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August 19, 1998

BY HAND DELIVERY

Blanca S. Bayo, Director
Division of Records and Reporting
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, Florida 32399-0850

**Re: FPSC Docket No. 981042 -EU, Joint Petition for
Determination of Need for an Electrical Power Plant**

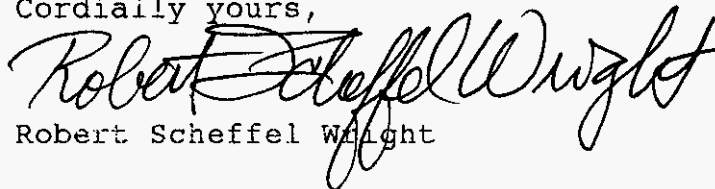
Dear Ms. Bayo:

On behalf of the Utilities Commission, City of New Smyrna Beach, and Duke Energy New Smyrna Beach Power Company Ltd., L.L.P., enclosed for filing are an original and fifteen copies of the petitioners' joint petition for determination of need for the New Smyrna Beach Power Project. Also enclosed are sixteen copies of the exhibits accompanying the petition, plus a diskette containing the petition in WordPerfect 5.1 format. We will appreciate your confirming receipt of these materials by stamping the attached filing copies thereof and returning same to my attention.

As always, thanks to you and your Staff for your considerate and professional assistance.

If you have any questions, please give me a call.

Cordially yours,



Robert Scheffel Wright

Enclosures

DOCUMENT NUMBER-DATE

08839 AUG 19 98

FPSC-RECORDS/REPORTING

DOCUMENT NUMBER-DATE

08840 AUG 19 98

FPSC-RECORDS/REPORTING

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In Re: Joint Petition for Determination)
of Need for an Electrical Power Plant in)
Volusia County by the Utilities)
Commission, City of New Smyrna Beach,)
Florida, and Duke Energy New Smyrna)
Beach Power Company Ltd., L.L.P.)

DOCKET NO. 981042-EU

FILED: AUGUST 19, 1998

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REPORTING

JOINT PETITION FOR DETERMINATION OF NEED
FOR AN ELECTRICAL POWER PLANT

The Utilities Commission, City of New Smyrna Beach, Florida ("UCNSB" or "Utilities Commission") and Duke Energy New Smyrna Beach Power Company Ltd., L.L.P. ("Duke New Smyrna") hereby respectfully petition the Florida Public Service Commission ("FPSC" or "Commission") for an affirmative determination of need for the New Smyrna Beach Power Project ("the Project"), which is a natural gas fired, combined cycle power plant that will be located in Volusia County, Florida, together with an associated natural gas lateral pipeline and the directly associated transmission facilities that will connect the Project to the Florida electric transmission grid. This petition is filed pursuant to the Florida Electrical Power Plant Siting Act, Sections 403.501-403.518, Florida Statutes ("the Siting Act"), Section 403.519, Florida Statutes, and Commission Rules 25-22.037 and 25-22.080, Florida Administrative Code.

The New Smyrna Beach Power Project will have a net output capability of 514 megawatts ("MW") at ISO temperature and humidity conditions (476 MW summer and 548 MW winter) and will consist of two advanced technology, combustion turbine generators, two matched heat

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recovery steam generators, and one steam turbine generator. The Project is expected to achieve commercial in-service status by November 1, 2001. Associated facilities will include a natural gas lateral pipeline approximately 42 miles in length. The Project will be connected to the Peninsular Florida transmission grid at the Smyrna Substation of the UCNSB. Approximately 25 miles of additional 115 kV transmission line, consisting primarily of double-circuiting existing 115 kV lines, are planned to support power deliveries from the Project to other Peninsular Florida utilities.

Accompanying this Petition are Exhibits describing the UCNSB, Duke New Smyrna, the Project site, the Project and its operating characteristics, the permitting and construction schedules for the Project, the Project's electrical interconnection to the Peninsular Florida grid, and the additional transmission facilities that are planned to facilitate delivery of capacity and energy from the Project to other utilities in Peninsular Florida. The Exhibits also demonstrate the UCNSB's need for the power and the cost-effectiveness of the Project to the UCNSB, the reliability benefits that the Project will provide to Peninsular Florida, the consistency of the Project with Peninsular Florida's projected power supply needs, and the fuel savings, economic, and environmental benefits that the Project will provide. The Exhibits also discuss the power supply alternatives considered by the UCNSB, the alternative generation technologies considered by Duke New Smyrna, and the cost-effectiveness of the Project both to Duke New Smyrna and as an additional power supply resource for Peninsular Florida.

In accordance with FPSC Rule 25-22.080(1), the Utilities Commission and Duke New Smyrna have submitted this petition to the FPSC before filing their application for site certification pursuant to the Siting Act.

PROCEDURAL BACKGROUND AND INFORMATION

1. The names and addresses of the Petitioners are as follows:

Utilities Commission
City of New Smyrna Beach
200 Canal Street (ZIP 32168)
Post Office Box 100
New Smyrna Beach, Florida 32170-0100

and

Duke Energy New Smyrna Beach Power Company Ltd., L.L.P.
422 South Church Street, Legal PB05E
Charlotte, North Carolina 28202-1904 .

2. All pleadings, motions, orders, and other documents directed to Petitioners are to be served on the following:

For the Utilities Commission, City of New Smyrna Beach:

Robert Scheffel Wright
LANDERS & PARSONS, P.A.
310 West College Avenue (ZIP 32301)
Post Office Box 271
Tallahassee, Florida 32302

and

Ronald L. Vaden, Utilities Director
Utilities Commission
City of New Smyrna Beach
200 Canal Street (ZIP 32168)
Post Office Box 100
New Smyrna Beach, Florida 32170-0100 .

For Duke Energy New Smyrna Beach Power Company Ltd., L.L.P.:

Robert Scheffel Wright
LANDERS & PARSONS, P.A.
310 West College Avenue (ZIP 32301)
Post Office Box 271
Tallahassee, Florida 32302

and

Kelly J. O'Brien, Manager, Structured Transactions
Duke Energy Power Services, LLC
5400 Westheimer Court
Houston, Texas 77056 .

THE PETITIONERS

3. The Utilities Commission is a municipal electric utility within the meaning of Section 366.02(2), Florida Statutes. The Utilities Commission has an entitlement to 30 MW of the Project's capacity and has the contractual right to purchase the energy associated with this capacity at specified rates for the economic life of the Project. The Utilities Commission will use this capacity and energy to serve the needs of its retail customers. Detailed information regarding the UCNSB's load and electrical characteristics, generating capability and other power supply resources, and interconnections is presented in the Exhibits.

4. Duke New Smyrna is a public utility under the Federal Power Act, 16 U.S.C.S. § 824(b)(1) (1994). Duke New Smyrna will build, own, and operate the Project and will market the balance of the Project's capacity, approximately 480 MW, and associated energy to other utilities under negotiated arrangements entered into pursuant to Duke New Smyrna's Rate Schedule No. 1 approved by the Federal Energy Regulatory Commission ("FERC"). Duke Energy New

Smyrna Beach Power Company Ltd., L.L.P. 83 FERC § 61,316 (June 25, 1998). That rate schedule, which applies to all sales by Duke New Smyrna to other utilities,¹ permits Duke New Smyrna to enter into agreements with willing purchasers of energy and capacity provided by the Project.

5. Duke New Smyrna is also an exempt wholesale generator ("EWG") under the Public Utility Holding Company Act of 1935. 15 U.S.C.S. § 79z-5a (1994 & Supp. 1997) The FERC confirmed Duke New Smyrna's EWG status by its order dated June 9, 1998. Duke Energy New Smyrna Beach Power Company Ltd., L.L.P., 83 FERC § 62,220 (June 9, 1998). As an EWG, Duke New Smyrna is prohibited by the Public Utility Holding Company Act of 1935² from making retail sales of electricity from the Project, and may only sell power to wholesale purchasers, i.e., to other utilities. Duke New Smyrna anticipates

¹ All wholesale power transactions between utilities that are interconnected, either directly or indirectly, to transmission facilities that transmit power across state lines are transactions in interstate commerce subject to the regulatory jurisdiction of the Federal Energy Regulatory Commission. See Federal Power Comm'n v. Florida Power & Light Co., 404 U.S. 453, 463 (1971), wherein the U.S. Supreme Court upheld the Federal Power Commission's jurisdiction over the transmission of power, at wholesale, by Florida Power & Light over Florida Power Corporation's lines on the ground that the electrical energy thus transmitted "commingled" in interstate commerce. See also 16 U.S.C.S. § 824(e)&(b)(1) (1994).

² 15 U.S.C. § 79z-5a(a)(1): "The term 'exempt wholesale generator' means any person determined by the Federal Energy Regulatory Commission to be engaged . . . exclusively in the business of owning or operating, or both owning and operating, all or part of one or more eligible facilities and selling electric energy at wholesale." An "eligible facility" is a facility "used for the generation of electric energy exclusively for sale at wholesale" 15 U.S.C. § 79z-5a(a)(2).

that the vast majority of its wholesale sales will be made to other utilities in Peninsular Florida. Copies of the above-referenced FERC orders are included in the Appendix to the Exhibits accompanying this Petition.

6. Duke Energy New Smyrna Beach Power Company Ltd., L.L.P. is a wholly-owned subsidiary of Duke Energy Global Asset Development, Inc., a Nevada corporation. Duke Energy Global Asset Development, Inc. is a wholly-owned subsidiary of Duke Energy Corporation, a North Carolina corporation. Measured by total assets, Duke Energy Corporation is the seventh largest energy corporation in the world. Duke Energy Corporation and its affiliates own and operate more than 20,000 MW of electric generating capacity and serve more than 2 million retail electric customers in North Carolina and South Carolina. More than 12 percent of all natural gas delivered in the United States. is transported through Duke Energy's pipeline systems.

7. Duke Energy Power Services, L.L.C., another wholly-owned subsidiary of Duke Energy Corporation, is the developer of the New Smyrna Beach Power Project and functions as Duke New Smyrna's agent in this regard. Other affiliates of Duke New Smyrna include Duke Bridgeport Energy, L.L.C., Duke Energy Morro Bay, L.L.C., Duke Energy Oakland, L.L.C., and Duke Moss Landing, L.L.C. Duke Bridgeport Energy, L.L.C., a Delaware limited liability corporation, is the operator and majority owner of the Bridgeport Energy Project, which is a 520 MW gas fired, combined cycle power plant located in Bridgeport, Connecticut. The Bridgeport Energy Project is presently

generating test power from its combustion turbine generators ("CTGs") and expects to be delivering commercial power from the CTGs in the fall of 1998 and from the completed combined cycle plant by July, 1999. Duke Energy Bridgeport supplies wholesale power to the United Illuminating Company, based in New Haven, Connecticut, and sells power at wholesale to other utilities in New England. Duke Energy Morro Bay, L.L.C., a Delaware limited liability corporation, is the owner and operator of the Morro Bay Generating Station, a 1,002 MW natural gas fired power plant which sells power predominantly in the California wholesale power market. Duke Energy Oakland and Duke Moss Landing are also Delaware limited liability corporations, which own and operate, respectively, the Oakland Generating Station, a 165 MW diesel oil fired power plant and the Moss Landing Generating Station, a 1,478 MW natural gas fired power plant, both of which also sell power predominantly in the California wholesale power market. More detailed information regarding Duke New Smyrna and the Project structure is contained in the Exhibits.

THE PROPOSED POWER PLANT

8. The proposed New Smyrna Beach Power Project will be a natural gas fired, combined cycle generating plant with 514 MW of net generating capacity at ISO temperature and relative humidity. The Project's rated winter capacity will be 548 MW and its rated summer capacity will be 476 MW. The Project will consist of two F series (GE Frame 7FA or equivalent) combustion turbine generators, two heat recovery steam generators ("HRSGs"), and one steam turbine generator ("STG"). The Project will obtain more than 50 percent of

its process and makeup water from a UCNSB wastewater treatment plant adjacent to the Project site. The Project will use cooling towers to dissipate excess heat. The Project's direct construction cost is estimated to be approximately \$160 million, which Duke New Smyrna expects to finance with internal funds.

9. The Project site is located near the northwest corner of the intersection of State Road 44 and Interstate Highway 95 in Volusia County. Maps of the site location and site layout are shown in Figures 3 4, and 5 of the Exhibits accompanying this Petition. Preliminary site screening analyses commissioned by Duke New Smyrna indicate that the Project is consistent with the overall zoning and plan of development for the area in which the Project will be located, and that no significant problems are anticipated in connection with the environmental permitting process for the Project site.

10. The Project will be fueled by natural gas, which will be delivered through the gas pipeline system of Florida Gas Transmission Company ("FGT"). Gas supply and transportation will be pursuant to a contract between Duke Energy Power Services, L.L.C. and Citrus Trading Corp. ("Citrus"), an affiliate of FGT and Enron Corp. Pursuant to this contract, Citrus has committed to deliver sufficient gas, on a firm basis, to operate the Project at full capacity for an initial term of 20 years.

11. The Project will be electrically interconnected to the Peninsular Florida bulk transmission grid at the existing Smyrna Substation owned by the UCNSB. The Smyrna Substation is a 115kV

substation that is electrically connected to the transmission systems of both Florida Power & Light Company and Florida Power Corporation. Load flow studies prepared independently for Duke New Smyrna and the UCNSB indicate that the Peninsular Florida transmission grid will, with approximately 25 miles of additional transmission circuits planned to support the Project, accommodate delivery of the net output of the Project, including the entitlement capacity delivered to the UCNSB, regardless which utilities purchase and receive the Project's output. These load flow studies also indicate that the Project will not burden the transmission system or violate any transmission constraints or contingencies in Peninsular Florida or elsewhere. Duke Energy Power Services, L.L.C. is represented on the Florida Reliability Coordinating Council ("FRCC") and participates on Duke New Smyrna's behalf before the FRCC as well.

12. The Project's advanced technology, combined cycle design with natural gas fuel will provide: (a) high availability, with a projected Equivalent Availability Factor of 96 percent; (b) high reliability, with a projected Equivalent Forced Outage Factor of 1 percent and a Planned Outage Factor of 3 percent; and (c) high efficiency, with a projected heat rate of 6,832 Btu per kWh based on the Higher Heating Value of natural gas, and 6,211 Btu per kWh based on the Lower Heating Value of natural gas. Compared to other power plants in Florida, the Project will produce very low emissions of sulfur dioxide (SO₂); low emissions of nitrogen oxides (NOx), carbon monoxide (CO), carbon dioxide (CO₂), and particulate matter; and no

emissions of heavy metals. Overall, the Project will have the most benign environmental profile of any technology currently available and feasible for meeting Peninsular Florida's future power requirements. The Exhibits demonstrate that the operation of the New Smyrna Beach Power Project is reasonably likely to result in measurable reductions in emissions of SO₂, NO_x, CO, CO₂, particulate matter, and heavy metals in Peninsular Florida, due to the Project's displacement of generation from less efficient units and units that burn fuels that produce more pollution than is produced by the natural gas fuel used in the Project.

13. The New Smyrna Beach Power Project is a joint power supply project within the meaning of Part II, Chapter 361, Florida Statutes.

CONDITIONS INDICATING NEED FOR THE PROPOSED POWER PLANT

14. The Project is consistent with the needs of the UCNSB and of Peninsular Florida for system reliability and integrity and for adequate electricity at a reasonable cost. The following discussion addresses the Project's consistency with these needs in more detail.

A. Need for System Reliability and Integrity

15. The Project is consistent with the UCNSB's need for system reliability and integrity, as well as the UCNSB's need for adequate electricity at a reasonable cost. The UCNSB is a winter-peaking utility. Its all-time winter peak was 89 MW during the winter of 1996, and its winter peak is projected to increase to 96 MW in 2001 and to 110 MW in 2008. The UCNSB's all-time summer peak demand of

80.2 MW occurred in June of this year. The UCNSB's Net Energy for Load ("NEL") grew from 287,167 MWH in 1992 to 325,229 MWH in 1997, and is projected to grow to approximately 390,000 MWH in 2008. The UCNSB has approximately 31.3 MW of self-owned generating capacity, consisting of its own local generation resources (18.8 MW) and its capacity interests in the St. Lucie and Crystal River nuclear units. The balance of the UCNSB's capacity and energy needs are met through contracts with Florida Power Corporation ("FPC"), Tampa Electric Company ("TECO"), and Enron Power Marketing ("EPM"). All of these contracts, except the FPC partial requirements service agreement, are currently scheduled to expire between September 30, 1999 and March 31, 2000. The capacity and energy provided under the FPC partial requirements service agreement is scheduled to ramp down from 24 MW at present to 12 MW in 2000, to 10 MW in 2002, and to 0 MW as of October 1, 2004.

16. Comparing the UCNSB's projected need for 90 to 110 MW of capacity over the forecast period to the UCNSB's committed resources, it is readily apparent that the UCNSB needs additional capacity and that the 30 MW of entitlement capacity from the New Smyrna Beach Power Project will contribute significantly toward meeting these needs. The UCNSB's need for the capacity and energy from the Project will exist even after all cost-effective energy conservation measures taken by, or reasonably available to, the UCNSB are taken into account. Additional detailed information regarding the UCNSB's historical and projected number of customers, summer and winter peak demands, and energy requirements is presented

in Tables 4 through 7 and Figures 16 through 18 of the Exhibits.

17. The Project is consistent with Peninsular Florida's needs for generating capacity to maintain system reliability and integrity. According to the 1998 Regional Load and Resource Plan prepared by the Florida Reliability Coordinating Council and dated July 1998 ("1998 FRCC Regional Plan"), Peninsular Florida needs more than 8,000 MW of new installed capacity in order to maintain reserve margins (with exercise of load management and interruptible resources) above 14.5 percent from the winter of 1998-1999 through the winter of 2007-2008. (See Table 11 in the Exhibits.) The New Smyrna Beach Power Project will either provide part of this needed capacity (if other utilities contract for the Project's output) or, if the Project's capacity remains uncommitted, the Project will provide additional reliability protection by its presence and availability. Even if all currently planned power plant construction and purchases are brought into service as planned, Peninsular Florida's reserve margin at the time of winter peak, without exercising load management and interruptible resources, is projected to fluctuate between 3.25 percent and 7.01 percent over the 1997-2008 period. The Project will improve these winter reserve margins by about 1.2 percent in each year, e.g., from 5.78 percent to 7.08 percent in the winter of 2001-2002, and from 6.99 percent to 8.21 percent in the winter of 2004-2005. With load management and interruptible resources exercised, but without the Project's capacity, the winter reserve margin is projected to range between

14.53 and 18.64 percent over the same period.³ With the Project's additional 548 MW of winter capacity, Peninsular Florida's 2001-2002 winter reserve margin (calculated assuming full exercise of load management, conservation, and interruption capabilities) will increase from 17.32 percent (without the Project) to 18.76 percent (with the Project). The New Smyrna Beach Power Project will provide similar reserve margin improvements in subsequent years.

18. Under any scenario, the Project is expected to provide an additional 548 MW of net capacity to Peninsular Florida utilities during extreme winter peaking conditions and an additional 476 MW of additional capacity during summer peaking conditions. In an extreme weather event, e.g., a prolonged period in the summer with daily high temperatures exceeding 100 degrees F., or winter weather similar to that experienced at Christmas of 1989, the Project will provide substantial additional generating capacity to the Peninsula that would not otherwise be available. Assuming an average coincident peak demand of 5 to 6 kW per residential customer, the Project's capacity would be sufficient to maintain electric service to approximately 80,000 to 100,000 homes during such an event.

³ According to the FRCC's 1997 Ten-Year Plan, State of Florida, Peninsular Florida's winter reserve margin was projected to decline from 19 percent in 1997-98 to 11 percent in 2001-02, and further to 9 percent in 2003-04, even with full implementation of interruptible and load management rights. Without interrupting service to interruptible and load management customers, Peninsular Florida's winter peak reserve margin was projected to decline from 8 percent currently to 1 percent in 2001-02, and to become negative in 2003-04. FRCC 1997 Ten-Year Plan at 24.

B. Need for Adequate Electricity at a Reasonable Cost

19. The Project is consistent with Peninsular Florida's need for adequate electricity at a reasonable cost. Most new capacity proposed by other Florida utilities is similar gas-fired combined cycle capacity. See Table 11 in the Exhibits; see also FRCC 1998 Regional Plan. A comparison of the direct construction cost and heat rates of the New Smyrna Beach Power Project to those of other proposed similar plants shows that the Project will have a lower construction cost than virtually all other similar units, and a heat rate that is similar to the heat rates of other units proposed for commercial service before 2004. Because no utilities or retail customers are subject to being required to pay for the costs of the Project, and because other Peninsular Florida utilities can reasonably be expected to buy power from the Project only when it is cost-effective vs. other supply sources, the Project is also necessarily consistent with Peninsular Florida's need for adequate electricity at a reasonable cost.

20. As discussed in the following section, the Project is expected to provide power cost savings of approximately \$39 million (estimated net present value) to the UCNSB and its retail customers over the first twenty years of its operation. (The UCNSB's projections indicate initial savings of approximately \$3.1 million in the Project's first year of operation, escalating for the next nine years in accordance with the Participation Agreement, and approximately \$2 million per year in savings over the eleventh through twentieth years of the Participation Agreement.)

Accordingly, the Project is consistent with the needs of the UCNSB and its customers for adequate electricity at a reasonable cost.

21. The Project is also consistent with the needs of Peninsular Florida for adequate electricity at a reasonable cost. As indicated above, except for the 30 MW of entitlement capacity provided to the UCNSB, the Project will be a "merchant" plant. A merchant plant differs from a traditional "rate based" plant, in that the costs of a rate based plant are recovered through the rates charged to the utility's captive customers. If, after a rate based plant is constructed, lower cost power becomes available, the utility nevertheless remains entitled to recover the costs of its plants through its rates. Hence, the utility's ratepayers, rather than its shareholders, bear the risks associated with competition and obsolescence. Similarly, absent a finding of imprudence, a utility is permitted to recover the fixed and operating costs of its rate based plant, even if these costs are higher than originally projected or if the plant fails to operate as well as projected.

22. In contrast, a merchant plant has no rate base and no captive customers. A merchant plant simply offers its capacity and energy to potential wholesale customers, who are free to purchase or decline to purchase capacity and energy offered by the merchant plant. A rational purchasing utility will only enter into a purchase agreement with a merchant utility if the costs of the merchant plant's capacity or energy are lower than the costs of alternatives otherwise available to the utility (e.g., generation from its own power plants or purchases from others). If the cost of

power from the merchant plant is higher than the costs of other alternatives, a purchasing utility will simply choose not to buy the merchant plant's output. In such circumstances, the unrecovered costs of the merchant plant will be borne by the plant's owners, and not by any customer. The same result will occur if the merchant plant incurs cost overruns or fails to operate as efficiently or reliably as projected - the merchant utility, rather than any ratepayer, bears all of the capital, operating, and market risks associated with the plant. Consequently, if the merchant plant's economics are favorable, other utilities will purchase its output and incur cost savings. If the plant turns out not to be economic, customers will incur no financial harm. For this reason, a merchant plant can only benefit other utilities and their customers.

C. Strategic Considerations

23. The Project is also consistent with strategic factors that may be considered when building a power plant, both from Duke New Smyrna's perspective and from the perspective of the State. The Project will be fueled by domestically produced natural gas rather than by an imported fuel that may be subject to interruption due to political or other events. The Project has a low installed cost and a highly efficient heat rate, assuring its long-term economic viability. As a merchant plant constructed at the expense of Duke New Smyrna, the Project will provide power with no risk to Florida electric customers and will impose no obligation on Florida utilities or their customers. The Project's gas-fired combined cycle technology is exceptionally clean and minimizes airborne

emissions. Since the Project will use a very clean fuel, there is little risk that the Project will be adversely affected by future changes in environmental regulations. Moreover, the Project's use of natural gas in a very efficient generation technology will improve the overall environmental profile of electricity generation in Florida. The Project will also contribute to reducing the consumption of petroleum fuels for electricity generation in Florida.

COST-EFFECTIVENESS

24. The New Smyrna Beach Power Project is the most cost-effective alternative available to the UCNSB for meeting its future power supply needs. The Project is also the most cost-effective alternative available to Duke New Smyrna for meeting its obligations to deliver the entitlement capacity and energy to the UCNSB, as well as for meeting its other projected wholesale sales obligations. Moreover, based on its highly efficient heat rate and low direct construction cost, the Project is demonstrably cost-effective relative to virtually all other gas-fired combined cycle power plants proposed for Florida over the next ten years. Accordingly, the Project can and should be expected to provide cost-effective power to Peninsular Florida.

A. Cost-Effectiveness to the Utilities Commission, City of New Smyrna Beach

25. As described above and in the Exhibits, the UCNSB's owned power supply resources represent approximately 30 percent of its needed capacity, and most (59 MW out of a total of 83 MW) of the

UCNSB's current power purchase agreements are scheduled to expire between September 1999 and March 2000. Accordingly, the UCNSB has a need for approximately 53 to 73 MW of additional power supply resources between 2000 and 2004.

26. The UCNSB evaluated several options for meeting its needs, including the construction of new self-owned, gas-fired generating capacity in the 20-50 MW size class, and extending or renewing its power purchase contracts on currently applicable commercial terms. If sufficient gas were available to the UCNSB, self-owned generation, would be more cost-effective than extending or renewing its current power purchase contracts, even with the less efficient heat rates associated with smaller units. Because of the significant cost associated with constructing new gas pipeline capacity, however, none of the UCNSB's self-build generation options proved to be economically viable for the UCNSB. Generation using other fuels was also found not to be cost-effective. Thus, the UCNSB's choice was narrowed to the entitlement capacity and energy from the Project or renewing its current power purchase agreements. The UCNSB compared the cost of the entitlement capacity and energy from the Project to the cost of extending its current power purchase agreements with TECO and FPC at the currently applicable rates (rather than the higher current new purchase rates). This comparison indicated that the Project will save the UCNSB and its retail customers approximately \$39 million over the first 20 years of the Participation Agreement. The results of the UCNSB's evaluations are shown in Tables 12 through 14 in the Exhibits.

B. Cost-Effectiveness to Peninsular Florida

27. The Project will be a cost-effective power supply resource for Peninsular Florida. Projections of the Project's operations prepared for Duke New Smyrna show that the Project will operate, economically, at capacity factors ranging from 83 percent in 2002 to 94 percent in 2012. This result is not surprising because most new capacity proposed for Peninsular Florida (and for the State of Florida) is gas-fired combined cycle capacity. The presence of the Project, with its high efficiency, can be expected to suppress wholesale power prices in Florida below what they would otherwise be. As a merchant plant, the output of which no utility is obligated to buy, the Project can only reduce power supply costs; it cannot increase them above the cost of alternatives.

28. The primary market for power produced by the New Smyrna Beach Power Project is wholesale sales to other utilities in Peninsular Florida. Duke New Smyrna projects that all, or virtually all -- more than 99 percent -- of all sales from the Project over the 2002-2012 period are expected to be to other utilities in Peninsular Florida (i.e., within the FRCC region), on the basis of the relative economics of the Project and other Peninsular Florida generation facilities.

29. Even if the Project were not the most cost-effective alternative for Duke New Smyrna per se, such concern is generally irrelevant to the Commission's consideration of this Petition (except as it might relate to the Project's financial viability) because Duke New Smyrna will only be able to sell its wholesale

power to other utilities if and when utility purchasers determine that such purchases are cost-effective relative to those utilities' alternative power supply options, e.g., self-generation or other purchases.

30. Even if the Project were not needed to maintain reliable service to Florida electric customers, Duke New Smyrna believes that the Commission should grant the requested need determination because the Project will necessarily provide cost-effective power to utilities that provide retail service in Florida. Since the savings resulting from cost-effective purchases from Duke New Smyrna will be passed directly through to retail customers through the utilities' fuel and purchased power cost recovery charges, the Project will also provide cost-effective power to those utilities' retail customers. The Project will not be subject to inclusion in any utility's rate base, and accordingly, there is no risk of captive retail (or wholesale) customers being required to bear the Project's capital or other costs. Retail customers will -- indeed can -- only be asked to pay the cost of power from the Project when their retail-serving utility elects to buy power from the Project, and these purchases will occur only when such transactions are cost-effective to the purchasing utility, i.e., when the Project offers power that costs less than what is available elsewhere.

31. The Project is also demonstrably cost-effective based on a comparison of the Project's construction cost and heat rate to the costs and heat rates of other proposed units. (This analysis is based on the reasonable assumption that the cost of gas to the

Project would be similar to the cost of gas to other proposed power plants.) The direct construction cost of the New Smyrna Beach Power Project is projected to be approximately \$160 million, which Duke New Smyrna tentatively plans to finance with internal funds. This construction cost equates to approximately \$311 per kW of installed capacity. The Project's heat rate is projected to be 6,832 Btu per kWh (HHV of gas). Both the Project's direct construction cost and its heat rate compare favorably to those of other gas-fired combined cycle power plants proposed for Florida; only the proposed Cane Island 3 unit of the Florida Municipal Power Agency and the Kissimmee Utility Authority has a similar projected construction cost and heat rate. Comparative construction cost and heat rate data for the Project and for other proposed power plants is included in Table 11 in the Exhibits.

32. By virtue of the unique, no-risk and "no-strings-attached" characteristics of this proposed merchant power plant, the Project will necessarily be a cost-effective power supply option for the utilities to which Duke New Smyrna sells its merchant power, as well as to the retail customers of those utilities. Because no utility or retail customer will be obligated to purchase the Project's output, it is reasonably expected that any purchases from Duke New Smyrna will be made at prices less than or equal to the cost of the purchasing utility's next-best alternative. In light of these facts, Duke New Smyrna submits that its actual costs are generally irrelevant to a determination of cost-effectiveness to Florida ratepayers. In this case, unlike cases involving traditional rate-

based plants built by retail utilities, Florida electric ratepayers cannot be required to bear the Project's costs in their rates.

C. Cost-Effectiveness to Duke New Smyrna

33. As described more fully in the Exhibits, Duke New Smyrna has evaluated various generating technologies and various configurations of combined cycle power plants (e.g., 2-on-1 and 3-on-1 configurations using the currently available CTGs offered by different manufacturers) and determined that the proposed combined cycle power plant represents the most cost-effective alternative for Duke New Smyrna to meet its obligations to deliver the entitlement capacity and energy to the Utilities Commission, as well as Duke New Smyrna's projected wholesale power sales obligations.

ENERGY CONSERVATION

34. The Utilities Commission, City of New Smyrna Beach currently offers a residential load management program and energy audits to its customers on request. The UCNSB is also planning a solar photovoltaic demonstration project that is scheduled to go into service in 2001. The UCNSB's need for the entitlement capacity, as described above, exists after full cost-effective implementation of these programs. Because the entitlement capacity and energy are economically preferable to other supply-side alternatives (e.g., other power purchases), any future cost-effective conservation measures would likely displace other supply-side alternatives, rather than displace the entitlement capacity and energy available from the Project.

35. As a federally-regulated public utility selling electricity only at wholesale, Duke New Smyrna does not engage directly in the implementation of end-use energy conservation programs. Moreover, Duke New Smyrna is not required to have conservation goals pursuant to Section 366.82(2), Florida Statutes. For purposes of this proceeding, Duke New Smyrna accepts the Peninsular Florida load forecasts presented in the 1997 FRCC Ten-Year Plan and the 1998 FRCC Regional Plan, which reflect the assumed implementation of currently approved energy conservation programs. The New Smyrna Project is consistent with the overall goals of the Florida Energy Efficiency and Conservation Act ("FEECA"), Sections 366.80-.85 and 403.519, Florida Statutes, because the Project contributes directly and significantly to the increased efficiency and cost-effectiveness of electricity production and natural gas use. Fla Stat. § 366.81 (1997). The Project does so by using state-of-the-art generation technology. The Project's primary energy conversion efficiency of approximately 50 to 55 percent is significantly better than any existing utility generating unit in Florida, better than most cogeneration facilities, and as good as or better than the vast majority of other Florida utilities' proposed new gas-fired combined cycle capacity. To the extent that the New Smyrna Project, with its heat rate of 6,832 Btu per kWh (HHV), displaces generation from less efficient gas-fired steam boiler units, with heat rates generally in the range of 10,000 to 11,000 Btu per kWh, or from even-less-efficient CTGs, generally in the range of 11,000 or more Btu per kWh, the Project will result in

substantial increases in the efficiency of natural gas use. Moreover, to the extent that the Project displaces oil-fired generation, it will contribute to the express statutory goal of conserving expensive resources, especially petroleum fuels. Fla. Stat. §§ 366.81 & 366.82(2) (1997).

TRANSMISSION FACILITIES

36. The Project will be electrically interconnected to the Peninsular Florida transmission system at the Smyrna Substation, which is owned by the UCNSB. The transmission interconnection, switching equipment, and transmission lines are described in the Exhibits. In summary, these facilities consist of (a) short lengths (approximately 150 feet) of 115 kV conductor connecting the Project's stepup transformers to the Smyrna Substation; (b) a planned second 115 kV circuit on the existing 18-mile Smyrna-Cassadaga line; and (3) a planned new, 7.5-mile transmission circuit connecting the Cassadaga Substation to the Lake Helen Substation. Based on transmission load flow studies commissioned independently by Duke New Smyrna and the UCNSB, Duke New Smyrna has concluded that this interconnection and the indicated additional 115 kV circuits will support deliveries of power from the Project to other utilities in Peninsular Florida.

ASSOCIATED FACILITIES

37. The Project's natural gas fuel will be delivered over FGT's gas pipeline system. The Project will be connected to FGT's main pipeline by a lateral pipeline approximately 42 miles in

length, originating near Mt. Plymouth, in Lake County, Florida, and traversing parts of Lake, Seminole, and Volusia Counties to the Project.

CONSEQUENCES OF DELAY

38. Delaying the construction and commercial operation of the Project will result in reduced reliability of electric service to the UCNSB and its retail electric customers. As described above, comparing the UCNSB's projected peak demands to its committed power supply resources, indicates that the UCNSB needs approximately 53 MW of new power supply resources in 2001, increasing to 73 MW of needed additional resources in 2004. The entitlement capacity from the New Smyrna Beach Power Project represents a significant part of the UCNSB's projected resources. Delaying the Project, particularly in light of the questionable adequacy of Peninsula-wide capacity resources, is likely to impair the UCNSB's ability to meet its projected peak demands.

39. Delaying the construction and operation of the Project will also delay the availability of cost-effective power to the Utilities Commission and its retail customers. For each month that the Project's construction and operation are delayed, the Utilities Commission's wholesale power costs, and its retail customers' electric bills, will be higher than they would otherwise be. From the UCNSB's perspective only, delaying the construction and operation of the Project will cost the UCNSB and its retail customers approximately \$3 million per year for each year that the Project is delayed.

40. Delaying the construction and operation of the Project will also delay the realization of the reductions in atmospheric emissions that will result from the significantly greater efficiency of the Project, and its use of clean natural gas fuel, as compared to the efficiency and emission rates of the power supply resources whose output will be displaced by the Project. Preliminary analyses indicate that the Project would displace approximately 3,720,000 MWH of electric energy produced from oil-fired and less-efficient gas-fired generation facilities in 2002, and greater amounts in following years (more than 4,200,000 MWH in 2012).

41. Delaying the construction and operation of the Project will result in lower reserve margins for Peninsular Florida for each month and season that the Project's construction and operation are delayed. Such delays will in turn increase the probability that the power supply resources available to Peninsular Florida will be insufficient to maintain reliable service. For every day that the Project's operation is delayed, the probability of brownouts and blackouts in Peninsular Florida is greater than it should be, and greater than it would be with the Project in operation.

42. Delaying the construction and operation of the Project will also delay the availability of cost-effective power to the other utilities in Peninsular Florida and their retail customers. Duke New Smyrna anticipates sales of approximately 3,720,000 MWH to other Peninsular Florida utilities in 2002, the Project's first full year of projected operation, and greater amounts in following years. Duke New Smyrna's projections reflect the realistic assumption that

such sales will be made only when cost-effective to the purchasing utilities. Thus, while actual purchase prices will depend on negotiations between Duke New Smyrna and its wholesale customers, the output of the Project can reasonably be expected to provide significant power cost savings to Duke New Smyrna's wholesale customers and to their retail customers (again reasonably assuming that such savings are passed through to those retail customers). Delaying the Project's operation will cost those customers, and the State of Florida, these amounts.

43. Delay also costs the State the fuel savings that the Project would provide in terms of reduced primary fuel consumption for the same amount of electricity produced. According to projections prepared for Duke New Smyrna, the Project is expected to displace approximately 3,720,000 MWH of power produced by less efficient heavy-oil-fired and gas-fired generation units (i.e., steam generators fired by heavy oil, natural gas, or both, with heat rates generally between 10,000 and 11,000 Btu per kWh) in 2002. The Project is expected to displace greater amounts of gas/oil-fired generation in subsequent years. Assuming an average heat rate of 10,501 Btu per kWh for gas/oil-fired steam generation, the Project would provide primary fuel savings of approximately 13.6 trillion Btu (13,647,032 MMBtu) in 2002. If all of the Project's output displaced oil-fired steam generation, approximately 6 million barrels of oil would be saved. If all of the Project's output displaced gas-fired steam generation, approximately 13.6 million Mcf of natural gas would be saved. Delaying the construction and

operation of the Project will deprive the State of these fuel savings benefits. Delaying the Project's construction and operation will also deprive the State of the environmental benefits of the Project's operations.

CONCLUSION

44. The proposed New Smyrna Beach Power Project is consistent with the needs of the Utilities Commission, City of New Smyrna Beach and of Peninsular Florida for system reliability and integrity, and for reliable electricity at a reasonable cost. The Project will contribute meaningfully to the reliability of electric supply in Peninsular Florida, enhancing reserve margins in 2001 and thereafter. The power produced by the Project will be cost-effective to the UCNSB and its electric customers, saving those customers approximately \$3 million per year over other alternatives.

45. The Project will necessarily be cost-effective to other wholesale purchasers and their retail customers, because the costs of the Project will not be included in rate base, and because no utility nor any electric customer will be obligated to purchase the Project's output. Wholesale purchasers will buy the Project's power only if it is cost-effective when compared to other alternatives. All of the investment, market, and operating risks of the Project will be borne by Duke New Smyrna. Given the relative economics of current generating plants in Florida and the Southeast, Duke New Smyrna expects that the vast majority of the Project's output will be sold at wholesale to Florida utilities serving retail customers in Florida. Finally, the Project is consistent with, and promotes

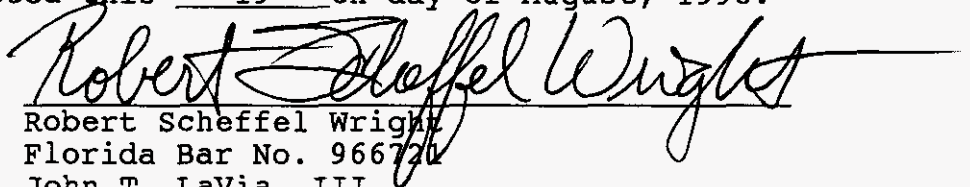
the goals of, the Florida Energy Efficiency and Conservation Act.

46. Accordingly, the Commission should grant the requested determination of need for the New Smyrna Beach Power Project, as described herein.

RELIEF REQUESTED

WHEREFORE, the Utilities Commission, City of New Smyrna Beach, Florida, and Duke Energy New Smyrna Beach Power Company Ltd., L.L.P. respectfully request the Commission to enter its order GRANTING this petition for an affirmative determination of need for the proposed New Smyrna Beach Power Project, as described herein.

Respectfully submitted this 19 th day of August, 1998.



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