource Plan without Conversions. Based on FPL's studies, the combination of WCEC 3 in 2011, the Cape Canaveral Conversion in 2013 and the Riviera plant conversion in 2014 will result in customers saving more than \$1,193 million CPVRR in electricity costs compared with the resource plan without conversions. Focusing on the Resource Plan with Conversions, the magnitude of the savings that would result from the Cape Canaveral Conversion and the Riviera plant conversion would grow to \$891 million CPVRR with a high environmental compliance cost, and would grow further to \$1,221 million CPVRR with high natural gas cost and high environmental compliance cost. In addition, FPL also conducted an additional analysis comparing the Resource Plan with Conversions to another alternate resource plan that includes market proposals as capacity additions in 2013 and 2014, instead of the conversions. In the separate comparison of the Resource Plan with Conversions to the alternate plan that includes market proposals, the Resource Plan with Conversions results in customer savings of at least \$481 million CPVRR. In summary, converting the Cape Canaveral plant for service beginning in 2013, whether alone or in combination with the Riviera plant conversion will result in a lower cost supply of electricity to FPL's customers.

27. Second, by adding the clean, highly efficient converted Cape Canaveral unit in 2013, cumulative system air emissions will be reduced substantially, benefiting FPL's customers

through lower environmental compliance costs and all Florida residents through better environmental quality. The Cape Canaveral Conversion and the proposed Riviera plant conversion, combined together, will reduce FPL's system cumulative CO₂ emission by more than 15.7 million tons. Thus the Cape Canaveral conversion will contribute significantly toward achieving the targets reflected in Governor Crist's Executive Order Number 07-127, and whatever specific legal requirements may be implemented as a result of that Order or pursuant to federal law.

28. Third, replacing the existing Cape Canaveral units with the new unit by 2013 will improve FPL's system average heat rate, the measure of system fuel efficiency. Combined with the Riviera plant conversion, FPL's system average heat rate will improve by about 1.1% to 8,040 Btu/kWh in 2015 after the conversions, compared to 8,127 Btu/kWh under the Resource Plan without Conversions. As a result, in 2013 through 2017 the plant conversions would reduce FPL's use of natural gas by about 10.6 million MMBtu and fuel oil by about 47.8 million MMBtu (the equivalent of 7.5 million barrels of oil) compared to the Resource Plan without Conversions. This fuel efficiency gain will help offset, in part, the effects of projected rising fuel prices in the future.

29. Fourth, adding the Cape Canaveral Conversion in 2013 enables FPL and its customers to have far less uncertainty regarding the actual cost of a new generating unit, compared to the cost uncertainty of building generation at a new Greenfield site. The economic analysis results of the proposed Cape Canaveral and Riviera plant conversions together reflect the fact that costs related to land, water, and transmission at an existing plant site are significantly lower than they would be at an undeveloped Greenfield site. But what is not reflected in the results is the fact that the magnitude of these costs is much less certain for a

Greenfield sites and therefore actual costs at a Greenfield site may well be significantly higher than currently projected. Therefore, the benefit to FPL's customers of the Cape Canaveral Conversion could be significantly greater than reflected in FPL's analyses.

30. Fifth, converting the Cape Canaveral plant will enable FPL to increase system generation capacity and system efficiency while reducing emissions, including CO₂ emissions, without dedicating new land to plant use, and without increasing the existing permitted use of Florida's water resources. Converting the Cape Canaveral plant would also enable continued use of existing rights-of-way for transmission facilities.

31. Sixth, the Cape Canaveral Conversion will retain the option of receiving its light oil alternative fuel by barge over waterways rather than exclusively over land via trucks. In contrast, a new Greenfield generation facility would have to be supplied fuel oil by truck exclusively. This gives the Cape Canaveral Conversion an advantage because access to water-borne delivery of the unit's alternative fuel would make the FPL system more reliable than relying only on truck transportation.

32. In addition to the system electric load projected for FPL's retail customers, FPL's 2008 load forecast includes beginning to provide electric service to Lee County in 2010. Lee County is a not-for-profit electric distribution cooperative serving a five-county area in Southwest Florida. In August 2007, FPL and Lee County came to an agreement by which FPL will become Lee County's power supplier in two phases. In the short-term phase, FPL will provide about 200 MW of partial requirements service to two of the three Lee County delivery points, representing approximately 25% of Lee County's load, for the term January 1, 2010 through December 31, 2013. In the long-term phase, which commences in January 2014, FPL will serve Lee County's full retail load. During this second phase, Lee County's contribution to

FPL's peak load requirement will initially be about 900 MW, growing annually thereafter. Because Lee County's load is not reflected in FPL's historical loads, a line item adjustment was made to FPL's summer peak forecast to account for this load.

33. FPL expects costs to retail customers to be lower over the term of the contract as a result of the Lee County power sales than they would otherwise be. This is because, among other reasons, service under the Lee County contract will result in the allocation of a smaller share of total system costs to serving FPL's retail customers. On balance, FPL's retail customers would not be disadvantaged and, in fact, are expected to be better off as a result of the Lee County power sales.

34. The addition of the Lee County load does not affect the timing of FPL's resource needs until 2014. This is because in 2010 through 2013 FPL's incremental capacity commitment related to the Lee county load adds only about 200 MW to FPL's peak load, which can be met with new resources additions that have already been approved by the Commission and have been reflected in FPL's resource plan. Consequently, this Lee County load addition does not require any adjustment in FPL's resource plan until 2014.

35. FPL's proposal to add the Cape Canaveral Conversion for service beginning in 2013 does not depend on the addition of the Lee County load. The proposed plant conversion will provide the significant benefits described above, regardless of the Lee County load addition. The precise amounts of savings to customers, emission reductions, efficiency gain, and oil and gas use reductions would be somewhat different if FPL were not serving the Lee County load, but these benefits would still be equally compelling. Therefore, FPL would be requesting Commission approval for both the Cape Canaveral and Riviera plant conversions even without the Lee County load.

36. With respect to DSM, there is no currently identified additional cost-effective DSM beyond that reflected in FPL's resource plan for the period through 2017. Therefore, additional cost-effective DSM cannot be counted on to contribute to system reliability, and there is no evidence to suggest that additional DSM could provide economic or environmental benefits to FPL's customers that could in any way diminish the unquestionable benefits provided by the Cape Canaveral Conversion beginning in 2013.

37. Similarly, there are not significant cost-effective renewable resources identified that could provide any substantial amount of firm generating capacity in the period through 2017. Therefore, renewable capacity cannot be relied on to contribute to system reliability as does the Cape Canaveral Conversion beginning service in 2013. Furthermore, any future renewable resources that could cost-effectively provide energy (but not firm capacity) would not compete with the benefits described above that will be provided by the Cape Canaveral Conversion beginning service in 2013, but rather would complement those benefits.

38. Taking these benefits into consideration, FPL believes that its customers' interests are best served by placing the Cape Canaveral Conversion in commercial operation in June of 2013. It is also important to note that in the period 2011 through 2017 FPL will need to add 4,844 MW of new generation capacity. The Cape Canaveral Conversion would provide 427 MW of new net generation capability or about 9% of that total to meet its customers' demand for electricity. Therefore there is no question that the Cape Canaveral Conversion or equivalent generating capacity will have to be added to FPL's system. In fact, without the two proposed conversions, FPL would not maintain a 20% reserve margin in 2013 and 2014. The operative question for decision in this proceeding concerns the identity and timing of the capacity addition that would be most beneficial to FPL's customers. FPL's analyses show that adding the Cape

Canaveral Conversion in 2013 is the most beneficial choice for FPL's customers, and approval for this addition is therefore requested in this proceeding.

39. As discussed above, without the proposed conversions, FPL would not maintain a 20% reserve margin in 2013 and 2014. Even if this were not so, the substantial cost savings and other benefits to customers would support entering an affirmative need determination order.

40. For example, the Commission recently entered an affirmative need determination with respect to Progress Energy Florida's proposed expansion of the Crystal River 3 nuclear power plant. See, e.g., In Re Progress Energy Florida, Docket No. 060642-EI, Order No. PSC-07-0119-FOF-EI, 255 P.U.R.4th 422, 2007 WL 517088 (Fla. P.S.C.) (Order entered February 8, 2007). In its decision, the Commission stated:

In determining the need for the CR3 Uprate, we have taken into account the need for electric system reliability and integrity. The need for the CR3 Uprate is an economic need, not reliability need. The CR3 Uprate will displace higher cost fossil fuel and purchased power generation with low cost nuclear generation, resulting in substantial fuel savings that provide a net benefit to customers. The CR3 Uprate's substantial economic benefits satisfy the statutory need requirements under our prior precedent and Rule 25-22.081(3), F.A.C., recognizing an economic or socio-economic need for new generation.

In Re Progress Energy, 255 P.U.R.4th 422, *425; see also In Re: Petition for determination of need for Hines Unit 2 Power Plant by Florida Power Corporation, Docket No. 001064-EI, Order No. PSC-01-0029-FOF-EI, 2001 Fla. PUC LEXIS 34, (Order entered January 5, 2001) ("... We conclude ... that the decision to construct Hines 2 in the time frame sought is driven primarily by economics, including its equipment arrangements, and the use of the existing Hines Energy Complex, as discussed below relating to cost-effectiveness..."), aff'd Panda Energy International v. Jacobs, 813 So.2d 46 (2002 Fla.). (Commission appropriately considered economic benefit to customers among other factors in granting need determination).

V. The Proposed Electrical Power Plant (Rule 25-22.081(1)(b))

41. FPL plans to convert the Cape Canaveral plant, with its two existing steam units dating from the 1960s, into a modern, highly-efficient, low-emission combined cycle plant. FPL has a great deal of experience in building and operating combined cycle plants for the best possible efficiencies. Further, in recent years FPL has successfully converted and modernized other older plants, delivering improved fuel efficiency and environmental performance using existing generating plant sites.

42. The Cape Canaveral plant currently consists of two 400 MW conventional dual-fuel fired steam generating units. Each unit can burn #6 fuel oil and natural gas. Cape Canaveral Unit 1 entered service in 1965 and Unit 2 entered service in 1969. The Cape Canaveral plant has a summer rating of 792 MW and a winter rating of 796 MW. 2007 actual performance included an average heat rate of 10,592 Btu/kWh and a capacity factor of 31.3%. In converting the plant the existing units will be removed from service and dismantled. The Cape Canaveral plant conversion will therefore result in a net summer capacity addition of 427 MW, equal to the new unit's 1219 MW summer capacity minus the existing units' 792 MW summer capacity.

43. The Cape Canaveral Conversion is designed to use three advanced combustion turbines ("CTs"), three heat recovery steam generators ("HRSGs") and one steam driven turbine generator. The resulting three-on-one (3x1) Combined Cycle ("CC") unit is expected to have an approximate total rated capacity of 1,219 MW in summer and 1,343 MW in winter.

44. FPL anticipates engineering and construction savings with the Cape Canaveral Conversion because the 3x1 configuration is similar to the units presently being constructed at FPL's West County Energy Center site. Accordingly, the project planning, detailed design,

procurement, construction, commissioning and O&M will involve similar requirements.

45. Generally, CC plants of the design to be used for the Cape Canaveral Conversion can be expected to achieve energy conversion rates (heat rates) of less than 7,000 Btu/kWh for base operation. This compares favorably to values exceeding 10,000 Btu/kWh for the conventional Cape Canaveral Unit 1 and 2 that would be removed from service during the conversion process, and results in a fuel savings of about 30%. The new Cape Canaveral unit will have a base operation rating of 1,115 MW (net summer) and is expected to achieve a highly efficient average base operation heat rate of 6,580 Btu/kWh (HHV at 75° F). Each HRSG will include duct burners. The duct burners can be fired during peak demand periods to add an additional 104 MW of capacity to the unit at an incremental heat rate of 8,770 MW.

46. The CTs will use natural gas delivered by pipeline to the plant as their primary fuel. While FPL has the ability to deliver natural gas to the Cave Canaveral plant via the existing Florida Gas Transmission Company pipeline, natural gas delivery capability expansion will be needed. FPL is in discussions with natural gas pipeline companies capable of constructing necessary facilities and is working to determine the best expansion arrangements based upon delivery flexibility and economics. FPL anticipates completing gas pipeline discussions in late 2008 or early 2009 in time to allow the selected pipeline company to meet the Company's natural gas delivery requirements.

47. To provide a backup fuel to the unit should there be a loss of natural gas to the site, the new Cape Canaveral CC unit will also be designed to use light oil. Light oil will be trucked to the site, and will be stored in sufficient quantities to allow the plant to operate at full capacity for approximately 188 hours of continuous operation. In addition, the Cape Canaveral converted unit will be able to receive backup fuel from waterborne deliveries, which is a significant advantage, particularly in emergency situations, compared to inland plants.

48. The new Cape Canaveral unit will connect to the existing Cape Canaveral 230 kV system switchyard, which will remain in place. The transmission interconnection and integration requirements costs are included in FPL's cost estimates for the Cape Canaveral Conversion.

49. The Cape Canaveral Conversion will maximize the beneficial use of the existing Cape Canaveral plant site while helping minimize environmental, land use and cost impacts. The site benefits from adjacent existing transmission infrastructure, which includes a transmission system switchyard for the 230 kV system. The site is also a developed generating station parcel that requires no impact to environmentally sensitive lands, which will further minimize environmental impacts.

50. There will be no additional water sources required as a result of the Cape Canaveral Conversion. Under its permit issued by the Florida Department of Environmental Protection, water from the Indian River Lagoon (Intracoastal Waterway) is and will continue to be used for once-through cooling water. After conversion, the amount of cooling water required will not exceed current permit limits. In addition, public water supply is used for service and process water.

51. Certain federal water environmental regulations are presently under review by the United States Environmental Protection Agency. While FPL does not expect material changes to

the requirements applicable to the Cape Canaveral Conversion, there is a possibility that regulatory changes could occur that would affect the planning for and costs associated with cooling water at the Cape Canaveral plant as well as other generating facilities, irrespective of whether the Cape Canaveral plant is converted or not. FPL will continue to monitor regulatory developments in this area and in the event of any applicable changes will assess the most cost-effective means of compliance for its system.

52. The use of clean fuels and combustion controls will minimize air emissions from the converted Cape Canaveral plant and ensure compliance with applicable emission-limiting standards. FPL's design constitutes the Best Available Control Technology for air emissions and minimizes such emissions while balancing economic, environmental and energy impacts.

53. The converted Cape Canaveral plant will be a highly reliable source of energy for FPL's customers. The new unit will have an estimated equivalent forced outage rate of about one percent, and an equivalent availability factor of approximately 97%. This highly reliable unit will help maintain the system reliability and integrity of FPL and peninsular Florida.

54. The estimated total installed cost for the Cape Canaveral Conversion is \$1,115 million in 2013 dollars. This cost includes \$963 million for the power block, \$33 million for transmission interconnection and integration, and \$119 million in allowance for funds used during construction (AFUDC) to an in-service date of June 2013.

55. The currently projected installed cost, cost savings in CPVRR, and emission reduction benefits presented in this petition and FPL's testimony are based on using "G" gas turbines. FPL is evaluating the possible use of gas turbines projected by manufacturers to be even more efficient than the "G" technology, to determine whether even greater benefits can be achieved. FPL would like to maintain flexibility in selecting and determining the specific

combined cycle design and related costs, so as to maximize its bargaining position on behalf of customers in equipment contracting. Therefore FPL requests that, as part of the Commission's Order granting an affirmative determination of need for the Cape Canaveral Conversion, the Commission provide that its determination is not predicated on the use of a particular CT, thus ensuring that FPL has the flexibility through its negotiations and analyses to select the CT that best meets customers' needs in terms of reliability and cost-effectiveness. Of course, FPL would make that decision only if the projected cost to FPL's customers related to the Cape Canaveral Conversion measured in terms of system CPVRR would be lower as a result of the use of alternate CTs than with the use of "G" CTs, regardless of any changes in the capital costs attributable to the choice of turbine design. In the event of its selection of something other than the "G" CTs subsequent to the Commission having granted a determination of need for the Cape Canaveral Conversion, FPL would propose to make an informational filing to the Commission that documents the projected comparative cost advantage of the CT technology chosen.

VI. FPL's Analysis of Generating Alternatives (Rule 25-22.081(1)(d))

56. FPL periodically examines a variety of generation construction options in the course of determining the most economical self-build options for its system. Several factors influence the decision regarding the different types of alternatives that could reasonably be included in the resource planning process.

57. The major available generating alternatives for consideration include combined cycle technology utilizing advanced combustion turbines, simple cycle technology utilizing advanced combustion turbines, pulverized coal, gas or oil fired steam generator technology, integrated gasification combined cycle technology and nuclear steam generator technology. Due

to permitting uncertainty associated with any coal-based generation, the pulverized coal and integrated gasification combined cycle technology options were ruled out as unfeasible technology options. Nuclear based generation was ruled out due to the estimated time to license and construct the facility, which is estimated to take at least 10 to 12 years. Traditional oil or gas fired steam generator technologies were also not considered in any detailed analysis due to the inherent efficiency advantages of the combined cycle technology and the cost advantages of simple cycle technology. Previous analyses consistently showed that combined cycle units were generally better economic choices for FPL's system than are combustion turbine units.

58. In its resource planning work in late 2007 and early 2008, one of FPL's focal points was the possibility of converting various existing FPL plants in order to provide capacity needed to serve customers and achieve emissions targets. Converting a plant basically involves taking existing generating units out-of-service, dismantling them, and building a new combined cycle unit at the plant. FPL's analysis identified the Cape Canaveral plant and Riviera Beach plant as the best candidates for conversion.

59. In order to analyze the proposed conversions, FPL developed two resource plans. One of these, the Resource Plan with Conversions, featured the conversions of the two plants. The Cape Canaveral Units 1 and 2 are projected to be taken out-of-service in September 2010 and dismantled, with completion of the conversion in 2013. The existing Riviera units 1-4 are projected to be taken out of service in April 2011 and dismantled, with completion of the plant conversion in 2014. Therefore, the existing capacity at the two plants would be permanently removed from the FPL system and replaced with two new 3x1 combined cycle units, one at each of the plants. The Resource Plan with Conversions will result in a net summer capacity addition of 427 MW at the Cape Canaveral plant in 2013 (equal to the 1219 MW converted unit minus the

792 MW existing units) and 642 MW at the Riviera plant in 2014 (equal to the 1207 MW Riviera converted unit minus the 565 MW existing units). The other resource plan, the Resource Plan without Conversions, did not include any conversions. All new generating units in this resource plan were assumed to be new 3x1 combined cycle units at new Greenfield sites.

60. FPL then analyzed the two resource plans from an economic and a non-economic perspective. In the economic analysis, the cumulative present value of revenue requirements were calculated for each resource plan and compared. In the non-economic analysis, three perspectives were taken. First, system annual emissions of CO₂, SO₂, and NO_x were projected for each of the resource plans and directly compared. Second, the CO₂ projections in 2017 for each resource plan were also compared in light of the 2017 CO₂ emission level targets called for in Governor Crist's Executive Order No. 07-127. Third, the two resource plans were directly compared in regard to projections of FPL system annual usage of oil and natural gas.

61. The economic analysis results show that the Resource Plan with Conversions results in an economic savings to FPL's customers of \$457 million CPVRR compared to the Resource Plan without Conversions. The Cape Canaveral Conversion accounts for a somewhat larger portion of these savings than the Riviera plant conversion because the Cape Canaveral Conversion is projected to be placed into service a year earlier than the Riviera conversion, thus providing fuel cost savings for customers sooner.

62. FPL also performed a sensitivity analysis regarding the economic benefit of the proposed plant conversions. FPL determined that the savings of the Resource Plan with Conversions would increase to \$890 million CPVRR if environmental compliance costs were to be at the high end of FPL's range of possible outcomes, even with no change in fuel prices. FPL also determined that the savings of the Resource Plan with Conversions would increase to \$1,221

million CPVRR if both environmental compliance costs and natural gas prices were to be at the high end of FPL's range of possible outcomes.

63. FPL also evaluated the proposed Cape Canaveral and Riviera plant conversion projections with a resource plan that includes market proposals instead of the plant conversions. Specifically, FPL engaged Sedway Consulting, which recently conducted an independent study of bids received in response to FPL's recent WCEC 3 request for proposals. Sedway Consulting compared FPL's Resource Plan with Conversions to a resource plan that includes the addition of new purchased power in 2013 and 2014 in place of FPL's proposed plant conversions. The purchased power reflected in this resource plan is based on two proposals received by FPL in February 2008, which together would provide an amount of new capacity in 2013 and 2014 that is comparable to the net capacity increase provided by the proposed plant conversions.

64. Sedway Consulting's analysis showed that the alternative resource plan developed using the lowest cost market proposals was more than \$480 million more costly than the Resource Plan with Conversions. These results confirm that the conversions of the Canaveral and Riviera plants by 2013 and 2014, respectively, are a far more economic resource plan than can be achieved with the market proposals received in February, 2008. Moreover, the market proposals received in February 2008 would not provide the improved system fuel efficiency, reduced emissions and reduced oil and gas use non-economic benefits which are projected to occur as a result of the Cape Canaveral and Riviera conversions.

65. The non-economic analysis found that the Resource Plan with Conversions compared to the Resource Plan without Conversions is projected to result in approximately 15.7 million tons less CO₂ emissions; 60,300 tons less SO₂ emissions; and 55,300 tons less NO_x emissions once the conversions have been completed. The Cape Canaveral and Riviera

Conversions considered separately each result in large emission reductions. However, only the Resource Plan with Conversions that includes both the Cape Canaveral and Riviera plant conversions is projected to achieve a total cumulative greenhouse gas reduction exceeding 15.7 million tons over the life of the units. In addition, the Resource Plan with Conversions is also projected to achieve significant reductions in the FPL system usage of oil and natural gas.

VII. FPL's Analysis of Non-Generating Alternatives (Rule 25-22.081(1)(e))

66. FPL employs comprehensive and cost-effective DSM programs to reduce peak load requirements and reduce energy consumption. FPL has long been one of the key innovators in the field of DSM, and is a nationally ranked industry leader in energy efficiency/conservation and load management. Without its DSM, FPL would require far more additional capacity to meet its present and projected needs.

67. Since the inception of FPL's DSM programs, FPL has avoided the need for 4,753 MW of generation capacity as a result of cost-effective DSM programs. From August 2008 to August 2010 FPL expects that DSM increases will be sufficient to avoid another 454 MW of generating capacity. Added to the 1,061 MW of capacity that will be avoided by DSM additions in August 2011 through August 2017, FPL and its customers will have avoided a total of 6,268 MW of generating capacity by August 2017 as a result of DSM programs, equal to 21% of the projected amount of FPL-owned generating capacity (almost 30,000 MW) in operation by 2017.

68. FPL has not identified any additional cost-effective DSM beyond that already reflected in its need calculations. Therefore, considering the need for resources through 2017, DSM is not available to avoid or indefinitely defer the need for the Cape Canaveral Conversion. In fact, even after the addition of all the currently projected DSM increases reflected in FPL's

resource plan and after adding WCEC 3 in 2011, and after the proposed conversions of both the Cape Canaveral and Riviera plants, FPL would still need to add about 2,556 MW of new generating capacity by 2017.

69. In addition, FPL's resource plan already includes all the existing firm renewable generating capacity that FPL is currently purchasing, including about 143 MW from contracts that expire by 2012, which FPL will try to renew. FPL's resource plan also reflects another 126 MW of new capacity from renewable resources based on what FPL believes is a reasonable estimate of cost-effective proposals for renewable generating capacity it will receive by June 2008 in response to FPL's new, April 2008 request for proposals for renewable generation and FPL's own renewable development efforts. At present FPL has not been able to identify any other cost-effective sources of firm renewable generating capacity.

70. All the existing and new potential cost-effective firm generating capacity from renewable resources has already been reflected in FPL's resource plan. Therefore, neither the need for, nor the benefits provided by, the Cape Canaveral Conversion in 2013 are diminished by DSM or renewable resources. FPL notes that adding the Cape Canaveral Conversion and any additional cost-effective DSM and renewable energy that may hereafter be identified are complementary -- not competing -- options. FPL will continue to work to identify DSM and renewable energy opportunities that may be useful in providing service to FPL's customers.

VIII. Adverse Consequences of Delay (Rule 25-22.081(f))

71. If a determination of need for the Cape Canaveral Conversion in 2013 is not granted, FPL's customers would incur significantly higher costs for electricity. Simply put, fuel charges on customers' bills would be higher because, without the conversion, FPL's system

would be considerably less fuel-efficient than with the conversion. If natural gas prices and/or environmental compliance costs were to be higher than currently projected, the cost penalty to FPL's customers would be even greater. In addition, because the cost uncertainty of a number of cost components associated with capacity additions at Greenfield sites is greater than at existing sites, the actual cost of a Greenfield capacity addition could be significantly greater than has been estimated in FPL's comparative analysis, and the cost penalty to FPL's customers due to not proceeding with the Cape Canaveral Conversion would be even greater. Not implementing the Cape Canaveral Conversion would also result in higher emissions of CO₂, SO₂ and NO_x, as well as higher usage of fuel oil and natural gas.

72. Considering the Cape Canaveral Conversion and the Riviera plant conversion, FPL's analysis shows that foregoing both these conversions would increase FPL customers' electricity costs by \$457 million CPVRR, which would be even higher if natural gas prices and/or environmental compliance costs were to be greater than currently projected. In addition, denying a need determination for the Cape Canaveral Conversion in 2013 would result in higher air emissions and associated environmental compliance costs. For example, not implementing both proposed plant conversions would result in much more CO₂ (15.7 million tons), SO₂ (60,300 tons), and NO_x (55,300 tons) being emitted into the atmosphere. Resulting lower system fuel efficiency will also increase the amount of fuel oil and natural gas used by FPL's system in 2013 to 2017 by 7.5 million barrels of oil and 10.6 million MMBtu of natural gas.

73. In summary, FPL's customers would not benefit if the FPL's request for a need determination and bid rule exemption to implement the Cape Canaveral Conversion project were to be denied.

IX. Request for Bid Rule Exemption (Rule 25-22.082(18))

74. Rule 25-22.082(18) provides that the Commission shall exempt a utility from compliance with the Commission's Bid Rule or any part of it upon a showing that a proposal not in compliance with the rule's provisions "will likely result in a lower cost supply of electricity to the utility's general body of ratepayers, increase the reliable supply of electricity to the utility's general body of ratepayers, or otherwise will serve the public welfare...." Rule 25-22.082(18) (emphasis added).

75. FPL's proposal to convert the Cape Canaveral plant satisfies each of the criteria supporting issuance of a bid rule exemption, not just one criterion as would be sufficient under the Rule. As described in detail above in this petition and in supporting testimony, FPL's proposed Cape Canaveral Conversion will: (i) result in a lower cost supply of electricity to FPL's customers; (ii) increase the reliable supply of electricity for FPL's customers and peninsular Florida; and (iii) serve the public welfare in many other ways, including by substantially reducing greenhouse gas and other emissions.

76. Other public benefits supporting a bid rule exemption include that the Cape Canaveral Conversion will provide new, efficient capacity using an existing generating site and other already committed resources such as water and electric transmission rights of way. In addition, the Canaveral plant has the capability of receiving light oil via water-borne transportation, if needed, making FPL's system even more reliable in the event of natural gas supply disruption, such as occurred after hurricanes in recent years.

77. In addition, because of having received bids in February 2008 with respect to its WCEC 3 Request for Proposals, FPL has in hand recent market information useful in further evaluating the cost-effectiveness of the proposed Cape Canaveral Conversion. Independent

Evaluator Sedway Consulting performed a study using the market-based purchased power information, which shows the considerable benefits of the proposed conversion compared with the more expensive alternatives received in response to the WCEC 3 request for proposals. Accordingly, for all of these reasons, FPL requests that the Commission exempt the Company from compliance with the Bid Rule, Rule 25-22.082 with respect to the Cape Canaveral Conversion.

X. Disputed Issues of Material Fact

78. FPL is presently unaware of any disputed issues of material fact affecting this proceeding. In any event, FPL will demonstrate that approving a need determination for the Cape Canaveral Conversion in 2013 will best serve FPL's customers by providing substantial economic benefits as well as reducing FPL's system emissions, while using an existing generating station site and other existing committed resources. FPL also will demonstrate that there is no reasonably available DSM or other non-generation alternative that would significantly mitigate the need for the Cape Canaveral Conversion.

CONCLUSION

The proposed Cape Canaveral Conversion is a highly cost-effective and environmentally positive choice for serving FPL's customers. The project presents several key advantages to FPL and its customers. The Cape Canaveral Conversion will deliver major cost savings to benefit FPL's customers, provide capacity needed to serve FPL's customers, and reduce FPL's system CO₂ emissions by millions of tons, all while making use of an existing generating plant site and related facilities.

Based upon the foregoing and the more detailed information in the pre-filed testimony and exhibits submitted contemporaneously with this Petition, FPL requests that the Commission grant FPL a favorable determination of need and an exemption from the Bid Rule, Rule 25-22.082, with respect to the Cape Canaveral Conversion in 2013.

FPL has separately filed a motion to consolidate the Cape Canaveral Conversion, Riviera Conversion and West County Energy Center Unit 3 need determination proceedings. Because FPL will be filing a separate Power Plant Siting Act site certification application for each project, FPL requests that the Commission's need determination order clearly state a specific finding of need for the Cape Canaveral Conversion in this proceeding.

FPL also requests that, as part of the Commission's Order granting an affirmative determination of need for the Cape Canaveral Conversion, the Commission provide that its determination is not predicated on FPL's selection of a particular combustion turbine design or model, thus ensuring that FPL has the flexibility through its negotiations and analyses to select the turbine design that best meets customers' needs in terms of reliability and cost-effectiveness. Of course, FPL would make that decision only if the projected cost to FPL's customers measured in terms of system CPVRR would be lower as a result of the use of alternate gas turbines than with the use of "G" turbines, regardless of any changes in the capital costs attributable to the choice of turbine design. In the event of its selection of equipment other than "G" turbines subsequent to the Commission having granted a determination of need for the Project, FPL

proposes to make an informational filing to the Commission that documents the projected comparative cost advantage of the alternate combustion turbine technology chosen.

Respectfully submitted this 30th day of April, 2008.

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