

**BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION**

In Re: Joint Petition for Determination )  
of Need for an Electrical Power Plant in ) DOCKET NO. 981042-EM  
Volusia County by the Utilities )  
Commission, City of New Smyrna Beach, ) FILED: SEPT. 28, 1998  
Florida, and Duke Energy New Smyrna )  
Beach Power Company Ltd., L.L.P. )  
\_\_\_\_\_ )

**DIRECT TESTIMONY**

OF

**RONALD L. VADEN**

ON BEHALF OF

**THE UTILITIES COMMISSION,  
CITY OF NEW SMYRNA BEACH, FLORIDA**

AND

**DUKE ENERGY NEW SMYRNA BEACH  
POWER COMPANY LTD., LLP**

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**IN RE: JOINT PETITION FOR DETERMINATION OF NEED  
BY THE UTILITIES COMMISSION, CITY OF NEW SMYRNA BEACH, FLORIDA  
AND DUKE ENERGY NEW SMYRNA BEACH POWER COMPANY,  
FPSC DOCKET NO. 981042-EM**

**DIRECT TESTIMONY OF RONALD L. VADEN**

1 **Q: Please state your name and business address.**

2 A: My name is Ronald L. Vaden, and my business address is  
3 Utilities Commission, City of New Smyrna Beach, 200 Canal  
4 Street, New Smyrna Beach, Florida 32168.

5

6 **Q: By whom are you employed and in what position?**

7 A: I am employed as Utilities Director by the Utilities  
8 Commission, City of New Smyrna Beach, Florida.

9

10 **Q: Please describe your duties with the Utilities  
11 Commission, City of New Smyrna Beach, Florida.**

12 A: As Utilities Director of the Utilities Commission, City  
13 of New Smyrna Beach ("UCNSB"), my responsibilities  
14 include the general administration of the combined  
15 electric, water, wastewater, reuse water systems, and  
16 Internet access services, the preparation and  
17 presentation of budgets, rules, regulations, long and  
18 short range plans, financing and capital improvements,  
19 staffing, consulting services and related items requiring  
20 Utilities Commission action.

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**DIRECT TESTIMONY OF RONALD L. VADEN**

**QUALIFICATIONS AND EXPERIENCE**

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**Q: Please summarize your educational background and experience.**

A: I received a Bachelor of Science degree in Electrical Engineering, with specialization in Power Engineering, from North Carolina State University in 1986. In addition, I have completed numerous American Public Power Association Utility education and training courses (e.g., courses on FERC's Comparability Notice of Proposed Rulemaking, Rate Design, Negotiating Power Supply Contracts, Distribution System Evaluation, and Transmission Line Design). I have also completed 24 credit hours in the MBA program at University of Central Florida, including course work in Management, Marketing, Statistics, and Accounting.

**Q: Please summarize your employment history and work experience.**

A: Utilities Commission, City of New Smyrna Beach, FL:  
In January 1987, shortly after receiving my B.S.E.E. degree, I was employed by the UCNSB as an Electrical Engineer. In January 1988, I was promoted to Electrical Engineer II, and in October 1992, to Supervising Engineer, Electrical. In December 1993, I was again promoted, this time to Supervising

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1 Engineer, Power Supply and Planning. From January to  
2 March 1996, I served as Assistant Director of  
3 Utilities, and in March 1996, I assumed my present  
4 position as Utilities Director.

5

6 **Q: What are your responsibilities with respect to the New**  
7 **Smyrna Beach Project?**

8 A: As the Utilities Director of the Utilities  
9 Commission, City of New Smyrna Beach, I am  
10 responsible for coordinating UCNSB staff and various  
11 consultants with Duke Energy Power Services for the  
12 Project.

13

14 **Q: Have you previously testified before regulatory**  
15 **authorities or courts?**

16 A: Yes. I testified in FERC Docket No. ER93-327-000 and, in  
17 Volusia County Circuit Court, in the condemnation hearing  
18 for Florida Power Corporation's Smyrna-Cassadaga 115 kV  
19 transmission line.

20

21 **PURPOSE AND SUMMARY OF TESTIMONY**

22 **Q; What is the purpose of your testimony in this proceeding?**

23 A: I am testifying on behalf of the Utilities Commission,  
24 City of New Smyrna Beach, Florida ("UCNSB"), and Duke  
25 Energy New Smyrna Beach Power Company Ltd., LLP ("Duke

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1 New Smyrna"), the joint applicants for the Commission's  
2 determination of need for the New Smyrna Beach Power  
3 Project (or "the Project"). My testimony describes the  
4 Utilities Commission, City of New Smyrna Beach, its  
5 relationship to the City of New Smyrna Beach, Florida,  
6 and the basic elements of the business relationship  
7 between the UCNSB and Duke New Smyrna. My testimony also  
8 describes the UCNSB's historical and projected capacity  
9 and energy requirements, the UCNSB's existing and  
10 projected generating facilities and other power supply  
11 resources, the UCNSB's energy conservation efforts, the  
12 cost-effectiveness of the Project to the UCNSB and our  
13 retail electric customers, and other benefits provided to  
14 New Smyrna Beach and Volusia County by the Project.  
15 Finally, my testimony addresses the cost of the  
16 downstream transmission upgrades planned to accommodate  
17 power deliveries from the Project to other utilities in  
18 Peninsular Florida.

19

20 **Q: Please summarize your testimony.**

21 **A:** The New Smyrna Beach Power Project will provide needed  
22 and cost-effective capacity and energy to serve the  
23 customers of the Utilities Commission of New Smyrna  
24 Beach. Our plans and analyses indicate that the UCNSB's  
25 entitlement share of the Project's capacity will

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1 contribute to our reliability and to substantial cost  
2 savings as compared to other supply-side and demand-side  
3 alternatives. Additionally, the Project will provide  
4 significant benefits to New Smyrna Beach and the Volusia  
5 County community. The Commission should grant our  
6 requested determination of need for the Project.

7

8 **Q: Are you sponsoring any exhibits to your testimony?**

9 **A:** Yes. I am sponsoring the following exhibits.

10 RLV-1. The Participation Agreement between the UCNSB  
11 and Duke New Smyrna, including Amendment Number  
12 One to the Participation Agreement.

13 RLV-2. Historical and projected customers of the  
14 UCNSB.

15 RLV-3. Historical and projected summer and winter peak  
16 demands of the UCNSB system.

17 RLV-4. Historical and projected energy requirements of  
18 the UCNSB system.

19 RLV-5. The UCNSB's power supply resources.

20 RLV-6. Cost-effectiveness tables.

21 RLV-7. Summer and winter reserve margins for  
22 Peninsular Florida with and without the  
23 Project's seasonal capacity.

24 RLV-8. Comparison of capital costs, heat rates, and  
25 availability factors for proposed generating

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1 units for Peninsular Florida.

2 I am also sponsoring Tables 4, 5, 6, 7, 8, 9, 11,  
3 12, 13, and 14, and Figures 16, 17, and 18, in the  
4 Exhibits filed in support of the Joint Petition on August  
5 19, 1998, as well as the text contained in Sections II.B,  
6 II.F, IV.A, V.A, and VI of those Exhibits.

7

8 **THE UTILITIES COMMISSION, CITY OF NEW SMYRNA BEACH, FLORIDA**  
9 **AND THE CITY OF NEW SMYRNA BEACH, FLORIDA**

10

11 **Q: Please describe the Utilities Commission, City of New**  
12 **Smyrna Beach, Florida, and its purposes and activities.**

13 **A:** The Utilities Commission, City of New Smyrna Beach,  
14 Florida, was created by Chapters 67-1754 and 85-503, Laws  
15 of Florida. The UCNSB provides electric, water,  
16 wastewater, reuse water and internet access services to  
17 the citizens of New Smyrna Beach and surrounding areas of  
18 Volusia County. With respect to the Florida Public  
19 Service Commission's jurisdiction, the UCNSB is a  
20 municipal electric utility within the meaning of Section  
21 366.02(2), Florida Statutes.

22

23 **Q: Please describe the relationship of the UCNSB and the**  
24 **City of New Smyrna Beach.**

25 **A:** The UCNSB is a statutorily created unit of the City of  
26 New Smyrna Beach. The UCNSB is governed by a board of  
27 five commissioners who are appointed by the City



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1 Commission for three-year terms. The City of New Smyrna  
2 Beach is a city chartered in 1943 pursuant to Chapter  
3 22408, Special Acts of Florida, 1943. Pursuant to its  
4 authorizing laws, the UCNSB has broad authority to  
5 provide various utility services, including the authority  
6 to contract for various components of those services.  
7 The approval of the City Council (5 members) is required  
8 for certain commitments of the UCNSB, such as debt  
9 obligations.

10

11 **THE UTILITIES COMMISSION, CITY OF NEW SMYRNA BEACH, FLORIDA**  
12 **AND DUKE ENERGY NEW SMYRNA BEACH POWER COMPANY**

13

14

**Q: Please describe the business relationship between the  
15 Utilities Commission, City of New Smyrna Beach, Florida  
16 and Duke Energy New Smyrna Beach Power Company.**

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**A: The Utilities Commission, City of New Smyrna Beach,  
18 Florida, and Duke New Smyrna have entered into a  
19 Participation Agreement that sets forth the parties'  
20 duties and responsibilities in their business  
21 relationship. The key features of the Participation  
22 Agreement are as follows.**

1. The UCNSB will furnish the site for the New Smyrna  
24 Beach Project to Duke New Smyrna. The Project site  
25 has been transferred to Duke New Smyrna.
2. The UCNSB will also furnish an interconnection point  
26 for the New Smyrna Beach Project to the 115 kV bus  
27

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1 at the UCNSB's Smyrna Substation.

2 3. The UCNSB will provide reuse water from its adjacent  
3 wastewater treatment plant (currently under  
4 construction) and will provide other water supply  
5 sufficient for the make-up water requirements of the  
6 Project. Approximately 50% of the water required for  
7 the project will be supplied by reuse water from the  
8 adjacent western wastewater treatment plant which is  
9 currently under construction.

10 4. The UCNSB will design, engineer, and construct  
11 modifications of the UCNSB Smyrna Substation to  
12 accommodate the proposed plant. Any downstream  
13 transmission upgrades that are payable by the  
14 Project are Duke New Smyrna's obligations.

15 5. Duke New Smyrna has granted to the UCNSB an  
16 "entitlement" to 30 MW of the Project's capacity for  
17 the technical and economic life of the Project.  
18 Duke New Smyrna will provide the energy associated  
19 with the entitlement capacity at agreed-upon  
20 pricing. When the final power purchase agreement is  
21 negotiated and executed, Duke New Smyrna will,  
22 consistent with FERC regulations, file that  
23 agreement with the FERC.

24 6. Duke New Smyrna will design, engineer, construct,  
25 finance, own, and operate the Project, and will

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1 market all capacity, energy, and, subject to future  
2 FERC approval, ancillary services provided from the  
3 Project. Duke New Smyrna is also responsible for  
4 the provision of natural gas service to the Project.  
5

**OVERVIEW OF THE UCNSB'S ELECTRIC SYSTEM**

7 **A. Description of the UCNSB's Electric System**

8 **Q: Please summarize the service area and the number and**  
9 **types of customers served by the Utilities Commission,**  
10 **City of New Smyrna Beach.**

11 **A:** The UCNSB serves approximately 19,900 electric customers  
12 within a service area of 72 square miles. The service  
13 area consists of the City of New Smyrna Beach and the  
14 surrounding unincorporated areas mainly to the South and  
15 West. The customer base for UCNSB is largely (90%)  
16 residential and energy sales to the residential customers  
17 account for 65% of all energy sales. Exhibit \_\_\_\_\_  
18 (RLV-2) presents historic and projected number of  
19 customers for the UCNSB electric system.  
20

21 **Q: Please summarize the historical and projected summer and**  
22 **winter peak demands of the UCNSB electric system.**

23 **A:** The UCNSB electric system is a Winter peaking system.  
24 The current maximum peak demand was experienced in 1996  
25 at a load level of 89 MW. The UCNSB's historic Summer

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1 peak demand was 80.2 MW, registered in June 1998. Peak  
2 demand levels have grown linearly over the past several  
3 years and are expected to grow steadily for the  
4 foreseeable future due to consistent customer growth,  
5 largely in the residential customer class. The table and  
6 figures of Exhibit \_\_\_\_ (RLV-3) present the UCNSB's  
7 historical and projected summer and winter peak demands,  
8 including the amount of each peak that was served by our  
9 various power supply resources.

10

11 **Q: Please summarize the historical and projected energy**  
12 **requirements of the UCNSB electric system.**

13 A: Since 1992, energy requirements for UCNSB have grown at  
14 an average rate of 2.6%. Net Energy for Load (N.E.L.)  
15 for the last full fiscal year (1997) was 325,229 MWH.  
16 Exhibit \_\_\_\_ (RLV-4) presents the historical and  
17 projected energy requirements for the UCNSB electric  
18 system. The figure presents historical and projected  
19 N.E.L. data, including the amount of each year's N.E.L.  
20 that was provided by our various power supply resources.

21

22 **B. The UCNSB's Power Supply Resources**

23 **Q: What power plants does the UCNSB own and operate?**

24 A: The UCNSB currently owns and operates two power plants  
25 with total capacity of 18.8 MW. These plants are fired

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1 by #2 Diesel Fuel.

2

3 **Q: What other power supply resources does the UCNSB**  
4 **currently have?**

5 A: At the present time, the UCNSB has contracts with Florida  
6 Power Corporation (FPC), Tampa Electric Company (TECO)  
7 and Enron Power Marketing (EPM). UCNSB also has  
8 entitlement to a portion of the St. Lucie #2 Nuclear  
9 Power Plant through the Florida Municipal Power Agency  
10 (FMFA) and partial ownership of FPC's Crystal River 3  
11 Nuclear Power Plant. Exhibit \_\_\_\_\_ (RLV-5) lists the  
12 UCNSB's current power supply resources.

13

14 **C. Energy Conservation Measures**

15 **Q: As a small utility not subject to the FEECA energy**  
16 **conservation requirements, what types of energy**  
17 **conservation or demand-side management programs does**  
18 **the UCNSB provide to its customers?**

19 A: The UCNSB offers a load management program, by which  
20 customers receive credits on their electric bills in  
21 return for permitting the UCNSB to curtail service to  
22 selected appliances (e.g., air conditioning, heating, and  
23 water heating) for limited periods of time during peak  
24 conditions. We also provide energy audits on request to  
25 our customers. Exercise of our load management program

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1 reliably reduces our summer and winter peak demands by  
2 approximately 10 percent, or by 8 to 9 MW. In emergency  
3 conditions, we can achieve reductions between 12 and 13  
4 MW by full, unlimited exercise of our load management  
5 program.

6

7 **Q: Does the UCNSB plan to install a solar photovoltaic**  
8 **electric generation facility within the next five years?**

9 A: Yes. The UCNSB plans to install a solar photovoltaic  
10 generation unit with a capacity of approximately 150 kW  
11 adjacent to the Project site in 2001 or 2002. When that  
12 facility comes into service, we also plan to offer a  
13 "green pricing" option for our customers who want to have  
14 their electric rates based on the power provided to the  
15 system by our photovoltaic facility.

16

17 **THE UCNSB'S NEED FOR THE PROJECT**

18 **A. Planning Processes**

19 **Q: Please summarize the UCNSB's planning processes.**

20 A: UCNSB annually forecasts all aspects of its load for the  
21 upcoming year, taking into account known areas of  
22 customer growth, expected weather patterns, historical  
23 data and economic conditions. In addition, five-year  
24 budget estimates and ten-year load projections are  
25 calculated annually.

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1 **Q: Based on the UCNSB's planning processes, what are the**  
2 **system's projected power supply needs, both for capacity**  
3 **and energy?**

4 **A: The following table summarizes the UCNSB's capacity and**  
5 **energy needs:**

Year	Capacity (MW)	Energy (MWH)
1998	90	334,109
1999	92	344,450
2000	93	349,513
2001	95	354,421
2002	96	359,686
2003	97	364,168

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14 **Q: Please describe how the UCNSB forecasts its peak demands**  
15 **and energy requirements.**

16 **A: The UCNSB's load forecast is developed by the UCNSB**  
17 **staff, based on regression analyses of historical loads,**  
18 **energy use, customer growth, and future economic**  
19 **considerations. System energy requirements are forecast**  
20 **using separate regression analyses for four customer**  
21 **classes: residential, general service non-demand, general**  
22 **service demand, and streetlighting. For the residential**  
23 **class, expected sales are estimated using a regression**  
24 **model based on historical sales data. Verification of**  
25 **the results is based on a comparison with the forecasted**  
26 **average use per customer. The number of residential**

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1 customers is forecast using historical data and projected  
2 growth in known (permitted or well into the planning  
3 stages) Planned Unit Developments. Projected sales of  
4 the general service non-demand, general service demand,  
5 and streetlighting classes are based on time series  
6 regression analyses. After the regression analyses are  
7 complete, projected peak demands are calculated based on  
8 historical load factor relationships for the total UCNSB  
9 system. The final load forecasts are refined based on  
10 projected weather conditions (e.g., an El Nino year),  
11 future economic considerations, and a review of recent  
12 projections against actual results.

13

14 **B. The New Smyrna Beach Power Project's Contributions to**  
15 **UCNSB System Reliability**

16

17 **Q: Please describe the effect the New Smyrna Beach Power**  
18 **Project will have on the UCNSB's System Reliability.**

19 **A:** The New Smyrna Beach Power Project will provide needed  
20 electric generating capacity that will help enable the  
21 UCNSB system to maintain adequate and reliable service to  
22 our customers. Additionally, due to the proximity of the  
23 New Smyrna Beach Power Project to the UCNSB system,  
24 reliability will be greatly enhanced. Currently, UCNSB  
25 is dependent on the state transmission grid for receipt  
26 of energy from its purchased power suppliers; the  
27 immediate proximity of the Project reduces our exposure



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1 to loss of supply due to transmission outages.

2

3 C. Supply-Side and Demand-Side Alternatives Considered

4 **Q: What Supply-Side and Demand-Side Alternatives to the New**  
5 **Smyrna Beach Power Project were considered by the UCNSB?**

6 A: In its consideration of whether to enter into the  
7 Participation Agreement and to obtain the entitlement  
8 capacity and energy from the Project, the UCNSB evaluated  
9 both self-build generation options and other purchase  
10 options. The self-build generation alternatives  
11 considered were relatively small gas-fired technologies,  
12 with capacities in the range of 20 to 50 MW. These were  
13 rejected for two reasons. First, their small size  
14 rendered them non-cost-effective because the capital cost  
15 necessary to bring natural gas to New Smyrna Beach  
16 outweighed the savings that the gas units would have  
17 provided. If gas had been available with no additional  
18 capital outlays required, however, these small units  
19 would have been cost-effective as compared to continued  
20 purchases. Second, their higher heat rates rendered them  
21 uneconomic, or non-cost-effective, as compared to the  
22 Project.

23 The UCNSB currently offers a load management program  
24 and actively promotes its implementation and use. As  
25 mentioned above, our load management program normally

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1 provides approximately 8 to 9 MW of peak demand  
2 reductions during Summer and Winter peaks, and is capable  
3 of providing 12 to 13 MW of reductions in maximum  
4 implementation mode. As the UCNSB's peak demands and  
5 energy requirements grow, we expect our load management  
6 program to grow proportionately. From October 1987  
7 through September 1996, the UCNSB also implemented a  
8 trial time-of-use rate program for commercial consumers;  
9 the customers who subscribed to the rate did not find it  
10 sufficiently beneficial to warrant continued  
11 participation. The UCNSB continues to consider similar  
12 options for time-of-use rate designs to reduce peak  
13 demands and energy consumption.

14 Our needs for the capacity and energy provided by  
15 the Project exist even assuming this anticipated growth  
16 in our load management program. The UCNSB also intends  
17 to install an approximately 150 kW Photovoltaic  
18 generation plant near the Project site.

19

20 **D. Cost-Effectiveness Evaluation**

21 **Q: Please describe the cost-effectiveness evaluations by**  
22 **which the UCNSB determined that the New Smyrna Beach**  
23 **Power Project is the most cost-effective alternative for**  
24 **meeting its future power supply needs.**

25 **A: UCNSB analyzes all power supply options with a computer**

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1 based system modeling program. The UCNSB evaluated the  
2 power supply opportunity afforded under the Participation  
3 Agreement against purchasing capacity and energy from  
4 Tampa Electric Company ("TECO") and Florida Power  
5 Corporation ("FPC"). Compared to the TECO-FPC purchase  
6 options, the power supply option offered by the New  
7 Smyrna Beach Power Project is projected to save the UCNSB  
8 approximately \$3.1 million per year, for the first ten  
9 years of the Participation Agreement, and approximately  
10 \$2 million per year for the following ten years. The  
11 total projected net present value of the savings provided  
12 to the UCNSB by the Project is approximately \$39 million.  
13 The UCNSB's cost-effectiveness evaluations are shown in  
14 Exhibit \_\_\_\_ (RLV-6). Since the Project is significantly  
15 cost-effective to the UCNSB and our electric customers,  
16 the Project will contribute significantly and  
17 substantially to the UCNSB's need for adequate  
18 electricity at a reasonable cost.

19

20 **ADDITIONAL BENEFITS OF THE NEW SMYRNA BEACH POWER PROJECT**

21 **Q: Will the New Smyrna Beach Power Project provide any**  
22 **additional benefits to the New Smyrna Beach and Volusia**  
23 **County communities? Please explain.**

24 **A: Yes.** The New Smyrna Beach Power Project will provide  
25 substantial additional benefits to both New Smyrna Beach

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1 and Volusia County. Among these are the following:

- 2 1. Peak employment of approximately 250 persons, many  
3 of them from the Volusia County area, in the  
4 construction of the Project.
- 5 2. Creation of approximately 20 permanent jobs  
6 associated with the operation of the Project.  
7 Priority for these permanent jobs will be given to  
8 qualified local personnel where possible.
- 9 3. Payments in lieu of taxes to the City of New Smyrna  
10 Beach in the amount of \$750,000 per year, plus tax  
11 payments to Volusia County and other taxing  
12 districts therein.
- 13 4. Additional economic activity due to the multiplier  
14 effect of the newly created jobs.

15

16 **CONSISTENCY WITH PENINSULAR FLORIDA POWER NEEDS**

17 **Q: Will the proposed New Smyrna Beach Power Project**  
18 **contribute to meeting the need of Peninsular Florida for**  
19 **system reliability and integrity?**

20 **A:** Yes. The Project will provide efficient capacity and  
21 energy within the Peninsular Florida wholesale market.  
22 It is my expectation that most or all of the Project's  
23 capacity and energy will be sold to other utilities in  
24 Peninsular Florida. The Project can, and would be  
25 expected to, contribute meaningfully to system

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1 reliability and integrity in Peninsular Florida, simply  
2 by increasing the amount of capacity available. Even  
3 during periods when portions of the Project's capacity  
4 were not committed to a specific Florida utility, it is  
5 likely that it would be available for purchase and  
6 service. My Exhibit \_\_\_\_ (RLV-7) shows the summer and  
7 winter reserve margins for Peninsular Florida with and  
8 without the appropriate seasonal capacity of the Project  
9 included.

10

11 **Q: Will the proposed Project contribute to meeting the need**  
12 **of Peninsular Florida for adequate electricity at a**  
13 **reasonable cost?**

14 **A:** Yes, for two reasons. First, the Project is a state-of-  
15 the-art combined cycle power plant with low capital costs  
16 and low operating costs. Indeed, the Project's capital  
17 costs are generally lower than those of other similar  
18 units being proposed for Peninsular Florida, and the  
19 Project's heat rate is comparable to those other, more  
20 expensive units. Second, because no other utility is  
21 obligated to buy the Project's output, it should be  
22 expected that they will only buy power from the Project  
23 when it represents a cost-effective alternative to other  
24 options. This is readily shown in Exhibit \_\_\_\_ (RLV-8),  
25 which presents a comparison of capital costs, heat rates,

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1 and availability factors for ten proposed combined cycle  
2 units and one proposed combustion turbine unit.

3

4 **Q: How, if at all, does the Project relate to strategic**  
5 **factors or issues that are appropriate for consideration**  
6 **with respect to siting and building new power plants in**  
7 **Florida?**

8 A: The Project is consistent with strategic factors that may  
9 be considered when determining to build a power plant,  
10 both from the UCNSB's perspective and from the  
11 perspective of the State. The Project will be fueled by  
12 domestically produced natural gas rather than by an  
13 imported fuel that may be subject to interruption due to  
14 political or other events. The Project has a low  
15 installed cost and a highly efficient heat rate, assuring  
16 its long-term economic viability. As a merchant plant  
17 constructed at the expense of Duke New Smyrna, the  
18 Project will provide power with no risk to Florida  
19 electric customers and will impose no obligation on  
20 either Florida utilities or their customers. The  
21 Project's gas-fired combined cycle technology is  
22 exceptionally clean environmentally, minimizing potential  
23 risks associated with future changes in environmental  
24 regulations. The Project's efficient technology and use  
25 of clean, natural gas fuel will improve the overall

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1 environmental profile of electricity generation in  
2 Florida. The Project will also contribute to reducing  
3 the consumption of petroleum fuels for electricity  
4 generation in Florida.

5

6

**COST OF TRANSMISSION UPGRADES**

7 **Q: Has the Utilities Commission, City of New Smyrna Beach,**  
8 **Florida prepared an estimate of the cost for the**  
9 **transmission upgrades that are planned to accommodate**  
10 **power deliveries for the Project?**

11 **A: Yes. As described in the testimony and exhibits of**  
12 **Michel Armand, P.E., two additional transmission line**  
13 **segments are planned to accommodate power deliveries from**  
14 **the Project to other utilities in Peninsular Florida.**  
15 **These are (1) a second 115 kV transmission circuit on the**  
16 **existing 18-mile 115 kV Smyrna to Cassadaga transmission**  
17 **line and (2) a new 115 kV transmission line,**  
18 **approximately 7.5 miles in length, from the Cassadaga**  
19 **substation to the Lake Helen substation. The UCNSB has**  
20 **estimated the total cost of these additional transmission**  
21 **facilities, including the termination facilities**  
22 **necessary to connect the lines to the respective**  
23 **substations, to be \$6,330,650.**

**DIRECT TESTIMONY OF RONALD L. VADEN**

**REQUESTED COMMISSION ACTION**

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**Q: What action are UCNSB and Duke New Smyrna asking the Commission to take in this proceeding?**

**A:** The Utilities Commission, City of New Smyrna Beach, Florida and Duke Energy New Smyrna Beach Power Company are petitioning the Commission to issue its order granting an affirmative determination of need for the New Smyrna Beach Project. This is a viable, clean, highly efficient, and cost-effective power project that will benefit the Utilities Commission of New Smyrna Beach, its retail electric customers, and other Peninsular Florida utilities and their retail customers, without any obligation to purchase the Project's output, without any obligation to pay for the Project's capital cost, and without financial, operating, or business risk to them.

**Q: Does this conclude your direct testimony?**

**A:** Yes, it does.



## **PARTICIPATION AGREEMENT**

**Dated: February 17, 1998**

**by and between**

**Utilities Commission, City of New Smyrna Beach, Florida**

**and**

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

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**EXHIBITS**

Exhibit A	Description of the Site
Exhibit B	Tax Agreement

# PARTICIPATION AGREEMENT

This Participation Agreement ("Agreement"), dated as of February 17, 1998, is by and between the Utilities Commission, City of New Smyrna Beach, Florida, a commission ("UCNSB") of the City of New Smyrna Beach, Florida (the "City"), and Duke Energy New Smyrna Beach Power Company Ltd., L.L.P., a limited partnership organized and existing under the laws of the State of Florida ("Duke") (collectively, the "Parties").

WHEREAS, Duke and its affiliates are in the business of developing, owning and operating electric generation facilities throughout the United States;

WHEREAS, in order to meet the power requirements of UCNSB's existing and future customers in a manner that is in the best interest of such customers, and pursuant to a Letter of Intent dated May 21, 1997 (the "LOI") between UCNSB and PanEnergy Power Services, Inc. (now known as Duke Energy Power Services, LLC and an affiliate of Duke), such parties have conducted due diligence investigations regarding the feasibility and economic viability of developing an electric generation facility in New Smyrna Beach, Florida and have reached a definitive agreement for the Parties to proceed with the development of a combined-cycle electric generation facility with a capacity of approximately 240 megawatts or more (the "Facility"); and

WHEREAS, the Facility is to be located on a site presently owned by UCNSB of approximately 20 acres located northwest of the intersection of Interstate I-95 and State Road 44 in Volusia County, Florida and more particularly described on Exhibit A hereto (the "Site"), which Site is adjacent to UCNSB's 115 KV substation (the "Smyrna Substation");

NOW, THEREFORE, in consideration of the mutual agreements contained herein, UCNSB and Duke hereby agree as follows:

## 1.0 ENTITLEMENT

### 1.1 General

Duke shall provide to UCNSB an entitlement to 20 megawatts ("MW") of electric capacity (the "Entitlement") from the Facility measured at the ring bus of the Smyrna Substation. The Entitlement shall begin on the commercial operation date ("COD") of the Facility (which is expected to be about 33 months after the date hereof) and continue for the technical and economic life of the Facility (which technical and economic life shall be deemed to be the period during which the Facility, as it is initially constructed prior to the COD, is technically capable (excluding customary outages and force majeure outages) of producing electric energy at a cost that results in a reasonable profit and cash flow to the owner of the Facility when such energy is sold). The Entitlement shall be provided in consideration for UCNSB's contributions to Duke of the Site and certain infrastructure requirements as described in Section 2.0 and UCNSB's other

obligations under this Agreement. There shall be no other charge for the Entitlement.

1.2 Availability

The Entitlement shall be made available to UCNSB for all hours during which the Facility is available. If the Facility is unavailable because of either a scheduled or unscheduled outage, Duke shall have no responsibility to provide for replacement capacity to UCNSB. If the Facility is derated, UCNSB's Entitlement shall be derated proportionately.

1.3 Associated Energy

Beginning at the COD, Duke shall make available to UCNSB, at the ring bus of the Smyrna Substation, 20 megawatt hours ("MWH") of electric energy per hour associated with the Entitlement ("Associated Energy") and UCNSB shall be obligated to take or pay for 18 MWH/hour of Associated Energy for all hours in which the Facility is available. Such amount shall be prorated in conjunction with any derating of the Facility pursuant to Section 1.2. If the Facility is unavailable because of either a scheduled or unscheduled outage, Duke shall have no responsibility to provide for replacement energy. Associated Energy shall be priced at \$18.50 per MWH beginning on the COD. On each of the first nine anniversaries of the COD, the Associated Energy price shall be adjusted by multiplying the then existing price by a fraction, the numerator of which is the average of the Weekly Indexes (On-Peak) for the Price of Spot Electricity for the Florida/Georgia Border market as quoted in Power Markets Week published by The McGraw-Hill Companies for the 52 weeks immediately preceding such anniversary, and the denominator of which is the average of such Weekly Indexes for the 52 weeks immediately preceding the COD (in the case of the first anniversary) or the preceding anniversary (in the case of each subsequent anniversary) (or, if such Weekly Index ceases to be quoted, then the Parties shall agree on the publicly quoted index that is the most comparable to such Weekly Index as a substitute therefor); provided, however, that in no event shall the resulting price be greater or less than \$18.50 per MWH increased or decreased, respectively, by 3.5% per year (compounded) for each year after the COD (on a cumulative basis). From and after the tenth anniversary of the COD, the Associated Energy price shall be equal to the fair market value of similar quantities of firm wholesale electric energy (including capacity and transmission) delivered by an unrelated third party to another unrelated third party (without any other contractual relationships) at the Smyrna Substation; provided that UCNSB shall be entitled to an annual credit of \$1,000,000, one-twelfth of which shall be applied against each month's charges for Associated Energy (which credit shall not reduce any month's charges below zero and shall not be carried forward to future months), to reflect that the new pricing would not be on the same basis as the favorable pricing to UCNSB during the first ten years after the COD. Invoices for Associated Energy provided during a

month shall be delivered by Duke to UCNSB within 10 days after the end of such month and shall be due within 15 days after such delivery.

1.4 Replacement Capacity and Energy

If the Facility is available, but Duke chooses not to dispatch the Facility or the Facility commitments are below the minimum capacity of the Facility as established by Duke, then Duke shall arrange for replacement capacity and energy to be delivered to UCNSB at the ring bus of the Smyrna Substation. There shall be no charge for replacement capacity. Replacement energy shall be priced at the same price as Associated Energy from the Facility as provided in Section 1.3.

1.5 Provision For Modification of Tax Agreement

If at any time during the life of the Facility (which phrase life of the Facility, as used hereinafter, shall include the period of time from the date hereof through the decommissioning and dismantling of the Facility) the Tax Agreement defined in Section 5.2 is modified, is not renewed, or is otherwise affected such that the Facility or Duke incurs City Taxes (as defined in Section 5.2) in excess of \$500,000 with respect to the Site and the Facility (and, if applicable, the Additional Capacity as defined in Section 6.1) during any 12 month period beginning on the COD or any anniversary of the COD, Duke shall deliver to UCNSB an invoice or invoices for the amount of such excess and UCNSB shall pay to Duke the amount of such excess within 15 days after delivery of each such invoice.

1.6 Load Following Services

- (a) Duke shall furnish load following services to UCNSB that will allow UCNSB to schedule 20 MW for any hour, but take an amount of Associated Energy during the hour which is between 18 and 20 MWH (the "Load Following Services"). Duke shall not be obligated under this Agreement to provide to UCNSB any other ancillary services.
- (b) The capacity portion of the Load Following Services will be furnished as part of the 20 MW Entitlement. The energy associated with Load Following Services will be priced pursuant to Section 1.3.
- (c) Duke will provide the Load Following Services to UCNSB if the Facility is available. If the Facility is not available, Duke will have no responsibility to provide the Load Following Services. If Duke chooses not to dispatch the Facility or the Facility commitments are below the minimum capacity of the Facility as established by Duke, and if Duke does not arrange for the load following services from a third party, then UCNSB may arrange for the Load Following Services to be provided by another supplier under FERC Order 888 and Duke shall reimburse UCNSB within 15

days of being invoiced by UCNSB for the actual cost of such services minus the energy cost as provided in Section 1.3.

## **2.0 FACILITY, SITE AND INFRASTRUCTURE**

### **2.1 Facility**

Duke shall, at its cost, design, engineer, procure equipment for, construct, finance, own, operate, and market all capacity, energy and ancillary services provided from the Facility.

### **2.2 Site**

UCNSB shall transfer good and marketable title to the Site (free and clear of all liens and encumbrances other than those set forth on Exhibit A hereto) to Duke prior to April 1, 1998. Prior to the commencement of construction of the Facility, Duke shall obtain a Phase I Site Assessment of the Site (to determine real or potential environmental liabilities) performed pursuant to ASTM E 1527-93 guidelines and deliver to UCNSB a copy of the results of such assessment. UCNSB shall indemnify and hold harmless Duke, its affiliates, and Duke's and its affiliates' respective directors, employees and representatives, from and against any and all claims, liabilities, losses and expenses (including costs of suit and attorneys' fees) attributable to the ownership or operation of the Site prior to such transfer or attributable to the condition of the Site at the time of such transfer, regardless of whether same are identified in such assessment. Subject to the foregoing, UCNSB shall not be responsible for, and Duke shall be responsible for, any costs of decommissioning and dismantling of the Facility at the end of its useful life. If, at any time prior to completion of the detailed engineering for the Facility, Duke reasonably determines (based on engineering and technical factors) that the Site is not adequate for the Facility and its related facilities, UCNSB will acquire, at UCNSB's cost and in a timely manner in order for Duke to meet its project schedule for the Facility, and transfer to Duke additional property contiguous with the Site on the same terms as the Site (as described in this Section).

### **2.3 Make-up Water**

UCNSB will, at its cost, complete construction of a wastewater treatment facility (which will include a storage reservoir of at least 2 million gallons for the reuse water) and complete the drilling and equipping of water wells which, together with the reuse water from the water treatment facility, will be capable of supplying all water required by the Facility for the life of the Facility. Such water treatment facility and water wells will be located on land adjacent to the Site and will, contingent on UCNSB's receipt of necessary permits, be completed prior to the commencement of start-up testing of the Facility. From such water treatment facility and water wells, UCNSB will deliver to Duke at the power plant block on the Site all water required by the Facility for the life of the Facility. All of such water shall

be of a quality that meets the technical specifications, prior to demineralization, of the Facility. All of such water will be delivered through a minimum of a 12-inch main with a flow rate of at least 1500 gallons per minute. UCNSB shall charge Duke for all of such water at the lowest rate applicable to major users of reuse water in the area in which reuse water service is provided by UCNSB or by any successor provider (regardless of whether such reuse water is treated at such water treatment facility). Without limiting the foregoing, (a) rate increases will occur only to the extent necessary to meet operation and maintenance cost increases (cost base) associated with the processing of the reuse water, (b) since the Facility will be adjacent to the water treatment facility, capital costs and operation and maintenance costs associated with the transmission of the reuse water will not be included in any rate increases, and (c) Duke shall have the right, through appropriate proceedings, to contest any rate increases. If at any time such water from such water treatment facility and water wells is not sufficient (in terms of quantity or quality) to meet the requirements of the Facility, UCNSB shall deliver to Duke sufficient quantities of potable water as backup water at a price equal to the actual operating costs of pumping such potable water to the Facility (excluding any distribution system costs) and otherwise on the same terms as such water from such water treatment facility and water wells.

2.4 Smyrna Substation

UCNSB shall, at its cost, complete engineering and construction of a modification to the Smyrna Substation's ring bus, associated breakers, relays, instrumentation, etc., to accommodate a position in the ring bus for the Facility prior to the commencement of start-up testing of the Facility. UCNSB shall, at its cost, maintain the Smyrna Substation (including such modification) and provide Duke with access to the Florida Power Corp. and Florida Power & Light Co. transmission grids and with access to use the Smyrna Substation, in each case in a manner that will permit proper operation of the Facility for the life of the Facility.

2.5 Gas Delivery System

Duke shall, at its cost, cause natural gas pipeline service to be made available to the Site prior to the commencement of start-up testing of the Facility and shall also be responsible for any additional gas processing facilities that may be required downstream of the pipeline delivery meter and upstream of the Facility's combustion equipment.



### 3.0 PERMITS AND APPROVALS

#### 3.1 General

Each Party shall use reasonable efforts to obtain all permits and approvals required to perform its obligations under this Agreement and shall assist the other Party in obtaining its permits and approvals.

#### 3.2 Cost Sharing

Duke and UCNSB will share equally in the first \$200,000 of costs approved by Duke (which approval shall not be unreasonably withheld but must be obtained prior to incurring the costs) relating to obtaining and maintaining governmental permits and approvals for the Facility, including charges by Duke's affiliates but excluding Duke, Duke Energy Power Services, LLC and UCNSB staff expenses and excluding the fees and expenses of UCNSB's counsel. Any permitting costs so approved by Duke that are in excess of \$200,000 will be the sole responsibility of Duke.

#### 3.3 Sale of Power

The obligation of Duke to provide the Entitlement to UCNSB and to sell Associated Energy to UCNSB, and the obligation of UCNSB to purchase Associated Energy with the Entitlement from Duke, are subject to the receipt of the approval from the Federal Energy Regulatory Commission for the sale of power in a form acceptable to each of the Parties affected thereby in its sole discretion. Recognizing that Duke intends to qualify as an "exempt wholesale generator" under the Public Utility Holding Company Act of 1935, as amended, UCNSB agrees to resell, and not to use for any end use, all of the electric energy provided to it by Duke pursuant to this Agreement.

#### 3.4 Facility and Gas Delivery System

The obligations of Duke under Sections 2.1 and 2.5, including the obligation to construct the Facility and provide for natural gas deliveries to the Facility, are subject to (a) the receipt of all applicable governmental permits and approvals in a form acceptable to each of the Parties affected thereby in its sole discretion, (b) Duke obtaining a reasonably satisfactory agreement for the looping and extension of the existing natural gas pipeline lateral (i.e., the Sanford Lateral) running closest to the Site, (c) Duke obtaining, on or before March 7, 1998, the approval of the Policy Committee of Duke Energy Corporation to proceed with the transactions contemplated in this Agreement, and (d) no circumstance or event existing or having occurred that has had or could reasonably be expected to have a material adverse effect on the feasibility, prospects or business of the Facility. Duke shall give written notice to UCNSB if Duke determines not to complete the Facility as a result of any of the foregoing, in which event neither Party shall have any further obligations under this Agreement;

provided, however, that (i) each Party shall continue to be liable for any breaches hereof occurring prior to such notice, (ii) if at such time the Site has been conveyed to Duke, Duke shall reconvey to UCNSB all of Duke's right, title and interest to the Site, (iii) if such determination is made solely on the basis of the matters described in clause (d) of the immediately preceding sentence, then Duke shall also pay to UCNSB \$200,000, and (iv) if within 6 months thereafter UCNSB notifies Duke that UCNSB intends to complete the Facility with another party and requests Duke to transfer any governmental permits and approvals for the Facility and any applications therefor, and if such request is approved by Duke (which approval shall not be unreasonably withheld), Duke will, to the extent legally permissible, transfer to UCNSB any governmental permits and approvals that Duke has received in connection with the Facility and any applications for governmental permits or approvals in connection with the Facility that have not yet been obtained, in each case excluding any confidential or proprietary information of Duke.

#### 4.0 OPERATION AND MAINTENANCE

##### 4.1 General

Duke or its designee (which may, at Duke's option, be or include UCNSB) will be responsible for the Facility's operation and maintenance activities.

##### 4.2 Local Preference for Staffing

Subject to qualifying standards and to the extent commercially reasonable, Duke or its designee will give hiring preference to current UCNSB employees for staff positions at the Facility and will recruit for additional staffing needs from the New Smyrna Beach and Volusia County areas.

#### 5.0 TAXES

##### 5.1 General

Duke will be responsible for the payment of all taxes associated with the sale of capacity or energy from the Facility; provided that UCNSB shall pay (or reimburse Duke on a grossed-up basis for) all taxes (including, without limitation, gross receipts and similar taxes, but excluding (except in connection with a gross-up) federal and state income taxes) associated with the Entitlement or Associated Energy. Except as provided in the preceding sentence or Sections 1.5 or 5.2, Duke will also be responsible for all other federal, state, and local taxes that may be levied as a result of the construction, ownership, or operation of the Facility.

##### 5.2 Special Tax Agreement

Pursuant to the Tax Agreement dated February 17, 1998 by and between the City of New Smyrna Beach, Florida (the "City") and UCNSB (the "Tax Agreement"), the City has agreed to accept an annual payment of \$500,000 in lieu of any taxes, fees, user fees, license fees, assessments,

special assessments, or any other charges of any type or nature whatsoever, that the City (or any other special taxing district or instrumentality created by or on behalf of the City) is or may hereafter be in a position to levy, assess, charge, or otherwise impose, either directly or indirectly ("City Taxes", which term includes the payments under the Tax Agreement), regarding sales from, or ownership, construction, operation, decommissioning or dismantlement of, the Facility or the Site. A copy of the Tax Agreement is attached hereto as Exhibit B.

## **6.0 ADDITIONAL DEVELOPMENT RIGHTS**

### **6.1 General**

At any time and from time to time during the life of the Facility, UCNSB shall provide to Duke or its designee, in connection with the development of any additional power generating capacity above 240 MW at or near the Site (which may occur at the same time as the development of the Facility or at one or more subsequent times, and which may be part of the Facility or may be one or more additional facilities), the exclusive right to use the Smyrna Substation (and in such regard, at Duke's request, UCNSB shall provide to Duke, at UCNSB's cost to the extent applicable to the first 260 MW of additional power generating capacity and at Duke's cost to the extent in excess thereof, an additional position on the ring bus at the Smyrna Substation for such additional capacity) and then-currently available land, electric transmission, water treatment and delivery facilities, and other infrastructure at no additional cost. UCNSB shall not provide any such rights to any other parties during the life of the Facility. If, utilizing such rights, Duke develops any such additional power generating capacity above 240 MW that is not merely a modification of the Facility ("Additional Capacity"), then, effective as of the commencement of commercial operations of any Additional Capacity:

- (a) Duke shall provide to UCNSB an entitlement to an additional 10 MW of capacity from the Additional Capacity on substantially the same terms as the Entitlement, including a take or pay obligation for 90% of the electric energy from such additional entitlement; provided, however, that (i) if the capacity of such Additional Capacity is less than 240 MW, such additional entitlement shall be adjusted to a number of MW equal to the product (rounded up to the nearest whole MW) of 10 MW multiplied by a fraction, the numerator of which is the capacity of such Additional Capacity and the denominator of which is 240 MW, and (ii) if either the Facility or the Additional Capacity is derated, UCNSB's aggregate entitlement from such two sources shall be derated by multiplying the sum of the entitlements from such two sources by a fraction, the numerator of which is the aggregate availability of such two sources at the time and the

denominator of which is the aggregate capacity of such two sources;

- (b) the reference to \$500,000 in Section 1.5 shall be revised to be a dollar amount equal to the sum of (i) \$500,000 plus (ii) the product of \$250,000 multiplied by a fraction, the numerator of which is the capacity of such Additional Capacity and the denominator of which is 240 MW; provided, however, that with respect to any 12 month period beginning on the tenth or any subsequent anniversary of the COD, UCNSB shall not be obligated under Section 1.5 to pay Duke for any ad valorem taxes assessed on the Additional Capacity in excess of the amount described in clause (ii) of this Section 6.1(b), it being understood that, for purposes of allocating ad valorem taxes for this provision between the initial 240 MW of the Facility and the Additional Capacity, the Site and all real and personal property used or useful in connection with such initial 240 MW of the Facility shall be allocated to such 240 MW of the Facility and not to the Additional Capacity (for example, assuming the Additional Capacity is 240 MW, (A) if ad valorem taxes allocable to the Additional Capacity are \$250,000 and all other City Taxes allocable to the Additional Capacity are \$300,000, UCNSB shall pay to Duke \$300,000 with respect to City Taxes allocable to the Additional Capacity, and (B) if ad valorem taxes allocable to the Additional Capacity are \$300,000 and all other City Taxes allocable to the Additional Capacity are \$250,000, UCNSB shall pay to Duke \$250,000 with respect to City Taxes allocable to the Additional Capacity); and
- (c) UCNSB shall deliver to Duke all of the water required for such Additional Capacity on the same terms as the water described in Section 2.3 for the Facility, it being agreed that UCNSB shall incorporate into its 5 year capital improvements plan beginning in fiscal year 1998 the capital expenditures required to be in a position to deliver such water for the Additional Capacity.

## **7.0 REPRESENTATIONS AND WARRANTIES**

### **7.1 Representations and Warranties of Duke**

Duke hereby represents and warrants to UCNSB that:

- (a) Duke is a duly organized, validly existing Florida limited partnership and is in good standing under the laws of the State of Florida. It has all requisite partnership power and authority to enter into and to perform its obligations under this Agreement.
- (b) Its execution, delivery, and performance of this Agreement have been duly authorized, and do not and will not (i) violate any law,

rule, regulation, order, or decree applicable to it, (ii) violate its organizational documents, or (iii) contravene or constitute a default or breach under any instrument, indenture, agreement, or other obligation to which it is a party or by which it is bound.

- (c) This Agreement is a legal and binding obligation of Duke, enforceable against Duke in accordance with its terms, except to the extent enforceability is modified by bankruptcy, reorganization and other similar laws affecting the rights of creditors generally and by general principles of equity.
- (d) There is no litigation or administrative proceeding (excluding permit applications and similar matters) pending or, to the best of its knowledge, threatened involving Duke that, if adversely determined, could have a material adverse effect on the financial condition, prospects, or business of the Facility or Duke's ability to perform its obligations under this Agreement.

## 7.2 Representations and Warranties of UCNSB

UCNSB hereby represents and warrants to Duke that:

- (a) UCNSB is a duly organized, validly existing commission of the City and pursuant to Section 214 of Chapter 15 of the City's Charter UCNSB has been delegated the authority to manage, operate and control the City's utilities. Pursuant to the authority delegated to UCNSB by the City, UCNSB has all requisite power and authority to enter into and to perform its obligations under this Agreement.
- (b) UCNSB's execution, delivery, and performance of this Agreement have been duly authorized, and do not and will not (i) violate any law, rule, regulation, order, or decree applicable to it or the City, (ii) violate its organizational documents, or (iii) contravene or constitute a default or breach under any instrument, indenture, agreement, or other obligation to which it is a party or by which it is bound.
- (c) This Agreement is a legal and binding obligation of UCNSB, enforceable against UCNSB in accordance with its terms, except to the extent enforceability is modified by bankruptcy, reorganization and other similar laws affecting the rights of creditors generally and by general principles of equity.
- (d) There is no litigation or administrative proceeding (excluding permit applications and similar matters) pending or, to the best of its knowledge, threatened involving UCNSB that, if adversely determined, could have a material adverse effect on the financial

condition, prospects, or business of the Facility or UCNSB's ability to perform its obligations under this Agreement.

## 8.0 MISCELLANEOUS

### 8.1 Notices

All notices, requests or consents provided for or permitted to be given under this Agreement shall be in writing, shall be delivered to the recipient in person, by courier or mail, or by facsimile, telex or similar transmission, and shall be effective (a) upon receipt, if sent by personal delivery, mail or courier, or (b) upon the sender's receipt of electronic confirmation of transmission, if sent by facsimile, telex or similar transmissions during regular business hours on a business day (or, if not sent during regular business hours on a business day, on the next succeeding business day). All notices, requests and consents to be sent to a Party shall be sent to the following addresses or such other address as a Party may specify for its address by notice to the other Party:

If to UCNSB:

Utilities Commission, City of  
New Smyrna Beach, Florida  
Post Office Box 100  
200 Canal Street  
New Smyrna Beach, Florida 32170  
Telephone: 904-427-7100  
Facsimile: 904-423-7175  
Attention: Director of Utilities

If to Duke:

Duke Energy New Smyrna Beach Power Company Ltd., L.L.P.  
400 South Tryon Street  
Suite 1800  
Charlotte, N.C. 28285  
Telephone: 704-382-5963  
Facsimile: 704-382-1452  
Attention: Mr. David Hauser

### 8.2 Exclusivity

From the date hereof until the COD, each Party shall use reasonable efforts to promote the business of the Facility and shall not solicit or engage in negotiations or discussions with any other party relating to the Facility or any other similar project within the area in which electric service is provided by UCNSB or any successor provider, if such

negotiations or discussions could reasonably be expected to have a material adverse effect on the business or prospects of the Facility.

8.3 Disclosure of Information

The Parties acknowledge that UCNSB is a publicly owned and operated utility and that UCNSB, its commissioners, employees and agents are subject to the provisions and requirements of Chapters 119 and 286, Florida Statutes, regarding the handling of public records and open meetings. Subject to such requirements, each Party shall maintain in confidence all information received from the other Party or its affiliates relating to the Facility; provided, however, that such Party may disclose such information (a) to its affiliates and its affiliates' respective directors, employees, and representatives (it being understood that they shall be informed by such Party of the confidential nature of such information and that such Party shall cause them to treat such information confidentially), (b) with the approval of Duke if such disclosure is reasonably necessary to develop, construct, finance or promote the business of the Facility, (c) if required to do so by applicable laws, rules, regulations, or orders (including any applicable securities exchange rules), (d) if such information was or becomes generally available to such Party on a non-confidential basis, provided that the source of such information was not known by such Party to be bound by a confidentiality obligation, or (e) if such information is generally available to the public.

8.4 Assignment

No assignment of any of the rights or obligations under this Agreement shall be made by either Party other than to an affiliate of such Party unless (a) it can be demonstrated to the reasonable satisfaction of the non-transferring Party that the financial creditworthiness of the transferee party is at least equal to or better than that of the transferring Party and (b) the non-transferring Party has consented in writing prior thereto, which consent shall not be unreasonably withheld; provided that it is understood that no assignment shall relieve the transferring Party of its obligations hereunder unless the non-transferring Party has consented in writing prior thereto, which consent shall be in such non-transferring Party's sole discretion. For purposes of this Agreement, an "affiliate" of a party shall be any other party controlling, controlled by, or under common control with such party. Without limiting the foregoing, if either Party transfers all or substantially all of its assets to another party, such Party shall cause such transferee party to assume all of such Party's obligations under this Agreement.

8.5 Binding Effect; No Third Party Beneficiaries

This Agreement shall be binding upon, and inure to the benefit of, the Parties and their respective successors and permitted assigns. Except to the extent Section 2.2 (relating to rights of certain parties to be indemnified) provides otherwise, this Agreement is solely for the benefit of the Parties and their respective successors and permitted assigns, and this Agreement shall not otherwise be deemed to confer upon or give to any other party any rights, claims or remedies.

8.6 Expenses

Except as otherwise provided herein, each Party agrees to bear any costs incurred by it in connection with this Agreement and the development of the Facility.

8.7 Indemnification

Each Party shall indemnify and hold harmless the other Party from and against all claims, liabilities, losses, and expenses (including costs of suit and attorneys' fees) that it may incur on account of any breach by the indemnifying Party of any of its representations, warranties or obligations under this Agreement.

8.8 Further Assurances

Each Party agrees to negotiate in good faith and to execute and deliver as soon as practicable after the date hereof a power purchase agreement more fully reflecting the matters described in Section 1.0 hereof. Each Party also agrees to execute such other documents and take such further actions as may be necessary or desirable to effectuate the provisions of this Agreement.

8.9 Compliance with Laws

Each Party shall comply with all laws, rules and regulations applicable to it, the Facility, or the infrastructure described in Section 2.0.

8.10 GOVERNING LAW

THIS AGREEMENT IS GOVERNED BY AND SHALL BE CONSTRUED IN ACCORDANCE WITH THE LAW OF THE STATE OF FLORIDA, EXCLUDING ANY CONFLICT-OF-LAWS RULE OR PRINCIPLE THAT MIGHT REFER THE GOVERNANCE OR THE CONSTRUCTION OF THIS AGREEMENT TO THE LAW OF ANOTHER JURISDICTION.



8.11 Dispute Resolution

In the event of any dispute between the Parties, the Parties shall first attempt to settle such dispute amicably if possible and, failing that, such dispute shall be submitted to the services of a professional mediation service (the cost of which shall be borne equally by the Parties) which shall attempt to mediate the dispute. If the Parties cannot agree upon a mediation service or if the dispute has not been resolved within 60 days after either Party requested mediation services, each Party shall be free to pursue any other means of resolution available to such Party.

8.12 Consequential Damages

Notwithstanding anything to the contrary contained herein, except for actual damages, neither Party shall be liable or have any responsibility to the other Party for any indirect, special, consequential, punitive or other delay-related or performance-related damages including, without limitation, lost earnings, production or profits. Such limitation on liability shall apply with respect to any claim or action, whether it is based in whole or in part on contract, negligence, strict liability, tort, statutory or any other theory of liability. The Parties specifically acknowledge that the benefits each Party contemplates deriving from the provisions of this Agreement reflect such allocation of risk and limitation on liability.

8.13 Remedies

Notwithstanding anything to the contrary contained herein, if UCNSB fails to pay any amounts aggregating over \$50,000 for more than 30 days after the due dates therefor, Duke shall have the right to cease providing energy to UCNSB until such failure is cured and, if such failure continues for more than 90 days after the due dates therefor, Duke shall have the right to terminate (upon notice to UCNSB) the Entitlement and all of Duke's obligations under Section 1.0. Subject to Section 8.12, the rights and remedies provided by this Agreement are cumulative and are in addition to any other rights and remedies a Party may have by law, statute or otherwise.

8.14 Waivers

Any waiver, express or implied, by a Party of any right under this Agreement shall be effective only if it is set forth in a written document executed by such Party and shall not constitute or be deemed to be a waiver of any other right, whether of a similar or dissimilar nature.

8.15 Severability

If any provision of this Agreement or the application thereof to any Party or circumstance shall be held invalid or unenforceable to any extent, the remainder of this Agreement and the application of such provision to the other Party or circumstances shall not be affected thereby and shall be enforced to the greatest extent permitted by law. In such event, the Parties agree that the provisions of this Agreement shall be modified and

reformed so as to effect the original intent of the Parties as closely as possible with respect to any such provision held invalid or unenforceable.

8.16 No Partnership

Nothing in this Agreement shall be construed (a) to create or constitute a partnership, agency or similar relationship, (b) to create any joint and several liability on the part of either of the Parties, or (c) to cause the Parties not to be separate legal entities.

8.17 Entire Agreement; Amendment

This Agreement and the Tax Agreement constitute the entire agreement among the Parties and their respective affiliates relating to the Facility and supersede all prior written or oral agreements among any such parties with respect to such matter (including, without limitation, the LOI). This Agreement may be amended or modified only by a written document executed by each of the Parties.

8.18 Headings; References

The headings of the Sections of this Agreement are included for convenience of reference only and shall not be used in construing or limiting the language of any particular Section. All references to a Party shall be deemed to include its successors and permitted assigns. Unless otherwise expressly provided, all references to "Sections" are to the Sections of this Agreement and all references to "Exhibits" are to the Exhibits attached hereto, each of which is made a part hereof for all purposes.

8.19 Counterparts

This Agreement may be executed in any number of counterparts with the same effect as if each Party had signed the same document. All counterparts shall be construed together and constitute the same instrument.

8.20 Limited Recourse Against UCNSB

The obligations of UCNSB under this Agreement shall not constitute general obligations of UCNSB or the City as "bonds" within the meaning of the Constitution of Florida, but shall be payable solely from, and shall be secured equally and ratably by a first lien on and pledge of, the Net Revenues from UCNSB's System on a parity with UCNSB's Series 1992 Certificates, Series 1993 Certificates, Series 1996 Certificates, and any Additional Parity Obligations without any preference, priority or distinction of any such certificate or obligation over any other thereof (with capitalized terms used in this Section but not otherwise defined in this Agreement having the meanings given to them in Resolution No. 28-78, adopted by UCNSB on June 30, 1978). UCNSB hereby grants to Duke such a first lien on and security interest in, and so pledges to Duke, such Net Revenues to secure the payment and performance of UCNSB's

obligations under this Agreement. UCNSB agrees to comply with all of its obligations set forth in such Resolution No. 28-78 as if such obligations were set forth herein.

IN WITNESS WHEREOF, each of the undersigned Parties has executed and delivered this Agreement as of the date first set forth above.

UTILITIES COMMISSION, CITY OF  
NEW SMYRNA BEACH, FLORIDA

Attest: *Robert Simmons*

By: *Ronald Vaden*  
Name: Ronald L. Vaden  
Title: Utilities Director

Approved as to form and correctness:

Counsel to UCNSB: *Hal Spence*  
Hal Spence Esquire

DUKE ENERGY NEW SMYRNA BEACH  
POWER COMPANY LTD., L.L.P.

By: Duke Energy Power Services  
Mulberry GP, Inc.,  
its general partner

By: *James M. Donnell* *JK*  
Name: James M. Donnell  
Title: Senior Vice President

## **EXHIBIT A**

### **Description of the Site**

The Site shall be the West 1320 feet of the North 660 feet of the NE 1/4 of Section 21, Township 17 South, Range 33 East, containing 20 acres more or less, but excluding the land covered by the Smyrna Substation.

## EXHIBIT B

### TAX AGREEMENT

This Tax Agreement (this "Agreement"), dated as of February 17, 1998, is by and between the Utilities Commission, City of New Smyrna Beach, Florida (the "Commission") and the City of New Smyrna Beach, Florida (the "City").

WHEREAS, the Commission, pursuant to Section 214 of the City's Charter, has been charged with the responsibility to manage, operate and control all of the City's utilities and, pursuant to Section 217 of the City's Charter, is authorized to furnish the electricity and power, among other utilities, to private individuals and corporations and in furtherance of said power, the Commission has the right to acquire, construct, maintain, extend, improve and develop electric production and distribution systems and to contract with public bodies, and private corporations, partnerships and individuals for such purposes; and

WHEREAS, the Commission has negotiated and expects to enter into a Participation Agreement (the "Participation Agreement") with Duke Energy New Smyrna Beach Power Company, a Delaware limited partnership ("Duke Energy LP", which term shall include its successors and assigns) for the purpose of developing a combined-cycle electric generating facility on an approximately 20 acre tract of land in Volusia County, Florida (the "Site") with a capacity of approximately 240 megawatts ("MW") or more and including its gas delivery and related infrastructure and any modifications to such facility or infrastructure (collectively, the "Facility"); and

WHEREAS, in consideration for the undertakings as set forth in the Participation Agreement, the Commission will be entitled to 20 MW of electric capacity from the Facility (the "Entitlement") and 20 MW hours of electric energy per hour associated with the Entitlement; and

WHEREAS, entering into the Participation Agreement and this Agreement will serve a public purpose of providing the Commission with an economical and long-term source of electric energy for the benefit of customers of the Commission and residents of the City; and

WHEREAS, as a condition of entering into the Participation Agreement, Duke Energy LP has requested that the Commission and the City enter into this Agreement to set forth the understanding of the parties hereto and Duke Energy LP related to the taxation and the exaction of any fees, charges or assessments by the City (or any other special taxing district or instrumentality created by or on behalf of the City) upon the Site, the improvements to be constructed which comprise the Facility and the electricity to be generated and sold by the owners of the Facility; and

NOW, THEREFORE, in consideration of the mutual agreements contained herein, the parties hereto agree as follows:

1. As provided in the Participation Agreement, Duke Energy LP, or its successors or assigns, has agreed to pay to the City \$500,000 payable in twelve equal monthly installments on the first day of each month commencing on the first day of the month following the commercial operation date ("COD") of the Facility and continuing until notice from Duke Energy LP that the Facility is no longer expected to be used for commercial operations. Such amount shall represent the total amount due to the City (or any other special taxing district or instrumentality created by or on behalf of the City) with respect to the Site, the Facility, the construction, ownership, operation, decommissioning and dismantlement of the Facility and the electricity generated, transmitted or sold therefrom. In consideration of such \$500,000 per year payments to the City by Duke Energy LP, the City covenants (i) to favorably consider any application to abate (or for exemption from) ad valorem property taxes, as provided by law, (ii) not to levy or impose a franchise fee applicable to the Facility or the electricity generated, transmitted or sold therefrom, (iii) to waive any payments to the city's general fund required pursuant to Section 218 of the City Charter, and (iv) not to directly or indirectly levy, assess, charge or impose (and to cause all other municipal entities not to directly or indirectly levy, assess, charge or impose) any taxes, fees, user fees, license fees, assessments, special assessments, or any other charges of any type or nature whatsoever that the City (or any other special taxing district or instrumentality created by or on behalf of the City) is or may hereafter be in a position to levy, assess, charge, or otherwise impose, either directly or indirectly, regarding the Site, the Facility, the construction, ownership, operation, decommissioning and dismantlement of the Facility, or the electricity generated, transmitted or sold therefrom.

2. In the event Duke Energy LP, or its successors or assigns, constructs additional power generating capacity above 240 MW at or near the Site utilizing the Commission's available facilities and infrastructure at no additional cost to Duke Energy LP (which additional power generating capacity is not merely a modification of the Facility) (the "Additional Capacity"), the amount due the City from Duke Energy LP shall be increased to an annual amount equal to the sum of (a) \$500,000 plus (b) the product of \$250,000 multiplied by a fraction, the numerator of which is the capacity of such Additional Capacity and the denominator of which is 240 MW, as provided in the Participation Agreement.

3. This Agreement does not relate to, and Duke Energy LP is responsible for, the payment of any and all taxes to be levied or fees, charges or assessment that may now or hereafter be imposed on Duke Energy LP or the Facility by any state or federal governmental unit or agency (other than the City or any other special taxing district or instrumentality created by or on behalf of the City).

4. The provisions of this Agreement relating to exemption from ad valorem tax shall terminate on the date which is 10 years from the COD if and to the extent required by Section 196.1995(6), Florida Statutes, unless renewed based on terms and provisions mutually agreed upon by the parties hereto.

5. This Agreement shall inure to the benefit of and shall be binding upon the City, the Commission, and their respective successors and assigns, and shall be governed by and construed

in accordance with the laws of the State of Florida. Duke Energy LP shall be a third party beneficiary of this Agreement.

6. In the event any provision of this Agreement shall be held invalid or unenforceable by any court of competent jurisdiction, the remainder of this Agreement shall not be affected thereby if such remainder would then continue to conform to the requirements of applicable law.

7. This Agreement represents the entire agreement between the parties. This Agreement may be supplemented, modified or amended only with the prior written consent of Duke Energy LP.

8. This Agreement may be simultaneously executed in several counterparts, each of which shall be an original and all of which shall constitute but one and the same instrument.

IN WITNESS WHEREOF, the City has caused this Agreement to be executed by its Mayor and the seal of the City to be hereto affixed and attested by its City Clerk and the Utilities Commission, City of New Smyrna Beach, Florida has duly caused this Agreement to be executed by its Chairman and the seal of the Commission to be hereto affixed and attested by its Secretary Treasurer, all as of the date first above written.

(SEAL)

UTILITIES COMMISSION,  
CITY OF NEW SMYRNA, FLORIDA

By: Peter G. Malloy  
Chairman

ATTEST:

William H. [Signature]  
Secretary-Treasurer

CITY OF NEW SMYRNA BEACH, FLORIDA

(SEAL)

By: James J. [Signature]  
Mayor

ATTEST:

[Signature]  
City Clerk



AMENDMENT NUMBER ONE  
TO PARTICIPATION AGREEMENT  
BY AND BETWEEN  
UTILITIES COMMISSION, CITY OF NEW SMYRNA BEACH, FLORIDA  
AND  
DUKE ENERGY NEW SMYRNA BEACH POWER COMPANY LTD., L.L.P.

This Amendment Number One to the Participation Agreement By and Between Utilities Commission, City of New Smyrna Beach, Florida and Duke Energy New Smyrna Beach Power Company Ltd., L.L.P. ("Amendment") is made and entered into March 11, 1998, by and between Utilities Commission, City of New Smyrna Beach, Florida ("UCNSB") and Duke Energy New Smyrna Beach Power Company Ltd., L.L.P. ("Duke"), collectively, the "Parties".

RECITALS

WHEREAS, UCNSB and Duke are Parties to the Participation Agreement to proceed with the development of a combined-cycle electric generation facility with a capacity of approximately 240 megawatts or more (the "Facility"), dated Feb. 17, 1998, ("Agreement").

WHEREAS, UCNSB and Duke desire to revise the Agreement;

NOW, THEREFORE, in consideration of the foregoing and of the mutual covenants contained herein, the Parties do hereby agree to amend the Agreement as follows:

1. Insert in Section 2.2, Site:

"and shall transfer back to UCNSB good and marketable title to the Site"

2. Delete in Section 3.4, Facility and Gas Delivery System:

"Policy Committee" and replace with:

"Board of Directors of Duke Energy Power Services, LLC, a subsidiary"

3. Add in Section 3.4, Facility and Gas Delivery System:

"(d) Duke obtaining, within 60 days after all necessary permits are obtained, approval for funding for construction of the project by the Duke Energy Corporation Board of Directors"

and update subsequent (d) to (e); and add "or (e)" to item (iii).

4. Add to Exhibit B, Tax Agreement, Paragraph 3:

"Ltd., L.L.P."

and replace "Delaware" with "Florida".

This Amendment Number One shall be come effective on March 11, 1998.

IN WITNESS WHEREOF, the Parties hereto have caused this Amendment Number One to the Agreement to be executed by their duly authorized officers as of the day and year first above stated.

ATTEST:

UTILITIES COMMISSION,  
CITY OF NEW SMYRNA BEACH, FLORIDA

By: *Helvia Scurry*

By: *Ronald Vaden*  
Name: Ronald Vaden  
Title: Utilities Director

Approved as to form and correctness:

Counsel to UCNSB: *Stallence*

DUKE ENERGY NEW SMYRNA BEACH  
POWER COMPANY LTD., L.L.P.

ATTEST:

By: Duke Energy Power Services  
Mulberry GP, Inc.  
its general partner

By: *Sandy Lee*

By: *James M. Donnell* *JK*  
Name: James M. Donnell  
Title: Senior Vice President

2.2 Site

UCNSB shall transfer good and marketable title to the Site (free and clear of all liens and encumbrances other than those set forth on Exhibit A hereto) to Duke prior to April 1, 1998. Prior to the commencement of construction of the Facility, Duke shall obtain a Phase I Site Assessment of the Site (to determine real or potential environmental liabilities) performed pursuant to ASTM E 1527-93 guidelines and deliver to UCNSB a copy of the results of such assessment. UCNSB shall indemnify and hold harmless Duke, its affiliates, and Duke's and its affiliates' respective directors, employees and representatives, from and against any and all claims, liabilities, losses and expenses (including costs of suit and attorneys' fees) attributable to the ownership or operation of the Site prior to such transfer or attributable to the condition of the Site at the time of such transfer, regardless of whether same are identified in such assessment. Subject to the foregoing, UCNSB shall not be responsible for, and Duke shall be responsible for, any costs of decommissioning and dismantling of the Facility and shall transfer back to UCNSB good and marketable title to the Site at the end of its useful life. If, at any time prior to completion of the detailed engineering for the Facility, Duke reasonably determines (based on engineering and technical factors) that the Site is not adequate for the Facility and its related facilities, UCNSB will acquire, at UCNSB's cost and in a timely manner in order for Duke to meet its project schedule for the Facility, and transfer to Duke additional property contiguous with the Site on the same terms as the Site (as described in this Section).

3.4 Facility and Gas Delivery System

The obligations of Duke under Sections 2.1 and 2.5, including the obligation to construct the Facility and provide for natural gas deliveries to the Facility, are subject to (a) the receipt of all applicable governmental permits and approvals in a form acceptable to each of the Parties affected thereby in its sole discretion, (b) Duke obtaining a reasonably satisfactory agreement for the looping and extension of the existing natural gas pipeline lateral (i.e., the Sanford Lateral) running closest to the Site, (c) Duke obtaining, on or before March 7, 1998, the approval of the Board of Directors of Duke Energy Power Services, LLC, a subsidiary of Duke Energy Corporation, to proceed with the transactions contemplated in this Agreement, (d) Duke obtaining, within 60 days after all necessary permits are obtained, approval for funding for construction of the project by the Duke Energy Corporation Board of Directors, and (e) no circumstance or event existing or having occurred that has had or could reasonably be expected to have a material adverse effect on the feasibility, prospects or business of the Facility. Duke shall give written notice to UCNSB if Duke determines not to complete the Facility as a result of any of the foregoing, in which event neither Party shall have any further obligations under this Agreement; provided, however, that (i) each Party shall continue to be liable for any breaches hereof occurring prior to such notice, (ii) if at such time the Site has been conveyed to Duke, Duke shall reconvey to UCNSB all of Duke's right, title and interest to the Site, (iii) if such determination is made solely on the basis of the matters described in clause (d) or (e) of the immediately preceding sentence, then Duke shall also pay to UCNSB \$200,000, and (iv) if within 6 months thereafter UCNSB notifies Duke that UCNSB intends to complete the Facility with another party and requests Duke to transfer any governmental permits and approvals for the Facility and any applications therefor, and if such request is approved by Duke (which approval shall not be unreasonably withheld), Duke will, to the extent legally permissible, transfer to UCNSB any governmental permits and approvals that Duke has received in connection with the Facility and any applications for governmental permits or approvals in connection with the Facility that have not yet been obtained, in each case excluding any confidential or proprietary information of Duke.

**Utilities Commission, City of New Smyrna Beach  
 Historical and Projected Customers, 1992-2008**

<b>Historical Customers</b>						
	<b>1992</b>	<b>1993</b>	<b>1994</b>	<b>1995</b>	<b>1996</b>	<b>1997</b>
<b>Residential Customers (Average/Month)</b>	16,914	17,213	17,496	17,734	17,856	17,995
<b>General Service Customers (Average/Month)</b>	1,689	1,705	1,691	1,702	1,715	1,728

<b>Projected Customers</b>						
	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>
<b>Residential Customers (Average/Month)</b>	18,143	18,289	18,436	18,584	18,733	18,883
<b>General Service Customers (Average/Month)</b>	1,769	1,800	1,831	1,863	1,898	1,934

<b>Projected Customers</b>						
	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	
<b>Residential Customers (Average/Month)</b>	19,035	19,187	19,341	19,496	19,653	
<b>General Service Customers (Average/Month)</b>	1,967	2,001	2,035	2,069	2,105	

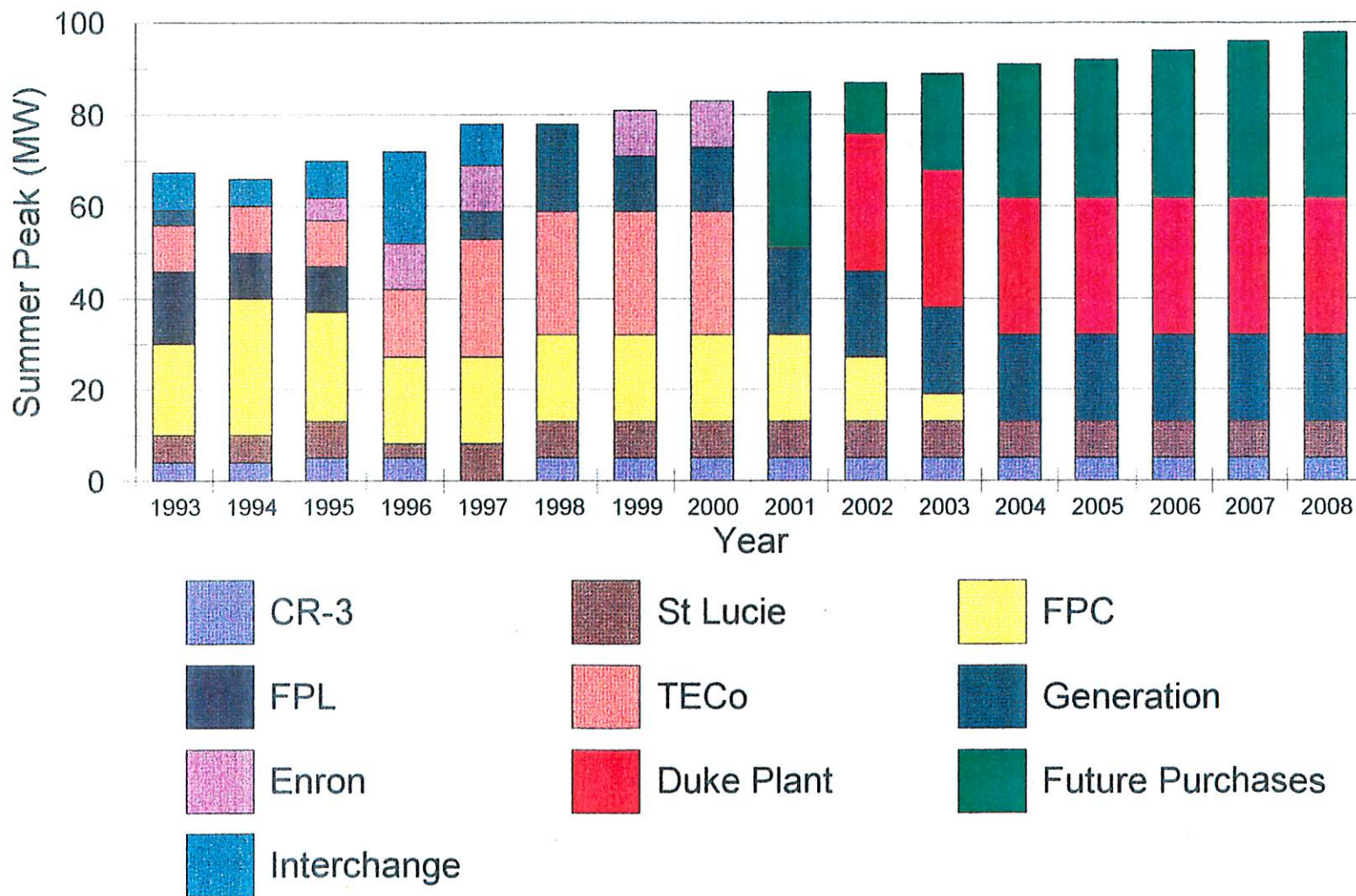
**Utilities Commission, City of New Smyrna Beach  
 Historical and Projected Peak Demands,  
 1993-2008 (MW)**

**Peak Demand (MW)**

	1993	1994	1995	1996	1997	1998	1999	2000
<b>Summer</b>	68	66	70	72	78	78	81	83
<b>Winter</b>	72	70	88	89	83	68	91	94

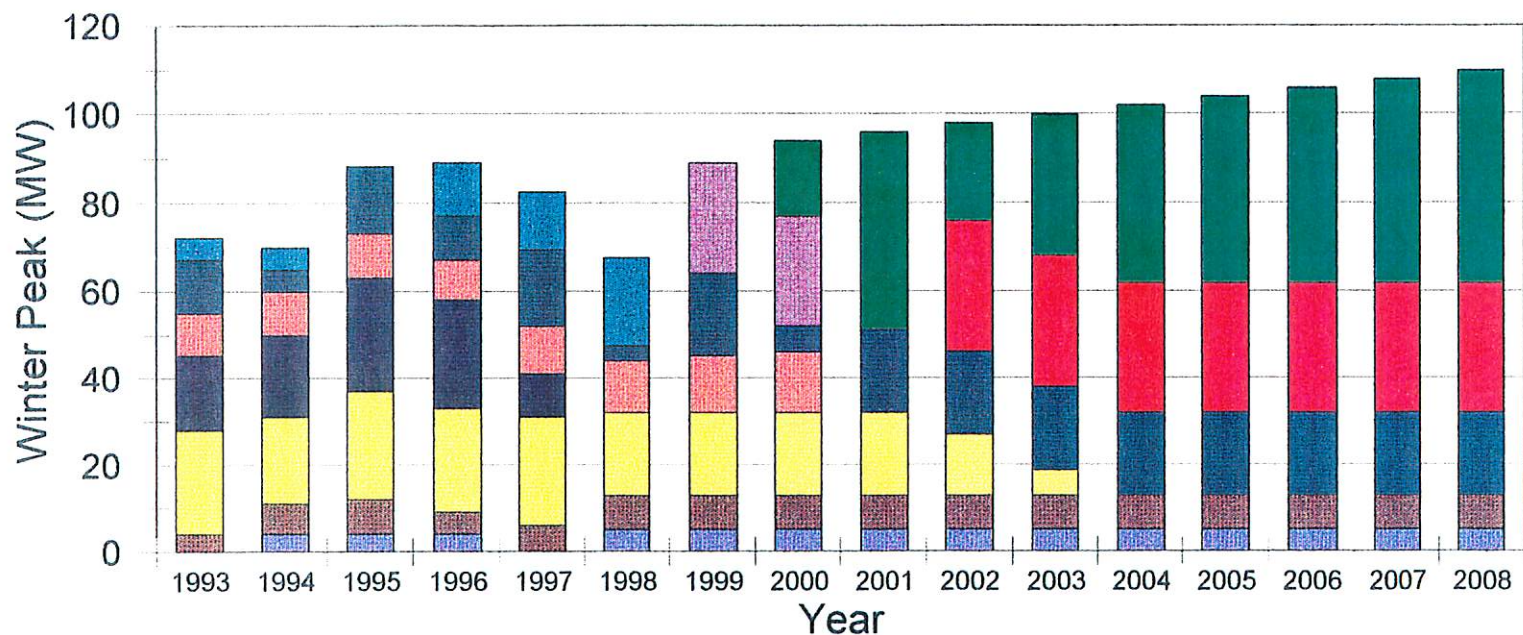
	2001	2002	2003	2004	2005	2006	2007	2008
<b>Summer</b>	85	87	89	91	92	94	96	98
<b>Winter</b>	96	98	100	102	104	106	108	110

### Utilities Commission, City of New Smyrna Beach Summer Peak Demands, 1993-2008





### Utilities Commission, City of New Smyrna Beach Winter Peak Demands, 1993-2008





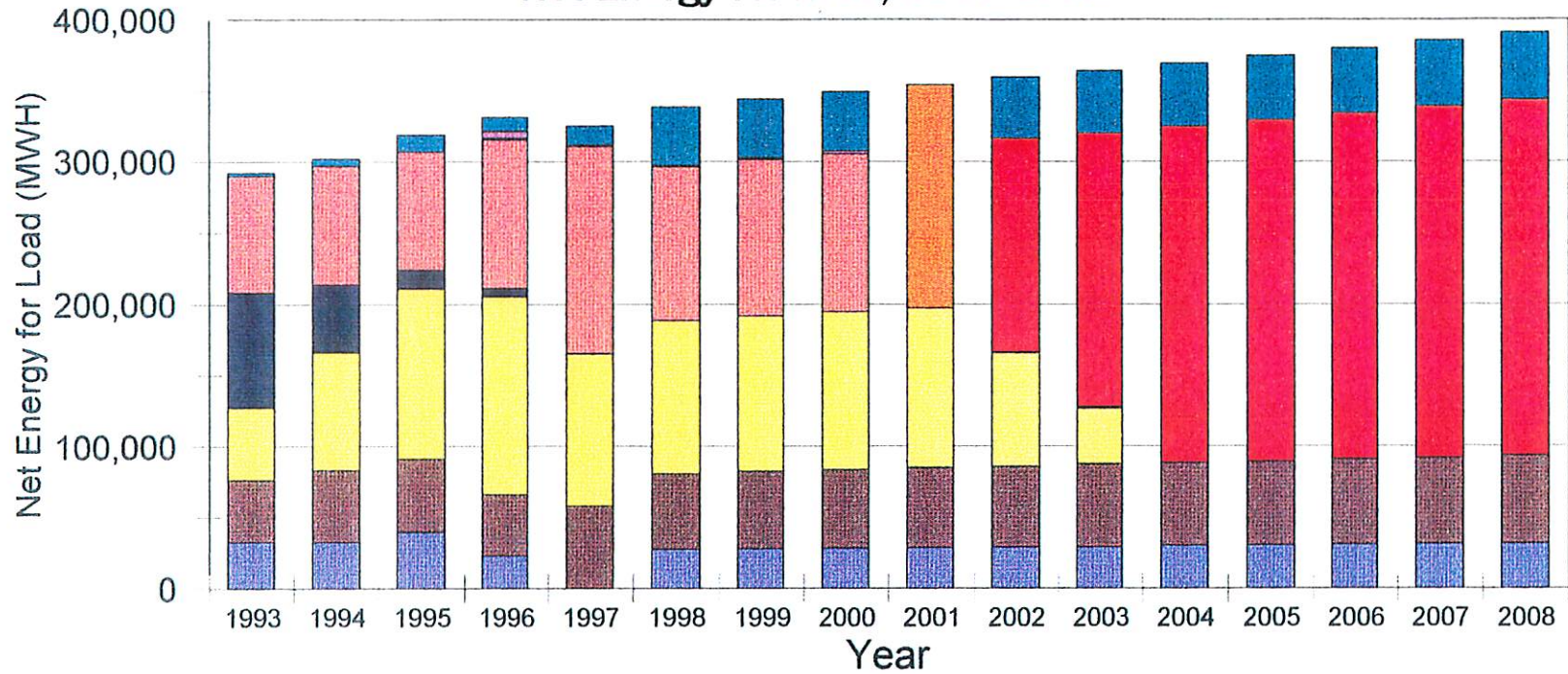
**Utilities Commission, City of New Smyrna Beach  
 Historical and Projected Energy Requirements, 1992-2008**

<b>Historical Energy Requirements (MWH)</b>						
	<b>1992</b>	<b>1993</b>	<b>1994</b>	<b>1995</b>	<b>1996</b>	<b>1997</b>
<b>Energy Requirements</b>	287,167	292,485	301,883	318,962	331,285	325,229

<b>Projected Energy Requirements (MWH)</b>						
	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>
<b>Energy Requirements</b>	334,109	344,450	349,513	354,421	359,686	364,168

<b>Projected Energy Requirements (MWH)</b>						
	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	
<b>Energy Requirements</b>	369,380	374,666	380,028	385,467	390,984	

### Utilities Commission, City of New Smyrna Beach Net Energy for Load, 1993-2008



- |   |  |  |
|---|--|--|
|  CR-3        |  St Lucie   |  FPC              |
|  FPL         |  TECo       |  Generation       |
|  Enron       |  Duke Plant |  Future Purchases |
|  Interchange |  |  |

### Utilities Commission, City of New Smyrna Beach Power Supply Resources

<b>Resource Name</b>	<b>Peak Capacity (MW)</b>	<b>Expiration Date</b>
St. Lucie/FMPA	7.1	N/A
Crystal River 3	5.4	N/A
Florida Power Corp. PR	24.0	Phased to 0 MW as of October 1, 2004
Florida Power Corp. Stratified Peaking	6.0	February 29, 2000
Enron Short Term	25.0	March 31, 2000
Tampa Electric Co. Schedule 'D'	13.0	February 29, 2000
Tampa Electric Co. Summer Service	5.0	September 30, 1999
Tampa Electric Co. Supplemental	10.0	September 30, 1999
Local Generation	18.8	N/A

**UTILITIES COMMISSION, CITY OF NEW SMYRNA BEACH  
FISCAL YEAR 2000 BUDGET WITHOUT NEW SMYRNA BEACH POWER PROJECT**

<u>Month</u>	<u>Year</u>	<u>NEL MWH</u>	<u>Peak MW</u>	<u>Load Factor</u>	<u>Res Margin</u>	<u>LQLP days/yr</u>	<u>LQLP hrs/yr</u>
Total	2000	349513	87	45.74	10.70	0	0

<u>Resource Name</u>	<u>NEL MWH</u>	<u>Start-up Cost \$</u>	<u>Energy Cost \$</u>	<u>Energy \$/MWH</u>	<u>Res. C.F. %</u>	<u>Fixed Cost \$</u>	<u>Total Cost \$</u>	<u>Total Cost \$/MWH</u>
CR-3	35623	0	187021	5.25	99.98	68400	255421	7.17
Clinch-Pk	2270	0	149729	65.96	4.31	0	149729	65.96
Dual Fuel	406	0	26780	65.96	0.36	0	26780	65.96
Enron Res	0	0	0	0.00	0.00	0	0	0.00
EnronST	3601	0	126035	35.00	7.08	242000	368035	102.20
FPC PR	86607	0	1987504	22.95	58.00	2204352	4191856	48.40
FPC Peak	6587	0	382046	58.00	12.50	267264	649310	98.57
PR Base	17568	0	403266	22.95	100.00	256320	659586	37.54
PR Res.	0	0	0	0.00	0.00	0	0	0.00
Reg-Res-Bk	0	0	0	0.00	0.00	263552	263552	0.00
St. Lucie	57438	0	709359	12.35	99.98	0	709359	12.35
TECo S	7096	0	159486	22.48	99.99	0	159486	22.48
TECo S2	4086	0	91835	22.48	57.58	0	91835	22.48
TECo10a	14192	0	390262	27.50	99.99	0	390262	27.50
TECo10b	4210	0	115770	27.50	29.66	0	115770	27.50
TECoBase	109829	0	1926978	17.55	96.72	854510	2781488	25.33
Uns Energy	0	0	0	0.00	0.00	0	0	0.00
<b>TOTALS</b>	<b>349513</b>	<b>0</b>	<b>6656071</b>	<b>19.04</b>		<b>4156398</b>	<b>10812469</b>	<b>30.94</b>

UCNSB/Duke New Smyrna  
Witness: Vaden  
Exhibit (RLV-6)  
Page 1 of 3

**UTILITIES COMMISSION, CITY OF NEW SMYRNA BEACH  
FISCAL YEAR 2000 BUDGET WITH NEW SMYRNA BEACH POWER PROJECT**

<u>Month</u>	<u>Year</u>	<u>NEL MWH</u>	<u>Peak MWs</u>	<u>Load Factor</u>	<u>Res Margin</u>	<u>LOLP days/yr</u>	<u>LOLP hrs/yr</u>
Total	2000	349513	87	45.74	17.12	0	0

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<u>Resource Name</u>	<u>NEL MWH</u>	<u>Start-up Cost \$</u>	<u>Energy Cost \$</u>	<u>Energy \$/MWH</u>	<u>Res. C.F.%</u>	<u>Fixed Cost \$</u>	<u>Total Cost \$</u>	<u>Total Cost \$/MWH</u>
Base30	218612	0	4044322	18.50	82.96	0	4044322	18.50
CR-3	35623	0	187021	5.25	99.98	68400	255421	7.17
Clinch-Pk	56	0	3694	65.96	0.11	0	3694	65.96
Dual Fuel	0	0	0	0.00	0.00	0	0	0.00
Peaking	37784	0	1511360	40.00	12.78	1212000	2723360	72.08
St. Lucie	57438	0	709359	12.35	99.98	0	709359	12.35
Uns Energy	0	0	0	0.00	0.00	0	0	0.00
<b>TOTALS</b>	<b>349513</b>	<b>0</b>	<b>6455756</b>	<b>18.47</b>		<b>1280400</b>	<b>7736156</b>	<b>22.13</b>

**UTILITIES COMMISSION, CITY OF NEW SMYRNA BEACH  
PURCHASE POWER DEMAND AND ENERGY SAVINGS  
FROM THE NEW SMYRNA BEACH POWER PROJECT**

<b>YEAR</b>	<b>EST. ANNUAL SAVINGS FROM NSBPP (\$ Million)</b>	<b>NET PRESENT VALUE @ 6% (\$ Million)</b>	<b>CUMULATIVE NET PRESENT VALUE @ 6% (\$ Million)</b>
2002	3.456	3.076	3.076
2003	3.664	3.076	6.152
2004	3.883	3.076	9.228
2005	4.116	3.076	12.304
2006	4.363	3.076	15.380
2007	4.625	3.076	18.456
2008	4.903	3.076	21.532
2009	5.197	3.076	24.608
2010	5.509	3.076	27.684
2011	5.839	3.076	30.760
2012	2.000	0.994	31.754
2013	2.000	0.938	32.692
2014	2.000	0.885	33.576
2015	2.000	0.835	34.411
2016	2.000	0.787	35.198
2017	2.000	0.743	35.941
2018	2.000	0.701	36.641
2019	2.000	0.661	37.302
2020	2.000	0.624	37.926
2021	2.000	0.588	38.514

base year= 2000

**SUMMARY OF CAPACITY, DEMAND, AND RESERVE MARGIN AT TIME OF SUMMER PEAK,  
WITHOUT NEW SMYRNA BEACH POWER PROJECT**

Year	NET		PROJECTE		TOTAL AVAILABL CAPACITY (MW)	TOTAL PEAK DEMAND (MW)	RESERVE MARGIN W/O EXERCISING LOAD MGMT. & INT. (MW) % OF PEAK	LOAD MGMT. & INT. (MW)	FIRM PEAK DEMAND (MW)	RESERVE MARGIN WITH EXERCISING LOAD MGMT. & INT. (MW) % OF PEAK	
	INSTALLE CAPACITY (MW)	CONTRAC FIRM INTERCHG (MW)	FIRM NET TO GRID FROM NUG (MW)	TOTAL AVAILABL CAPACITY (MW)							
1998	35485	1412	2220	39117	35633	3484	9.78	2776	32857	6260	19.05
1999	36112	1702	2220	40034	36628	3406	9.30	3011	33617	6417	19.09
2000	36356	1852	2220	40428	37410	3018	8.07	3130	34280	6148	17.93
2001	36866	1766	2295	40927	38220	2707	7.08	3227	34993	5934	16.96
2002	38406	1704	2286	42396	38844	3552	9.14	3256	35588	6808	19.13
2003	39430	1623	2286	43339	39395	3944	10.01	3317	36078	7261	20.13
2004	40500	1633	2286	44419	40227	4192	10.42	3356	36871	7548	20.47
2005	41325	1644	2276	45245	41112	4133	10.05	3379	37733	7512	19.91
2006	42042	1630	2143	45815	41998	3817	9.09	3405	38593	7222	18.71
2007	43096	1755	2143	46994	42885	4109	9.58	3434	39451	7543	19.12

**SUMMARY OF CAPACITY, DEMAND, AND RESERVE MARGIN AT TIME OF SUMMER PEAK,  
WITH NEW SMYRNA BEACH POWER PROJECT 476 MW IN 2002**

Year	NET		PROJECTE		TOTAL AVAILABL CAPACITY (MW)	TOTAL PEAK DEMAND (MW)	RESERVE MARGIN W/O EXERCISING LOAD MGMT. & INT. (MW) % OF PEAK	LOAD MGMT. & INT. (MW)	FIRM PEAK DEMAND (MW)	RESERVE MARGIN WITH EXERCISING LOAD MGMT. & INT. (MW) % OF PEAK	
	INSTALLE CAPACITY (MW)	CONTRAC FIRM INTERCHG (MW)	FIRM NET TO GRID FROM NUG (MW)	TOTAL AVAILABL CAPACITY (MW)							
1998	35485	1412	2220	39117	35633	3484	9.78	2776	32857	6260	19.05
1999	36112	1702	2220	40034	36628	3406	9.30	3011	33617	6417	19.09
2000	36356	1852	2220	40428	37410	3018	8.07	3130	34280	6148	17.93
2001	36866	1766	2295	40927	38220	2707	7.08	3227	34993	5934	16.96
2002	38882	1704	2286	42872	38844	4028	10.37	3256	35588	7284	20.47
2003	39906	1623	2286	43815	39395	4420	11.22	3317	36078	7737	21.45
2004	40976	1633	2286	44895	40227	4668	11.60	3356	36871	8024	21.76
2005	41801	1644	2276	45721	41112	4609	11.21	3379	37733	7988	21.17
2006	42518	1630	2143	46291	41998	4293	10.22	3405	38593	7698	19.95
2007	43572	1755	2143	47470	42885	4585	10.69	3434	39451	8019	20.33

\*476 MW ADDED TO THE INSTALLED CAPACITY COLUMN STARTING IN 2002

SOURCES: Florida Reliability Coordinating Council,  
1998 Load & Resource Plan, Peninsular Florida,  
July 1, 1998; Duke Energy Power Services, L.L.C.

**SUMMARY OF CAPACITY, DEMAND, AND RESERVE MARGIN AT TIME OF WINTER PEAK,  
WITHOUT NEW SMYRNA BEACH POWER PROJECT**

Year	NET		PROJECTE		TOTAL AVAILABL CAPACITY (MW)	TOTAL PEAK DEMAND (MW)	RESERVE MARGIN W/O EXERCISING LOAD MGMT. & INT. % OF PEAK	LOAD MGMT. & INT. (MW)	FIRM PEAK DEMAND (MW)	RESERVE MARGIN WITH EXERCISING LOAD MGMT. & INT. (MW) % OF PEAK	
	INSTALLE CAPACITY (MW)	FIRM INTERCHG (MW)	TO GRID FROM NUG (MW)	FIRM NET CAPACITY (MW)						PEAK DEMAND (MW)	LOAD MGMT. & INT. (MW)
1998/99	38037	1939	2240	42216	39450	2766	7.01	3784	35666	6550	18.36
1999/00	38402	1916	2240	42558	40388	2170	5.37	3955	36433	6125	16.81
2000/01	38809	1691	2240	42740	41395	1345	3.25	4078	37317	5423	14.53
2001/02	40638	1705	2315	44658	42219	2439	5.78	4153	38066	6592	17.32
2002/03	41980	1612	2306	45898	42998	2900	6.74	4232	38766	7132	18.40
2003/04	43073	1623	2306	47002	43925	3077	7.01	4307	39618	7384	18.64
2004/05	44105	1633	2296	48034	44895	3139	6.99	4335	40560	7474	18.43
2005/06	44883	1555	2163	48601	45896	2705	5.89	4365	41531	7070	17.02
2006/07	45916	1630	2163	49709	46879	2830	6.04	4392	42487	7222	17.00
2007/08	46076	1555	2163	49794	47902	1892	3.95	4415	43487	6307	14.50

**SUMMARY OF CAPACITY, DEMAND, AND RESERVE MARGIN AT TIME OF WINTER PEAK,  
WITH NEW SMYRNA BEACH POWER PROJECT 548 MW IN 2001/02**

Year	NET		PROJECTE		TOTAL AVAILABL CAPACITY (MW)	TOTAL PEAK DEMAND (MW)	RESERVE MARGIN W/O EXERCISING LOAD MGMT. & INT. % OF PEAK	LOAD MGMT. & INT. (MW)	FIRM PEAK DEMAND (MW)	RESERVE MARGIN WITH EXERCISING LOAD MGMT. & INT. (MW) % OF PEAK	
	INSTALLE CAPACITY (MW)	FIRM INTERCHG (MW)	TO GRID FROM NUG (MW)	FIRM NET CAPACITY (MW)						PEAK DEMAND (MW)	LOAD MGMT. & INT. (MW)
1998/99	38037	1939	2240	42216	39450	2766	7.01	3784	35666	6550	18.36
1999/00	38402	1916	2240	42558	40388	2170	5.37	3955	36433	6125	16.81
2000/01	38809	1691	2240	42740	41395	1345	3.25	4078	37317	5423	14.53
2001/02	41186	1705	2315	45206	42219	2987	7.08	4153	38066	7140	18.76
2002/03	42528	1612	2306	46446	42998	3448	8.02	4232	38766	7680	19.81
2003/04	43621	1623	2306	47550	43925	3625	8.25	4307	39618	7932	20.02
2004/05	44653	1633	2296	48582	44895	3687	8.21	4335	40560	8022	19.78
2005/06	45431	1555	2163	49149	45896	3253	7.09	4365	41531	7818	18.34
2006/07	46464	1630	2163	50257	46879	3378	7.21	4392	42487	7770	18.29
2007/08	46624	1555	2163	50342	47902	2440	5.09	4415	43487	6855	15.76

\*548 MW ADDED TO TOTAL AVAILABLE CAPACITY COLUMN STARTING IN 2001/02

SOURCES: Florida Reliability Coordinating Council,  
1998 Load & Resource Plan, Peninsular Florida,  
July 1, 1998; Duke Energy Power Services, L.L.C.



## COMPARISON OF PENINSULAR FLORIDA PLANNED AND PROPOSED GENERATING UNITS

UTILITY/UNIT	IN-SERVICE YEAR	CAPACITY SUMMER	CAPACITY WINTER	FUELS PRIMARY	FUELS ALTERNATE	HEAT RATE (Btu/kWH)(HHV)	EQUIVALENT AVAILABILITY FACTOR %	TOTAL INSTALLED COST (\$/KW)	DIRECT CONSTRUCTION COST (\$/KW)
DUKE/NSBPP*	2001	476	548	GAS	NONE	6832	96	N/A	311
FPL/FT. MYERS	2002	837	1062	GAS	NONE	6815	96	593	495
FPL/SANFORD	2003	914	1076	GAS	NONE	6777	96	612	494
FPL/MARTIN 5	2006	419	448	GAS	NO. 2	6081	96	647	492
FPL/MARTIN 6	2007	419	448	GAS	NO. 2	6081	96	599	444
FPC/HINES 1**	1998	470	505	GAS	NO. 2	6962	91	600 *	NOT REPORTED
FPC/HINES 2	2004	470	505	GAS	NO. 2	6962	91	NOT REPORTED	NOT REPORTED
FPC/HINES 3	2006	470	505	GAS	NO. 2	6962	91	NOT REPORTED	NOT REPORTED
SEC/HARDEE 3	2002	451	527	GAS	NO. 2	7430	88	723	519
FMPA-KUA									
CANE ISLAND 3	2001	246	272	GAS	NO. 2	6815	92	449	319
LKLAND McINTOSH 5	1999	245	264	GAS	NO. 2	9486	86	216	NOT REPORTED

\*DUKE/NSBPP DATA IS BASED ON INFORMATION FROM NEED DETERMINATION FILING

\*\*FPC HINES 1 DATA BASED ON PROJECTED CAPITAL INVESTMENT OF \$300,000,000 / NOMINAL CAPACITY 500 MW AS SHOWN IN 1996 TYSP

OTHER UTILITY UNIT DATA TAKEN FROM: 1998 TEN YEAR SITE PLANS, SCHEDULE 9