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April 30, 1999

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Blanca S. Bayo, Director  
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Florida Public Service Commission  
2540 Shumard Oak Boulevard  
Tallahassee, Florida 32399-0850

Re: Ten-Year Site Plans for Duke Energy New Smyrna Beach  
Power Company Ltd., L.L.P.

Dear Ms. Bayo:

As required by Commission Rule 25-22.071(1), F.A.C., enclosed for filing are twenty-five (25) copies of the 1999-2008 Ten-Year Site Plan of Duke Energy New Smyrna Beach Power Company Ltd., L.L.P. I will appreciate your confirming receipt of these materials by stamping the attached filing copies thereof and returning same to my attention.

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

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

Cordially yours,

*Robert Scheffel Wright*  
Robert Scheffel Wright

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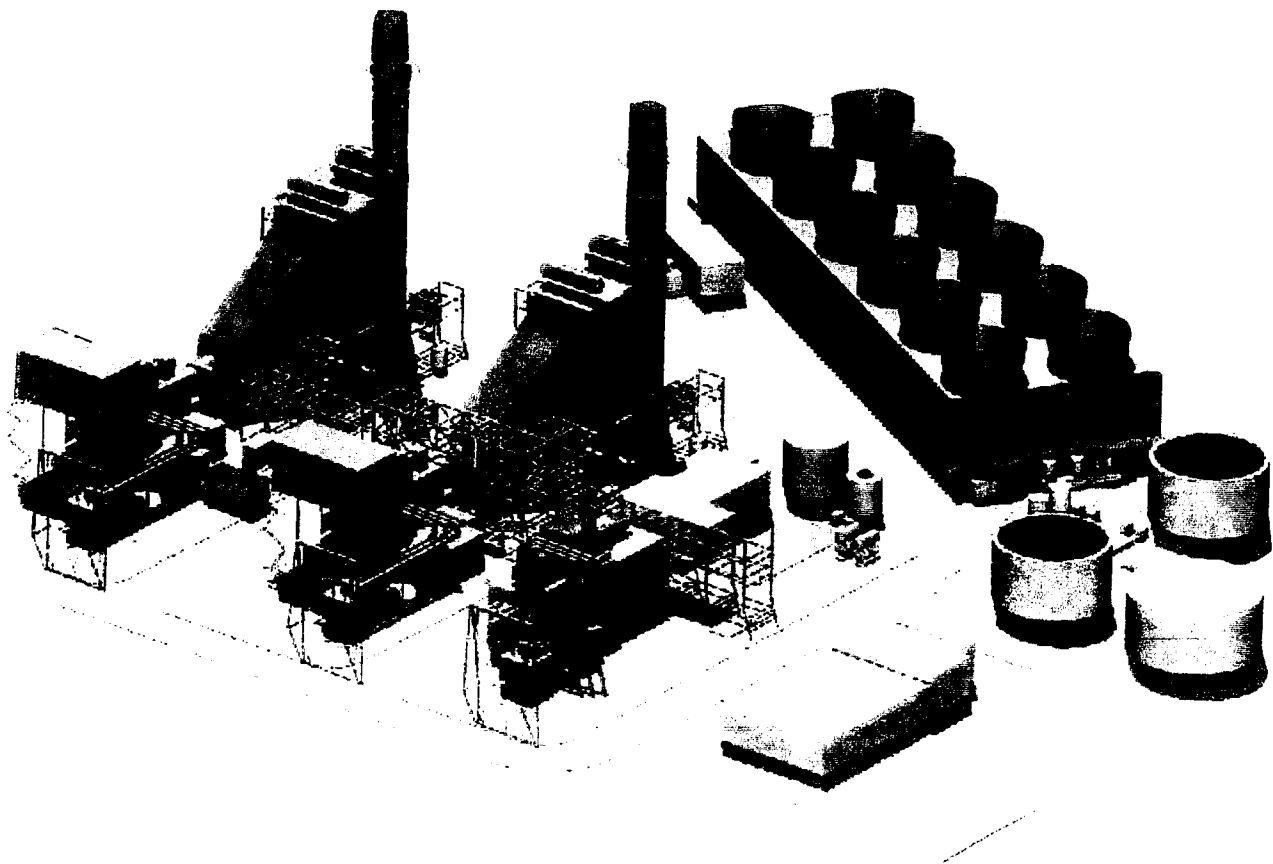
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ORIGINAL

**DUKE ENERGY NEW SMYRNA BEACH**

**POWER COMPANY LTD., L.L.P.**

**TEN-YEAR SITE PLAN, 1999-2008**



April 1999

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

**TEN-YEAR SITE PLAN  
FOR ELECTRICAL GENERATING FACILITIES  
AND ASSOCIATED TRANSMISSION LINES,  
1999-2008**

**Submitted to:**

**STATE OF FLORIDA  
PUBLIC SERVICE COMMISSION**

**April 1999**

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## EXECUTIVE SUMMARY

Duke Energy New Smyrna Beach Power Company Ltd., L.L.P. ("Duke New Smyrna"), an electric utility pursuant to Section 366.02(2), Florida Statutes, hereby submits its Ten-Year Site Plan for Electrical Generating Facilities and Associated Transmission Lines, 1999-2008.

Duke New Smyrna will own and operate the New Smyrna Beach Station ("the Project"), a 514 MW natural gas fired combined cycle generating unit that will be located in New Smyrna Beach in Volusia County, Florida. Expected to achieve commercial in-service status in November 2001, the Project will supply 30 MW of capacity and associated energy to the Utilities Commission, City of New Smyrna Beach, Florida ("UCNSB") for resale to its customers, with the balance of the Project's capacity and energy being made available for sale, at wholesale, to other utilities. Virtually all of these wholesale sales are expected to be made to other Peninsular Florida utilities.

The Project will include two advanced technology combustion turbines, two heat recovery steam generators, and one steam turbine generator. The Project will have a heat rate of approximately 6,832 Btu per kWh (based on the Higher Heating Value of natural gas) and will satisfy all applicable environmental requirements. Most of the Project's process and make-up water will be supplied by an advanced wastewater treatment plant currently being constructed by the UCNSB adjacent to the Project site.

Duke New Smyrna's current projections indicate that the Project will operate between 7,000 and 8,500 hours per year, with projected generation between 3,700,000 and 4,200,000 MWH per year, all of which will be sold at wholesale to other utilities.

The Project will be interconnected to the Peninsular Florida transmission grid at the Smyrna Substation of the UCNSB. A firm delivered supply of natural gas will be provided to the Project pursuant to a long-term contract with Citrus Trading Corp., an affiliate of Florida Gas Transmission Company. Gas will be supplied via a 42-mile, 16-inch lateral pipeline that will be connected to the FGT main line near Mt. Plymouth in Lake County.

#### **Site Description and Location**

The Project will be located in the northwest quadrant of the intersection of Interstate Highway 95 and Florida State Road 44, within the city limits of New Smyrna Beach in west central Volusia County. The site consists of approximately 30.5 acres immediately adjacent to the Smyrna Substation of the UCNSB and also adjacent to an advanced wastewater treatment plant currently being constructed by the UCNSB.

The Project will be electrically interconnected to the Peninsular Florida transmission grid at the Smyrna Substation, a 115 kV substation owned by the UCNSB. To facilitate and support power deliveries from the Project to other Peninsular Florida utilities, a second circuit is planned to be added to the 18-mile 115 kV Smyrna-Cassadaga transmission line, and a new 7.5-mile 115 kV circuit is planned to connect the Cassadaga substation to the



Lake Helen substation.

The Project's direct construction cost, including all engineering, procurement, and construction functions, is expected to be approximately \$160 million, reflecting a cost of approximately \$311 per kW of installed capacity. The planned substation upgrades and additional transmission circuits are projected to cost approximately \$6.7 million.

## CHAPTER 1

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

Duke Energy New Smyrna Beach Power Company Ltd., L.L.P. is the owner of, and has operational responsibility for, the New Smyrna Beach Power Project. Duke New Smyrna is a FERC-jurisdictional, FERC-regulated wholesale public utility that will sell the Project's capacity and energy at wholesale directly to other utilities.

Duke New Smyrna is a Florida limited liability partnership created in 1997. The general partner is Duke Energy Power Services Mulberry GP, Inc., which has a 1 percent ownership interest, and the sole limited partner is Duke Energy Global Asset Development, Inc., which has a 99 percent ownership interest in Duke New Smyrna

Duke New Smyrna is an "electric utility" within the meaning of Section 366.02(2), Florida Statutes. Duke New Smyrna is also a "public utility" subject to the jurisdiction of the Federal Energy Regulatory Commission ("FERC") under Section 201 of the Federal Power Act. By order issued on June 25, 1998, the FERC approved Duke New Smyrna's Rate Schedule No. 1, which permits Duke New Smyrna to enter into negotiated wholesale power sales agreements with willing purchasers. Duke Energy New Smyrna Beach Power Company Ltd., L.L.P., 83 FERC §61,316. Pursuant to a FERC order issued on June 9, 1998, Duke New Smyrna is also an Exempt Wholesale Generator ("EWG"). Duke Energy New Smyrna Beach Power Company Ltd., L.L.P., 83 FERC §62,220.

## CHAPTER 2

### DESCRIPTION OF EXISTING FACILITIES

Duke New Smyrna has no existing electric generation or transmission facilities. (See Schedule 1.) As described elsewhere herein, Duke New Smyrna is in the process of obtaining the required site certification for the New Smyrna Beach Station pursuant to the Florida Electrical Power Plant Siting Act.

### CHAPTER 3

#### FORECAST OF ELECTRIC POWER DEMAND AND ENERGY

Over the planning horizon covered in this Ten-Year Site Plan, the New Smyrna Beach Station is projected to operate between 7,000 and 8,500 hours per year, with total generation between 3,700,000 and 4,200,000 MWH per year, reflecting total capacity factors between 82 and 94 percent.

As noted elsewhere in this Ten-Year Site Plan, all of the Project's sales will be made at wholesale to other utilities. Thus, Schedules 2.1 and 2.2, which require data for retail power sales, are not applicable. Schedule 2.3 presents the forecasted number of wholesale customers and sales for resale. Schedules 3.1, 3.2, and 3.3 present forecasted summer peak demand, winter peak demand, and net energy for load for Duke New Smyrna. Because of the New Smyrna Beach Station's high efficiency and relatively low-cost position in the overall supply stack for Peninsular Florida, Duke New Smyrna believes that the Project's sales at the times of the summer and winter peaks (both the system peak experienced by Duke New Smyrna and the Peninsular Florida coincident system peak) will be at the Project's full rated output, i.e., 476 MW at the time of the summer peak and 548 MW at the time of the winter peak.

Schedule 4 is not applicable to Duke New Smyrna because it calls for retail sales and peak demand data.

Schedules 5, 6.1, and 6.2 present information regarding fuel

requirements and energy sources for Duke New Smyrna. Schedules 7.1 and 7.2 present information regarding forecasts of capacity, demand, and scheduled maintenance at the time of summer and winter peaks. Because of its high efficiency and relative low-cost position within the available generation resources in Peninsular Florida, Duke New Smyrna expects that in both summer and winter peak conditions, all of the Station's capacity will be committed on a firm basis to other Peninsular Florida utilities, even if only on a day-ahead or hourly basis. Accordingly, Duke New Smyrna projects that its firm summer and winter peak demands will in fact be the full rated output of the Station for each respective season. Duke New Smyrna believes that this information will be representative of Duke New Smyrna's peak demands both at the time that peak seasonal demands are imposed on Duke New Smyrna and also at the time of the Peninsular Florida summer and winter coincident peaks. Schedule 8 presents information regarding planned and prospective generating facility additions and changes.

## CHAPTER 4

### FORECASTING METHODS AND PROCEDURES

Forecasts of the New Smyrna Beach Station's operations were prepared using the Altos North American Regional Electricity Model and the Altos North American Regional Gas Model developed by Altos Management Partners, Inc., an economic and management consulting firm with offices in San Jose, California and Dallas, Texas. The Altos North American Regional Electricity Model is a 32-region integrated model of the North American electricity system that includes generation, transmission, consumption, fuels, and fuel competition. The Altos Electric Model includes all of the generation regions, all of the existing and prospective transmission interconnections, and all of the demand regions of North America. Generally speaking, the Altos Model includes all of the reliability coordinating regions in the U.S., Canada, and Mexico, plus numerous sub-regions. For example, the model treats the Southern Electric Reliability Council region ("SERC") as four separate sub-regions: the Southern Company system, TVA, VCR (Virginia and the Carolinas), and Entergy, which was formerly designated as the southeastern component of the Southwestern Power Pool.

The Altos Electricity Model includes transmission system integration and interconnection, consideration of multiple fuels and energy products, existing capacity and its cost structure, future changes in the cost structure of existing plants,

retirements and decommissioning, new generation plant entry, inbound and outbound transmission capabilities, transmission entry, and demands and load shapes that vary over time within each region. In evaluating future capacity energy needs, the Altos Model considers the following generating technologies: gas/oil combustion turbine, gas combined cycle, oil combined cycle, pulverized coal, coal gasification combined cycle, nuclear, gas/oil steam, and waste-to-energy.

The North American Regional Gas Model (the "NARG Model") includes all gas supply basins, all existing and prospective interconnecting pipelines, and all of the gas demand regions of North American. In the NARG Model, each category of resource in each supply region is characterized by a detailed supply sub-model, each pipeline is characterized by a detailed transportation sub-model, and each demand region is characterized by a detailed demand sub-model. The NARG Model estimates, over time, the set of regional prices that simultaneously clear the markets in every wellhead, wholesale, and other market in North America.

Duke New Smyrna did not evaluate sensitivities based on assumed variations in fuel costs or economic activity. Because of the New Smyrna Beach Station's high efficiency and relatively low-cost position in the overall generation supply stack for Peninsular Florida, Duke New Smyrna believes that the Project's sales at the times of the summer and winter peaks (both the system peak experienced by Duke New Smyrna and the Peninsular

Florida coincident system peak) will be at the Project's full rated output, i.e., 476 MW at the time of the summer peak and 548 MW at the time of the winter peak. Accordingly, Duke New Smyrna does not believe that such sensitivity analyses are necessary or warranted for the New Smyrna Beach Station.

Duke New Smyrna's long-term planning approach is to construct the New Smyrna Beach Station and to operate it as efficiently as possible, in order to be a long-term participant in the Peninsular Florida wholesale bulk power market. Duke New Smyrna generally assumes that other Peninsular Florida utilities will construct and acquire generation and transmission resources in accordance with their stated plans. The analyses developed using the North American Regional Electric Model and the NARG Model are based on appropriate assumptions regarding existing and future fuel costs, new generating capacity costs, and projected additions and retirements from the generation and transmission systems. Duke New Smyrna plans to operate the Station reliably and cost-effectively and to make mutually cost-effective sales to other Peninsular Florida utilities.



## CHAPTER 5

### FORECAST OF FACILITIES REQUIREMENTS

Pursuant to the Participation Agreement between Duke New Smyrna and the Utilities Commission, City of New Smyrna Beach, and pursuant to a formal power sales agreement, Duke New Smyrna will be obligated to deliver 30 MW of firm capacity and associated energy to the UCNSB. Duke New Smyrna also anticipates making wholesale sales (sales for resale) to other electric utilities in Peninsular Florida. To deliver the committed capacity to the UCNSB and to make its other wholesale power sales, Duke New Smyrna plans to construct the New Smyrna Beach Station.

#### Description of New Smyrna Beach Station

The New Smyrna Beach Station will be a natural gas fired, combined cycle electrical power plant. The Project will consist of two advanced technology combustion turbine generators ("CTGs") (GE Frame 7FA or equivalent) with two matched heat recovery steam generators ("HRSGs"). Steam from both HRSGs will feed into one steam turbine generator ("STG"). The total electrical output of the plant will be 514 MW at ISO temperature and humidity conditions. Additional information regarding the Project's characteristics and specifications is presented in Schedule 9.

#### Description of Directly Associated Transmission Facilities

Two additional transmission circuits are planned to accommodate power deliveries from the New Smyrna Beach Station to

other utilities in Peninsular Florida: (1) a second 115 kV circuit between the Smyrna Substation and the Cassadaga Substation, and (3) a new 7.5-mile 115 kV circuit from the Cassadaga Substation to the Lake Helen Substation.

The existing transmission lines in the region of the New Smyrna Beach Station are depicted in Figure 1. The proposed additional circuits would run between the Smyrna Substation and the Cassadaga Substation, and between the Cassadaga Substation and the Lake Helen Substation. Schedule 10 presents a status report and specifications of the proposed additional transmission facilities associated with the New Smyrna Beach Station.

Duke New Smyrna and the Utilities Commission, City of New Smyrna Beach commissioned transmission power flow studies that simulated the power flows that would result from sales from the Project to other key utilities in Peninsular Florida. These power flow studies utilized standard transmission modeling techniques and assumptions. Basically, these power flow studies compared the simulated operations of the Peninsular Florida transmission system without the New Smyrna Beach Station in operation and with the Station operating and delivering power to FPL, FPC, TECO, Jacksonville Electric Authority ("JEA"), and Seminole Electric Cooperative ("Seminole"). These studies confirmed that under normal operating conditions, i.e., with no significant transmission line or generator outages, the Florida transmission system can accommodate delivery of 500 MW of power from the New Smyrna Beach Station to FPL, FPC, TECO, JEA, or

Seminole without causing any adverse effects on the transmission system.

**Description of Gas Supply Arrangements and Facilities**

Pursuant to a long-term gas supply contract entered into by Citrus Trading Corp. ("Citrus") and Duke Energy Power Services, L.L.C. (the developer of the New Smyrna Beach Station and Duke New Smyrna's agent for purposes of the subject gas contract), Citrus will provide firm delivered gas supply to the Station for an initial term of 20 years beginning on the Station's commercial in-service date. After the initial 20-year term, the gas supply contract is renewable from year to year. If the contract is terminated, Duke Energy Power Services has the right to acquire Citrus's gas transportation capacity on the Florida Gas Transmission Company ("FGT") system.

Gas will be delivered to the Station by a 16-inch lateral pipeline approximately 42 miles in length. This line will run from a point on FGT's existing main gas pipeline near Mt. Plymouth, in Lake County, Florida, through Lake County, Seminole County, and Volusia County to the Station. At this time, Duke New Smyrna understands that Citrus either has the necessary capacity to fulfill its firm delivered gas supply commitment to Duke New Smyrna, or that it will acquire sufficient new capacity in FGT's Phase IV expansion.

**Status of Site Certification Application**

Duke New Smyrna and the UCNSB have filed a complete site certification application with the Florida Department of

Environmental Protection and a complete need determination application and petition with the Florida Public Service Commission. The land use hearing was held on January 27, 1999, and a favorable recommended order on land use issues was published by the Administrative Law Judge on March 16, 1999. The FPSC issued its Order Determining Need for an Electrical Power Plant on March 22, 1999. The site certification hearing is scheduled for the week of May 24-28, 1999, and final approval of the site certification application is expected by early October, 1999.

## CHAPTER 6

### ENVIRONMENTAL AND LAND USE INFORMATION

This chapter provides a brief description of the site of the New Smyrna Beach Station, plus discussions of land and environmental features of the site, water supply for the Project, and projected air and noise emissions from the Project.

#### Site Description

The site of the New Smyrna Beach Station is located in eastern Volusia County, approximately 5 miles west of downtown New Smyrna Beach. (See Figure 2.) The site consists of approximately 30.5 acres that lie northwest of the intersection of State Road 44 and Interstate Highway 95, as shown in Figure 3. Figure 3 also shows the site of a new wastewater treatment plant currently being constructed by the UCNSB. The Project site includes the existing Smyrna Substation of the UCNSB and is adjacent to a 115 kV transmission line corridor; both Florida Power & Light Company and Florida Power Corporation operate 115 kV lines that connect to the Smyrna Substation.

The site is primarily rural and undeveloped in nature. The UCNSB's new wastewater treatment plant is adjacent to the northeast of the Project site. To the east of the site lie I-95 and an inactive borrow pit. To the south is SR 44 and a service station. To the west is undeveloped land.

### Land and Environmental Features

The site has been annexed into the City of New Smyrna Beach. Consistent with the Volusia County comprehensive plan, the site has been rezoned by the City as an Industrial-Planned Unit Development in the Southeast Activity Center. This zoning authorizes the construction and operation of an electrical power plant on the site.

Agricultural land uses dominate the site region with some low-density residential development located to the east of I-95. The site is compatible with the nature of surrounding land uses, which include a utility substation, electric transmission lines, the UCNSB's wastewater treatment plant (under construction), and transportation corridors. The nearest commercial development is a gasoline service station located at the intersection of State Road 44 and Interstate 95, approximately 1/2 mile from the proposed power plant. There are no other businesses located near the site. The nearest residence is more than 3,000 feet east of the site, on the opposite side (i.e., the east side) of I-95. There are no sensitive human receptors, such as hospitals or schools, near the site. There are no sensitive natural resources, scenic or cultural lands, or archaeological or historic resources on the site. The nearest significant environmental resources are (a) the Indian River, approximately 5 miles to the east; (b) Spruce Creek, approximately 4 to 5 miles away; and (c) a wildlife corridor, approximately 3/4 miles to the west.

### Water Supply

Most of the New Smyrna Beach Station's water use requirements will be supplied by treated effluent from the UCNSB's wastewater treatment plant being constructed adjacent to the site. Duke New Smyrna is presently considering various alternatives for the balance of the Project's water use requirements, including (1) procurement of additional reuse water (effluent) from other municipal wastewater treatment systems in Volusia County and (2) other groundwater sources, both on-site and off-site. Productive zones in the Upper Floridan aquifer are capable of producing significant quantities of groundwater that are sufficient to meet the Project's requirements. Water treatment will be necessary prior to use; More pretreatment will be required for the reuse water than for groundwater.

The site is within the jurisdiction of the St. John's River Water Management District. The Project's storm water management systems will be designed and constructed to meet the District's water quality and water quantity regulations.

### Air and Noise Emissions

With its state-of-the-art combined cycle technology and natural gas fuel, the New Smyrna Beach Station is projected to have relatively low air emissions. Estimates of the Project's air emissions are presented in Table 1.

Volusia County has a noise ordinance that limits noise produced in certain land use categories. Ambient noise monitoring indicated that ambient noise measured in the site

vicinity was within the limits established by the County's ordinance. Ambient noise in the site vicinity is generally low due to the site's relatively rural nature and the buffering effects of vegetation occurring in the site vicinity. No residences are located within 3,000 feet of the site.

Anthropogenic noise sources in the vicinity currently include traffic on SR 44 and I-95, farm equipment, and, infrequently, aircraft overhead. Natural noises come from wind, rain, insects, and birds. The Project will not result in any violations of the County's noise ordinance or any other applicable noise regulations.



Schedule 1  
Existing Generating Facilities  
As of December 31, 1998

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
<u>Plant Name</u>	<u>Unit No.</u>	<u>Location</u>	<u>Unit Type</u>	<u>Fuel</u> <u>Pri</u>	<u>Alt</u>	<u>Fuel Transport</u> <u>Pri</u>	<u>Alt</u>	<u>Alt Fuel Days</u> <u>Use</u>	<u>Commercial</u> <u>In-Service</u> <u>Month/Year</u>	<u>Expected</u> <u>Retirement</u> <u>Month/Year</u>	<u>Gen. Max</u> <u>Nameplate</u> <u>KW</u>	<u>Net Capability</u> <u>Summer</u> <u>Winter</u> <u>MW</u> <u>MW</u>	

NONE

Schedule 2.1  
History and Forecast of Energy Consumption and  
Number of Customers by Customer Class

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
<u>Year</u>	<u>Population</u>	<u>Members per Household</u>	<b>Rural and Residential</b> <u>GWH</u>	<u>Average No. of Customers</u>	<u>Average KWH Consumption Per Customer</u>	<b>Commercial</b> <u>GWH</u>	<u>Average No. Of Customers</u>	<u>Average KWH Consumption Per Customer</u>

**NOT APPLICABLE**

Schedule 2.2  
History and Forecast of Energy Consumption and  
Number of Customers by Customer Class

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<u>Year</u>	<u>GWH</u>	Industrial Average No. of <u>Customers</u>	Average KWH Consumption <u>Per Customer</u>	Railroads and Railways <u>GWH</u>	Street & Highway Lighting <u>GWH</u>	Other Sales to Public Authorities <u>GWH</u>	Total Sales to Ultimate Consumers <u>GWH</u>

NOT APPLICABLE

Schedule 2.3  
History and Forecast of Energy Consumption and  
Number of Customers by Customer Class

(1)	(2)	(3)	(4)	(5)	(6)
Year	Sales for Resale GWH	Utility Use & Losses GWH	Net Energy For Load GWH	Wholesale Customers (Average No.)	Total No. of Customers
2001	620	----	620*	8	8
2002	3,720	----	3,720	8	8
2003	3,769	----	3,769	8	8
2004	3,818	----	3,818	8	8
2005	3,862	----	3,862	8	8
2006	3,906	----	3,906	8	8
2007	3,952	----	3,906	8	8
2008	3,999	----	3,999	8	8

\*Estimated for November and December, 2001

Schedule 3.1  
History and Forecast of Summer Peak Demand  
Base Case

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Year	Total	Wholesale	Retail	Interruptible	Residential Load Management	Residential Conservation	Comm./Ind. Load Management	Comm./Inc. Conservation	Net Firm Demand
2001	N/A								
2002	476	476	0	0	0	0	0	0	476
2003	476	476	0	0	0	0	0	0	476
2004	476	476	0	0	0	0	0	0	476
2005	476	476	0	0	0	0	0	0	476
2006	476	476	0	0	0	0	0	0	476
2007	476	476	0	0	0	0	0	0	476
2008	476	476	0	0	0	0	0	0	476

Schedule 3.2  
History and Forecast of Winter Peak Demand  
Base Case

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Year	Total	Wholesale	Retail	Interruptible	Residential Load Management	Residential Conservation	Comm./Ind. Load Management	Comm./Ind. Conservation	Net Firm Demand
2001-02	548	548	0	0	0	0	0	0	548
2002-03	548	548	0	0	0	0	0	0	548
2003-04	548	548	0	0	0	0	0	0	548
2004-05	548	548	0	0	0	0	0	0	548
2005-06	548	548	0	0	0	0	0	0	548
2006-07	548	548	0	0	0	0	0	0	548
2007-08	548	548	0	0	0	0	0	0	548

Schedule 3.3  
History and Forecast of Annual Net Energy for Load - GWH  
Base Case

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Year	Total	Residential Conservation	Comm./Ind. Conservation	Retail	Wholesale	Utility Use & Losses	Net Energy For Load	Load** Factor %
2001	620*	0	0	0	620	N/A	620	77.5
2002	3,720	0	0	0	3,720	N/A	3,720	77.5
2003	3,769	0	0	0	3,769	N/A	3,729	78.5
2004	3,818	0	0	0	3,818	N/A	3,818	79.5
2005	3,862	0	0	0	3,862	N/A	3,862	80.5
2006	3,906	0	0	0	3,906	N/A	3,906	81.4
2007	3,952	0	0	0	3,952	N/A	3,952	82.3
2008	3,999	0	0	0	3,999	N/A	3,999	83.3

\*Estimated for November and December, 2001

\*\*Load factor calculations are based on projected annual peak demand of 548 MW.

Schedule 4  
 Previous Year and 2-Year Forecast of Retail Peak Demand and Net Energy for Load by Month

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Month	<b>Actual</b> Peak Demand MW	NEL GWH	<b>Forecast</b> Peak Demand MW	NEL GWH	<b>Forecast</b> Peak Demand MW	NEL GWH
January						
February	<b>NOT APPLICABLE</b>					
March						
April						
May						
June						
July						
August						
September						
October						
November						
December						



Schedule 5  
Fuel Requirements

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
				<u>Actual</u>	<u>Actual</u>								
	<u>Fuel Requirements</u>	<u>Units</u>				<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>
(1)	Nuclear	Trillion BTU											
(2)	Coal	1000 Ton											
(3)	Residual	Total 1000 BBL											
(4)		Steam 1000 BBL											
(5)		CC 1000 BBL											
(6)		CT 1000 BBL											
(7)		Diesel 1000 BBL											
(8)	Distillate	Total 1000 BBL											
(9)		Steam 1000 BBL											
(10)		CC 1000 BBL											
(11)		CT 1000 BBL											
(12)		Diesel 1000 BBL											
(13)	Natural Gas	Total 1000 MCF											
(14)		Steam 1000 MCF											
(15)		CC 1000 MCF*	N/A	N/A	4,093	24,556	24,879	25,202	25,493	25,783	26,087	26,397	
(16)		CT 1000 MCF											
(17)	Other (Specify)	Trillion BTU											

\*@1,035,000 Btu/MCF.

Schedule 6.1  
Energy Sources

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
				<u>Actual</u>	<u>Actual</u>								
	<u>Energy Sources</u>		<u>Units</u>			<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>
(1)	Annual Firm Interchange		GWH										
(2)	Nuclear		GWH										
(3)	Residual	Total	GWH										
(4)		Steam	GWH										
(5)		CC	GWH										
(6)		CT	GWH										
(7)		Diesel	GWH										
(8)	Distillate	Total	GWH										
(9)		Steam	GWH										
(10)		CC	GWH										
(11)		CT	GWH										
(12)		Diesel	GWH										
(13)	Natural Gas	Total	GWH										
(14)		Steam	GWH										
(15)		CC	GWH	N/A	N/A	620	3,720	3,769	3,818	3,862	3,906	3,952	3,999
(16)		CT	GWH										
(17)	Other (Specify)		GWH										
(18)	Net Energy For Load		GWH										

Schedule 6.2  
Energy Sources

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
				<u>Actual</u>	<u>Actual</u>								
	<u>Energy Sources</u>		<u>Units</u>	<u>_____</u>	<u>_____</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>
(1)	Annual Firm Interchange		%										
(2)	Nuclear		%										
(3)	Residual	Total	%										
(4)		Steam	%										
(5)		CC	%										
(6)		CT	%										
(7)		Diesel	%										
(8)	Distillate	Total	%										
(9)		Steam	%										
(10)		CC	%										
(11)		CT	%										
(12)		Diesel	%										
(13)	Natural Gas	Total	%										
(14)		Steam	%										
(15)		CC	%	N/A	N/A	100	100	100	100	100	100	100	100
(16)		CT	%										
(17)	Other (Specify)		%										
(18)	Net Energy For Load		%										

Schedule 7.1  
Forecast of Capacity, Demand, and Scheduled Maintenance at Time of Summer Peak

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Year	Total Installed Capacity MW	Firm Capacity Import MW	Firm Capacity Export MW	QF MW	Total Capacity Available MW	System Firm Summer Peak Demand MW	Scheduled Maintenance MW
2001	N/A						
2002	476	0	0	0	476	476	0
2003	476	0	0	0	476	476	0
2004	476	0	0	0	476	476	0
2005	476	0	0	0	476	476	0
2006	476	0	0	0	476	476	0
2007	476	0	0	0	476	476	0
2008	476	0	0	0	476	476	0

Schedule 7.2  
Forecast of Capacity, Demand, and Scheduled Maintenance at Time of Winter Peak

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Year	Total Installed Capacity MW	Firm Capacity Import MW	Firm Capacity Export MW	QF MW	Total Capacity Available MW	System Firm Summer Peak Demand MW	Scheduled Maintenance MW
2001-02	548	0	0	0	548	548	0
2002-03	548	0	0	0	548	548	0
2003-04	548	0	0	0	548	548	0
2004-05	548	0	0	0	548	548	0
2005-06	548	0	0	0	548	548	0
2006-07	548	0	0	0	548	548	0
2007 -08	548	0	0	0	548	548	0

Schedule 8  
Planned and Prospective Generating Facility Additions and Changes

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	
<u>Plant Name</u>	<u>Unit No.</u>	<u>Location</u>	<u>Unit Type</u>	<u>Pri.</u>	<u>Fuel</u>		<u>Fuel Transport</u>		<u>Const. Start Mo./Yr.</u>	<u>Commercial In-Service Mo./Yr.</u>	<u>Expected Retirement Mo./Yr.</u>	<u>Gen. Max Nameplate KW</u>	<u>Net Capability</u>		<u>Status</u>
					<u>Alt.</u>	<u>Pri.</u>	<u>Alt.</u>	<u>Summer MW</u>					<u>Winter MW</u>		
New Smyrna	1	Volusia Co.	CC	NG	---	PL	---	11/99	10/01	Unk	-----	476	548	PM	

CC = Combined Cycle  
 NG = Natural Gas  
 PL = Pipeline  
 UNK = Unknown  
 PM = In Permitting Process

SCHEDULE 9

**STATUS REPORT AND SPECIFICATIONS OF  
PROPOSED GENERATING FACILITIES**

Plant Name and Unit Number: New Smyrna Beach Station, Unit No. 1

Expected Plant Capacity:

a. Nominal rating:	500 MW
b. Annual average (71F°, 78%RH):	496 MW
c. Summer (84F°, 80%RH):	476 MW
d. Winter (15F°, 78%RH):	548 MW
e. ISO Temperature and Humidity (59F°, 60%RH):	514 MW

Projected Energy Production: Approximately 4,000,000 MWH/year

Technology Type: Two Advanced Firing Temperature Technology  
Combustion Turbines, Two Heat Recovery Steam  
Generators, and One Steam Turbine Generator in  
Combined Cycle Configuration

Anticipated Construction Schedule:

a. Project release date:	December 1999
b. Construction mobilization date:	May 2000
c. Commercial in-service date	October 2001

Fuel Type

a. Primary Fuel	Natural Gas
b. Alternate Fuel	None

Fuel Use: Approximately 85 Million Standard Cubic Feet  
of Natural Gas/day, annual average (71°F,  
78%RH), full load

Air Pollution Control Strategy: Low NOx Burners

Cooling Method: Cooling Tower

Total Site Area: 30.5 acres (approximate)

Construction Status: Planned

Certification Status: Need Determination granted; Site  
Certification Application filed October  
1998; land use recommended order pending;  
Site Certification hearing schedule for  
May 1999; Site Certification expected  
Fall 1999.

SCHEDULE 9

**STATUS REPORT AND SPECIFICATIONS OF  
PROPOSED GENERATING FACILITIES  
(CONTINUED)**

Status with Federal Agencies: EWG Status certified by FERC;  
market-based rates approved by FERC;  
federal environmental permit  
applications under preparation

Projected Unit Performance Data:

Planned Outage Factor (POF):	3 %
Forced Outage Factor (FOF):	1 %
Equivalent Availability Factor (EAF):	96 %
Resulting Capacity Factor(%):	75-92 % (first 10 years)
Average Net Operating Heat Rate (ANHOR):	6,832 Btu/kWh (HHV) (59F°, 60%RH)expected

Projected Unit Financial Data (per Duke Energy):

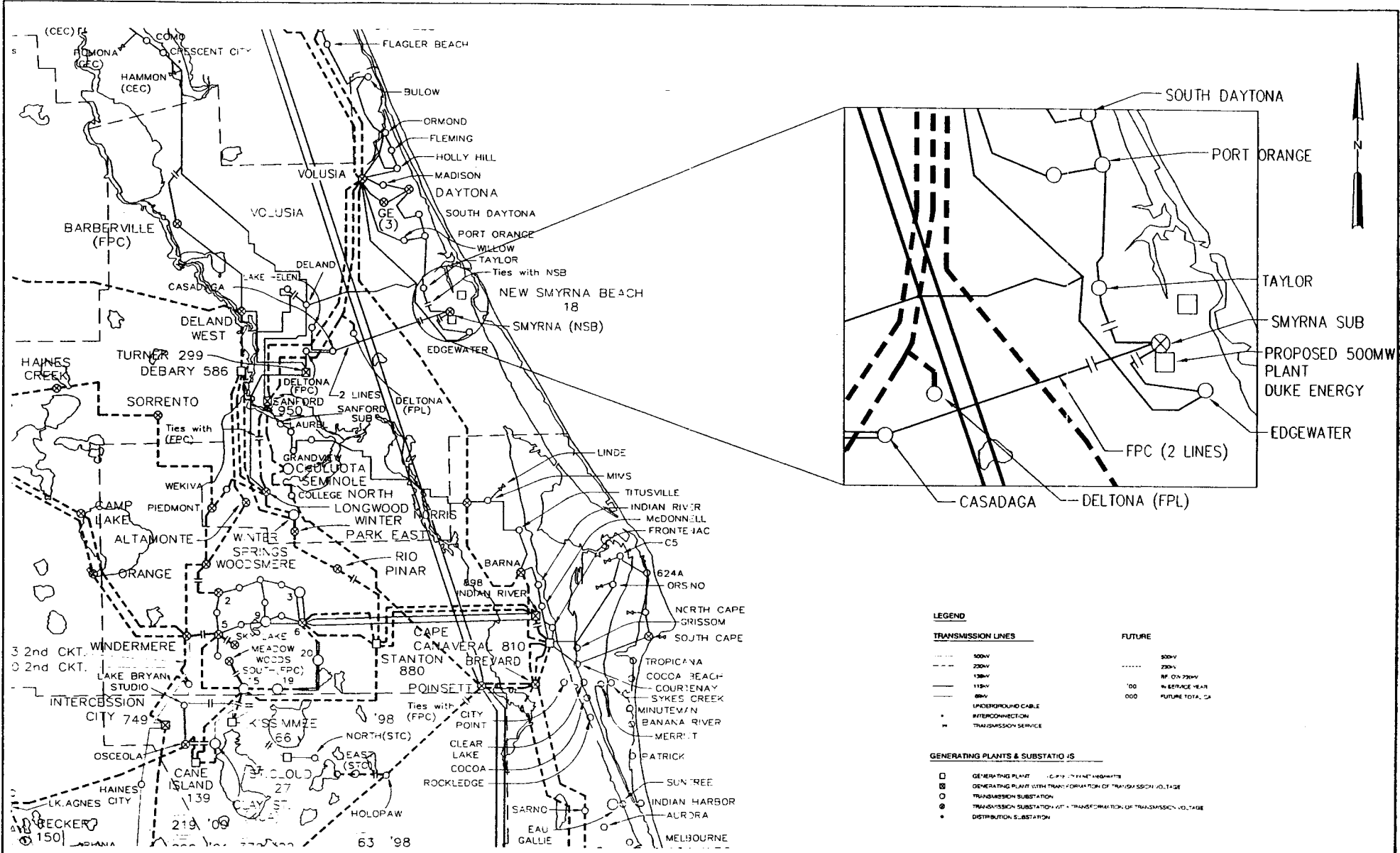
Book Life (years):	30 years
Direct Construction Cost (Actual):	\$160 Million
AFUDC Amount:	Not applicable
Escalation (\$/kW):	Not applicable
Fixed O&M (\$/kW per year):	\$11.29 (est.)
Variable O&M (\$/MWH):	\$ 0.50 (est.)
K-Factor:	Not applicable
Project Life:	30 years



Schedule 10  
 Status Report and Specifications of Proposed Directly Associated Transmission Lines

(1)	Point of Origin and Termination:	Smyrna-Casadaga	Cassadaga-Lake Helen
(2)	Number of Lines:	3	3
(3)	Right-of-Way:	Existing transmission corridor	3.5 miles existing corridors 4.0 miles new corridor
(4)	Line Length:	18 miles	7.5 miles
(5)	Voltage:	115 kv	115 kv
(6)	Anticipated Construction Timing:	Completed by 6/2001	Completed by 6/2001
(7)	Anticipated Capital Investment:	\$6.7 Million*	*
(8)	Substations	Smyrna upgrade	-
(9)	Participation with Other Utilities	UCNSB	UCNSB
(10)	Status	Planned	Planned

**\* Includes total estimated capital cost for both the Smyrna-Cassadaga and Cassadaga-Lake Helen lines, and for the planned Smyrna Substation upgrades.**



DATE OF FILE IMPROVEMENT FILE WORKING

3 2nd CKT.  
0 2nd CKT.

DESIGNED	LARRY JAMES
DRAWN	
CHECKED	

FRANK ALONSO	P.E.
38091	

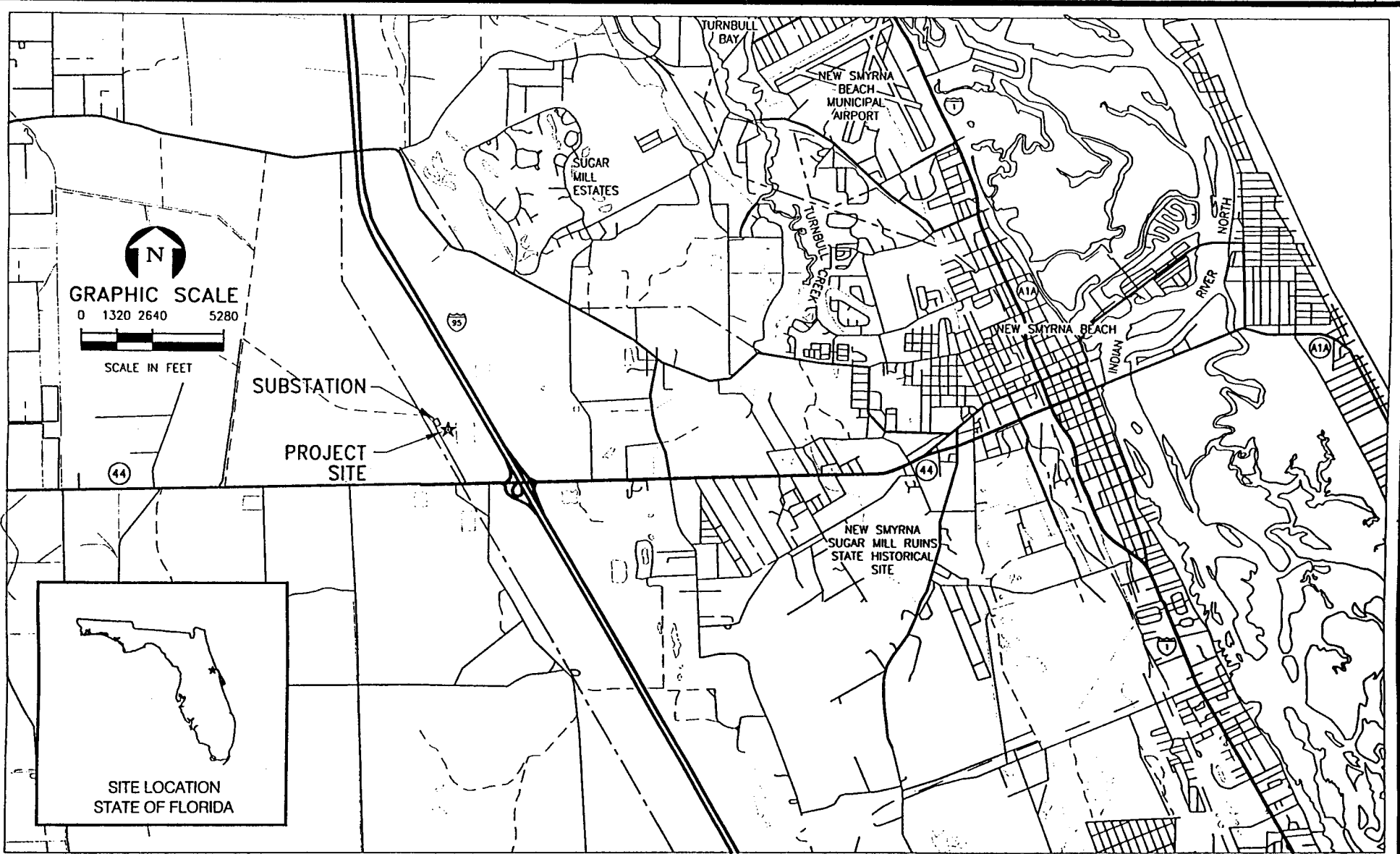
**RMI**  
Resource Management  
International, Inc.

SCALE	NONE
CAD REF	105 TRANSMISSION FILE MAP
PROJ NO.	8513.02

DUKE ENERGY POWER SERVICES

FIGURE 1  
NEW SMYRNA BEACH POWER PROJECT

DATE	AUGUST 1998
SHEET	1 OF 1

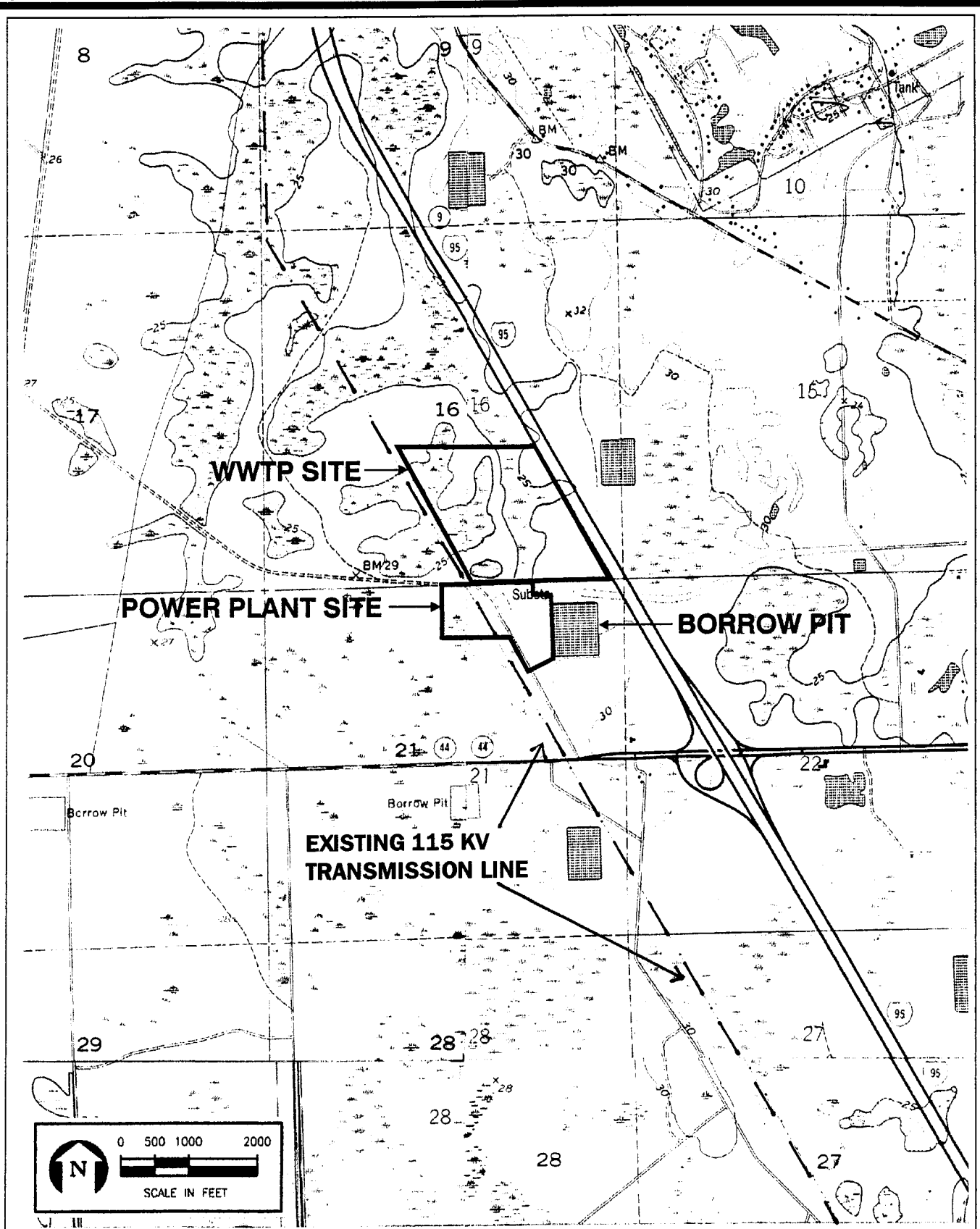


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**FIGURE 2**  
**NEW SMYRNA BEACH POWER PROJECT SITE LOCATION**

Source: USGS Quods: New Smyrna Beach, FL, 1993; Edgewater, FL, 1970; Somsula, FL, 1993; Lake Ashby, FL, 1988.





**FIGURE 3**  
**PROJECT SITE LOCATION AND SURROUNDINGS**

Source: USGS Quads: New Smyrna Beach, FL, 1993; Edgewater, FL, 1970; Samsula, FL, 1993; Lake Ashby, FL, 1988.

**ECT**  
Environmental Consulting & Technology, Inc.

**TABLE 1**  
 Estimated Plant Performance and Emissions Data  
 2 x 1 Combined Cycle Plant  
 Two General Electric Model PG7241(FA) Combustion Turbine Generators  
 Two Unfired Heat Recovery Steam Generators  
 One Reheat Condensing Steam Turbine Generator

Combustion turbine load	100%	100%	100%	100%	75%	75%	75%	75%	50%	50%	50%	50%
Ambient temperature (°F)	84	71	59	15	84	71	59	15	84	71	59	15
Relative humidity	80%	78%	60%	78%	80%	78%	60%	78%	80%	78%	60%	78%
Net plant power output (kW)	476,273	496,303	514,328	548,041	384,705	400,592	415,310	438,015	283,468	295,527	309,021	324,276
Net CTG power output (kW)	303,827	318,037	333,072	364,908	229,772	240,897	252,040	273,783	153,365	160,680	167,862	182,095
Net STG power output (kW)	172,446	178,266	181,256	183,133	154,933	159,695	163,270	164,232	130,103	134,847	141,159	142,181
Net plant heat rate, LHV basis (btu/kWh)	6,265	6,217	6,211	6,263	6,532	6,446	6,439	6,417	7,017	6,896	6,907	6,852
Net plant heat rate, HHV basis (btu/kWh)	6,892	6,839	6,832	6,889	7,185	7,091	7,083	7,059	7,719	7,586	7,598	7,537
Net CTG heat rate, LHV basis (btu/kWh)	9,820	9,701	9,591	9,406	10,937	10,719	10,610	10,266	12,970	12,684	12,715	12,203
Net CTG heat rate, HHV basis (btu/kWh)	10,802	10,671	10,550	10,347	12,031	11,791	11,671	11,293	14,267	13,953	13,987	13,423
CTG fuel flow rate (lb/h) - total for two CTGs	142,767	147,634	152,853	164,236	120,247	123,559	127,951	134,495	95,179	97,521	102,129	106,323
CTG heat input, LHV basis (mmbtu/h) - total for two CTGs	2,984	3,085	3,194	3,432	2,513	2,582	2,674	2,811	1,989	2,038	2,134	2,222
CTG exhaust gas flow (lb/h) - total for two CTGs	6,690,340	6,916,800	7,139,660	7,622,280	5,654,260	5,758,760	5,948,460	6,051,540	4,761,600	4,819,320	5,023,200	5,043,300
CTG exhaust gas composition (by volume)												
- Nitrogen + argon	73.64%	74.50%	75.17%	75.93%	73.65%	74.49%	75.16%	75.83%	73.80%	74.65%	75.31%	75.99%
- Oxygen	12.25%	12.45%	12.58%	12.70%	12.27%	12.40%	12.54%	12.45%	12.75%	12.86%	12.98%	12.88%
- Carbon dioxide	3.66%	3.68%	3.70%	3.74%	3.65%	3.70%	3.72%	3.86%	3.44%	3.49%	3.52%	3.66%
- Water	10.45%	9.37%	8.55%	7.63%	10.43%	9.41%	8.58%	7.86%	10.01%	9.00%	8.19%	7.47%
NOx as NO2 (lb/h) - 12 ppmvd @15% O2 - total for two stacks	144	149	154	166	121	125	129	135	95.8	98.2	103	107
CO (lb/h) - 12 ppmvd - total for two stacks	71.5	74.5	77.4	83.1	60.4	62.0	64.4	65.9	51.1	52.1	54.6	55.1
UHC as CH4 (lb/h) - 7 ppmvw - total for two stacks	26.6	27.4	28.2	30.0	22.5	22.8	23.5	23.8	18.9	19.1	19.8	19.8
VOC as CH4 (lb/h) - 1.4 ppmvw - total for two stacks	5.32	5.48	5.64	6.00	4.50	4.56	4.70	4.76	3.78	3.82	3.96	3.97
SOx as SO2 (lb/h) - total for two stacks	18.1	18.7	19.3	20.8	15.2	15.6	16.2	17.0	12.0	12.3	12.9	13.4
Particulates (lb/h) - total for two stacks	18	18	18	18	18	18	18	18	18	18	18	18
Stack velocity (ft/s) - based on a 19 ft. diameter stack	55.5	56.9	58.2	61.8	46.0	46.3	47.5	47.8	38.1	38.1	39.3	39.1
Stack temperature (°F)	193	190	187	185	181	176	173	168	171	166	161	157

NOTES:

1) SOx emissions are based on firing pipeline quality natural gas with a maximum sulfur content of 2 grains/100 scf.