ORIGINAL

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

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

DOCKET NO. 981042-EM

FILED: SEPT. 28, 1998

DIRECT TESTIMONY

OF

MARK LOCASCIO, P.E.

ON BEHALF OF

THE UTILITIES COMMISSION OF NEW SMYRNA BEACH, FLORIDA

AND

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

DOCUMENT NUMBER-DATE
13678 DEC-4 98
FPSC-RECORDS/REPORTING

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

DIRECT TESTIMONY OF MARK LOCASCIO, P.E.

Q: Please state your name and business address.

A: My name is Mark Locascio, and my business address is Duke/Fluor Daniel, One Fluor Daniel Drive, Sugar Land, Texas 77478.

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

A: I am employed by Fluor Daniel as Manager of Engineering of the Houston Duke/Fluor Daniel ("D/FD") office.

Q: Please describe your duties with Duke/Fluor Daniel.

A: I am responsible for supervision and management of all aspects of the engineering group within D/FD's Houston office.

QUALIFICATIONS AND EXPERIENCE

Q: Please summarize your educational background and experience.

A: I have a Bachelor of Science in Engineering degree from Harvey Mudd College (one of the Claremont colleges) in Claremont, California. I also have a Master of Engineering degree in Chemical Engineering from Carnegie-Mellon University, and a Master of Business Administration degree from the University of California at Irvine.

Q: What is your experience in power plant engineering, construction, operations, permitting, and licensing?

A: I have 19 years of experience in the electric power industry, working as a process engineer, mechanical engineer, field engineer, project controls engineer, estimating project engineer, project manager, and engineering manager. Exhibit ____ (ML-1) is my current resume'.

Q: Are you a registered professional engineer?

A: Yes. I am a registered professional engineer in Mechanical Engineering in the State of California.

SUMMARY AND PURPOSE OF TESTIMONY

Q: What is the purpose of your testimony?

A: I am testifying on behalf of the Utilities Commission of New Smyrna Beach, Florida ("UCNSB"), and Duke Energy New Smyrna Beach Power Company Ltd., L.L.P. ("Duke New Smyrna"), the joint applicants for the Commission's determination of need for the New Smyrna Beach Power Project (or "the Project"). My testimony describes D/FD, the New Smyrna Beach Power Project, and the power plant itself. My testimony also describes the performance characteristics and environmental profile of the Project, and presents the engineering, procurement, and construction schedule for the Project.

Q: What are your responsibilities with respect to the New Smyrna Beach Power Project that is the subject of this proceeding?

A: Duke/Fluor Daniel is the engineering, procurement, and construction ("EPC") contractor for the New Smyrna Beach Power Project. I am the engineering manager overseeing the preliminary engineering effort and permit support activities associated with the Project. D/FD's Operations and Maintenance ("O&M") Division will also be the operating and maintenance contractor for the Project.

Q: Please summarize your testimony.

A: The New Smyrna Beach Power Project includes a state-of-the-art 500 MW (nominal) combined cycle power plant using advanced firing temperature combustion turbine technology and the electrical interconnection facilities that will connect the power plant to the Smyrna Substation of the UCNSB. The Project features high thermal efficiency (a heat rate of approximately 6,832 Btu per kWh on an HHV basis, ISO temperature and relative humidity) and low emissions.

DIRECT TESTIMONY OF MARK LOCASCIO, P.E.

Q: Are you sponsoring any exhibits to your testimony?

A: Yes. I am sponsoring the following exhibits.

ML-1. Current resume' of Mark Locascio.
ML-2. New Smyrna Beach Power Project, Project Profile.
ML-3. New Smyrna Beach Power Project Site Plan.
ML-4. New Smyrna Beach Power Project, Proposed Plot Plan.
ML-5. CAD Renderings of the power plant and site layout.
ML-6. Estimated Plant Performance and Emissions.
ML-7. New Smyrna Beach Power Project, Process Flow Diagram.
ML-8. Summary of the Design Basis for the Project.
ML-9. Generation Alternatives Considered for the Project.
ML-10. Preliminary Water Balances for the Project.
ML-11. EPC Schedule for the Project.

I am also sponsoring Tables 1, 2, and 15 and Figures 4, 5, 6, 7, 9, 10, 11, and 14 in the Exhibits filed on August 19, 1998, and the text that accompanies those exhibits.

DUKE/FLUOR DANIEL AND THE NEW SMYRNA BEACH PROJECT

Q: Please describe Duke/Fluor Daniel and its business.

A: Duke/Fluor Daniel is a legal partnership that provides comprehensive engineering services for the electric power industry. Duke/Fluor Daniel provides power plant engineering, power plant construction, and operating and maintenance services. D/FD also provides comprehensive engineering, procurement, and construction ("EPC") services for new and refurbished power plant projects. The partners of Duke/Fluor Daniel are Duke Project Services, Inc. and FD Illinois, Inc.

Q: Please describe D/FD's role with respect to the New Smyrna Beach Power Project.

A: Duke/Fluor Daniel is the EPC contractor for the New Smyrna Beach Power Project. In this role, D/FD will be responsible for permit support, engineering, design, construction, procurement, and startup of the Project. Duke/Fluor Daniel will also be the operating and maintenance contractor for the New Smyrna Beach Power Project. In this role, under contract to Duke Energy New Smyrna Beach Power Company, Ltd., L.L.P., D/FD will maintain and operate the Project in accord with the terms of that contract.

Q: With what similar projects has Duke/Fluor Daniel been involved, and in what capacity?

A: At the present time, Duke/Fluor Daniel is providing engineering services for the Bridgeport Energy Project, a 520 MW gas-fired combined cycle unit being constructed by Duke Energy Power Services in Bridgeport, Connecticut. D/FD is also providing EPC services for OxyChem Corporation's Corpus Christi, Texas power generation project, as well as other projects.

Duke/Fluor Daniel is also the operating and maintenance contractor for the Bridgeport Energy Project, which recently began delivering power to wholesale customers, operating in simple cycle mode. D/FD operates and maintains more than 2,000 MW of electric generation facilities worldwide.

PROJECT DESCRIPTION AND ENGINEERING DESIGN

Q: Please summarize the New Smyrna Beach Power Project.

A: The New Smyrna Beach Power Project will include a 500 MW (nominal) natural gas fired combined cycle generating plant and the transmission facilities connecting the power plant to the Florida transmission grid at the Smyrna Substation of the UCNSB. Exhibit ______ (ML-2) presents a profile of the Project.

Q: Please give a brief description of the site for the New Smyrna Beach Power Project.

A: The site for the Project consists of approximately 30.5 acres located to the northwest of the intersection of Interstate Highway 95 and State Road 44 in New Smyrna Beach, in Volusia County. A detailed description of the Project site is presented in the testimony and exhibits of Mr. Jeffrey L. Meling, P.E. in support of the Project.

Q: Please describe the general arrangement and layout of the Project on the site.

A: The general arrangement of the Project is shown on the Site Plan at Exhibit ____ (ML-3). Exhibit ____ (ML-4) shows a detailed layout of the main Project structures on the site, and Exhibit ____ (ML-5) presents CAD ("computer-assisted design") drawings of the power plant.

Q: Please describe the generating technology of the New Smyrna Beach Power Project.

A: The New Smyrna Beach Power Project will include a 500 MW (nominal) combined cycle generating plant, including two advanced firing temperature technology ("F" series) combustion turbine generators ("CTGs"), two heat recovery steam generators ("HRSGs"), and one steam turbine generator ("STG").

Q: Please summarize the performance characteristics of the New Smyrna Beach Power Project.

A: The heat rate for the generating plant at ISO temperature and humidity conditions (59°F. and 60% RH) is projected to be 6,832 Btu per kWh, reflecting a primary fuel efficiency of approximately 50 percent based on the Higher Heating Value ("HHV") of natural gas. Results of the Project's estimated heat balances are shown on the Estimated Plant

Performance and Emissions Data table, Exhibit ____ (ML-6).

Q: Please summarize the process flow of the Project.

A: The process flow of the Project is depicted on Exhibit ____ (ML-7).

Q: Please summarize the design basis for the Project.

A: The design basis for the Project is summarized in Exhibit ____ (ML-8).

GENERATION ALTERNATIVES CONSIDERED

Q: Please summarize the generation technologies and configurations that were considered for the Project.

A: Duke/Fluor Daniel considered both "one-on-one" and "two-on-one" combined cycle configurations for the Project. (A one-on-one combined cycle unit has one CTG, one HRSG, and one STG; a two-on-one unit has two CTGs, two HRSGs, and one STG.) The two-on-one design was selected for the Project because it affords significant economies of scale as compared to smaller one-on-one designs. Part II of Exhibit __ (ML-9) summarizes the alternatives that D/FD considered.

Duke Energy Power Services and D/FD considered proposals from four vendors, including General Electric, Siemens, Westinghouse, and ASEA Brown-Boveri ("ABB"). DEPS and D/FD selected General Electric as the vendor for the

CTGs and the STG, and ABB as the vendor for the HRSGs. As a result, Duke Energy Global Asset Development has entered into letters of intent with the suppliers of the CTGs, HRSGs, and STG.

ENVIRONMENTAL PROFILE

Q: Please summarize the environmental profile of the New Smyrna Beach Power Project.

A: The Project will be fueled by natural gas. It will utilize dry low-NOx combustors for nitrogen oxides emissions control. The Project's emissions of critical pollutants are projected to be approximately as follows (on an annual average basis, 71°F., 78% relative humidity):

Sulfur Dioxide	negligible, less than 20 lbs. per hour (less than 88 Tons per year)
Nitrogen Oxides	12 parts per million dry volume, or 149 lbs. per hour (650 Tons per year)
Particulate Matter	18 lbs. per hour (80 Tons per year)
Carbon Monoxide	12 parts per million dry volume

Q: Please summarize the projected water requirements and water supply plan for the New Smyrna Beach Power Project.

A: At full load, the Project will require approximately 3.8 million gallons of water per day, calculated on an annual average basis. Approximately one-half of the Project's makeup water, or approximately 2.0 million gallons per day, will be reuse water from the wastewater treatment plant of the Utilities Commission, City of New Smyrna Beach. It is expected that the amount of reuse water available for use by the Project will increase over time. The remainder of the makeup water will be obtained from groundwater sources, either on-site or off-site or a combination of both. Discharge from the power plant will be returned to the wastewater treatment plant for processing for reuse in the power plant. Preliminary water balances for the Project are shown in Exhibit ____ (ML-10).

PROJECT SCHEDULE

Q: Please describe the engineering, procurement, and construction schedule for the Project.

A: The engineering, procurement, and construction schedule (the "EPC schedule") for the Project, Exhibit ____ (ML-11) provides for the Project to be designed and brought into commercial service -- i.e., "on-line" -- by October, 2001. Engineering design has already begun. The project schedule is approximately 23 months from project release to commercial operation.

DIRECT TESTIMONY OF MARK LOCASCIO, P.E.

Q: What is the current status of the engineering design work for the New Smyrna Beach Power Project?

A: Conceptual engineering is complete. A site plan, plot plan, process flow diagram, electrical one-line diagram, water balance, capital cost estimate, and operation and maintenance estimate are also complete.

Q: Does this conclude your direct testimony?

A: Yes, it does.

PROFESSIONAL SUMMARY

MARK LOCASCIO

PRINCIPAL PROCESS/SPECIALTY ENGINEER

EDUCATION:

B.S., Engineering, Harvey Mudd College, Claremont, California
M.E., Chemical Engineering, Carnegie-Mellon University, Pittsburgh, Pennsylvania
M.B.A., University of California, Irvine, California

Registered Mechanical Engineer, California No. M21089

SUMMARY OF EXPERIENCE:

Professional Mechanical Engineer with over 20 years experience in the Power and Petroleum industries. Currently is the Manager of Engineering for Duke / Fluor Daniel's Power Department in the Houston office. Previously worked as Project Manager / Project Engineer on various combined cycle and cogeneration projects and studies. Has four years of experience in Project Controls as an estimator, scheduler and cost engineer on petroleum and waste incineration projects and studies. Spent 12 years as a Process / Mechanical Engineer on various power projects and studies. Experienced in power sales and marketing.

SIGNIFICANT EXPERIENCE:

<u>DUKE / FLUOR DANIEL</u> (1987 - Present)

MANAGER OF ENGINEERING

Duke / Fluor Daniel Office	Sugar Land, Texas

Responsible for Technical direction and supervision of the Power Systems Group in Duke / Fluor Daniel's Houston Office. Directly supervises all Power Discipline Engineers, Document Management and Information Services personnel for all power plant projects, studies and proposals. Interfaces with Clients for proposals and presentations; involved with sales and marketing activities for the Power Group.

PROJECT ENGINEER

Rabigh Steam Power Plant Extension, Stage IV	General Electric International Rabigh, Saudi Arabia

Project Engineer on a 385 MW combined cycle power plant utilizing 4 - GE Frame 7EA combustion turbines. Responsible for technical and commercial coordination with clientand progress reporting. Project Information Manager responsible for electronic communication, document storage and retrieval systems and database coordination.

PROJECT MANAGER

Entergy / Mobil Cogeneration Screening Study   Entergy and Mobil Oil Corp.
Beaumont, Texas

This study compared three technologies for performance and cost using a petroleum coke feed: combined cycle power plant, IGCC and fluidized bed boiler. As the Project Manager, in charge of engineering, estimating, cost control, and client interface: was intimately involved in writing of the final report.

Mindanao IGCC Power Plant   Falcon Seaboard,
Houston, Texas

This project created an unsolicited proposal to the Philippine government for the building and operation of an IGCC plant on Mindanao island. As the Project Manager, assembled the final document, performed client and vendor coordination, wrote sections of the report and was the engineering interface on all activities.

GE IGCC Performance/Cost Model Project   General Electric Co.
Schenectady, New York

The Integrated Gasification Combined Cycle (IGCC) Model Project created a user friendly, Windows driven software program that models the performance and cost of an IGCC plant. The model uses "user-entered" parameters to define the plant configuration, feedstock type and flowrate and plant cost variables such as plant location. The model outputs plant performance characteristics and cost information.

As the Project Manager, assembled the project team; defined the scope; interfaced with the client; wrote the Windows drivers and finalized the user's manual; and was responsible for contract, budget, schedule and scope compliance.

WEPCO Cogeneration Facility Project   Wisconsin Electric Power Company
Wisconsin

The WEPCO project analyzed various aspects of two configurations of gas turbine power plants: a one train GE frame 7FA with reheat in a combined cycle, and a two train GE frame 7EA in a combined cycle. Overall costs and schedule (Engineering and Construction), plant power, availability, operating costs and design options were evaluated and reported.

As the Project Manager, tasks included client liaison, discipline coordination and overseeing of the technical aspects of the project and cost and schedule responsibility. The Manager had the central responsibility of task completion, interface, technical completeness and issuing of the final report.

ICARUS Computer Simulation Project

Project Manager of the Project that analyzed the use of the ICARUS Computer Simulation program as a standard for Fluor Daniel estimating. Prepared the test procedures, developed funding needs, established acceptance criteria, final report preparation and management presentations.

Texaco - Mission Energy Cogeneration Study	Texaco, LAP Wilmington, California

Project Manager and Process Engineer for a study performing conceptual cogeneration plant configurations in the Texaco Wilmington Refinery. Produced various PFD's, equipment lists, cost estimates and process plant configurations evaluations.

SALES/MARKETING ASSISTANT

Power Operating Company's Sales and Marketing Assistant in charge of Power Marketing, creating and computerization of Power qualifications, presentations, proposal coordination and completion, information management, technology innovations, sales management, client and project management interface.

LEAD ESTIMATOR

Texaco Refinery Diesel System Upgrade	Texaco Oil Company Bakersfield, California

The Texaco Bakersfield Refinery made modifications to the diesel gas system, including the addition of new air coolers and vessels and the replacement of existing heat exchangers.

As the Lead Estimator, estimated the cost of the modifications (approximately $4 million), compiled the estimate and a draft schedule, and presented them to Texaco management. The Project was funded based on the results of the estimate.

Molten Metals Technology, Inc.	Various Locations

Lead Estimator for various proposals teaming with MMT using their proprietary waste incineration process.

PROJECT CONTROLS ENGINEER: COST ESTIMATOR, SCHEDULER

Shell Tabangao Refinery	Shell Oil Company Tabangao, Philippines

The Shell Tabangao Refinery is a 110,000 barrels/day grass roots refinery producing various weights of fuel. Project Controls Engineer assisting in trend estimating and resolution negotiation, and in charge of trend coordination; schedule tracking and updating; manpower and cost estimation; cash flow analysis; change order control..

LEAD PROCESS/MECHANICAL ENGINEER

Pittsfield Cogeneration Facility	Altresco, Inc. Pittsfield, Massachusetts

Pittsfield Cogeneration Facility is a 160 MW combined cycle plant which supplies process steam to a GE. facility in Pittsfield, Massachusetts. Three GE Frame 6 Gas Turbine Generators supply heat to 3 pressure level HRSG's to produce high pressure steam for a GE. steam turbine, intermediate pressure steam for NOx control of the GTG's and an integral deaerator; extraction from the steam turbine supplies the process steam. Power generated is sold to a utility.

Lead Process Engineer in charge of the process group. Responsible for generation of all process PFD's and P&ID's, equipment data sheets, heat and material balances and system descriptions. Wrote plant performance test procedures, evaluated Plant performance test.

Artesia Cogeneration Facility	O'Brien Energy Services
California Milk Producers	Philadelphia, Pennsylvania

Artesia Cogeneration Facility is a 37 MWe combined cycle plant producing intermediate pressure steam for process use and high pressure steam for power generation via a steam turbine-generator. Electricity produced is sold to SCE. A gas turbine, HRSG and steam turbine produces the power produced for sale.

Lead Process/Mechanical Engineer responsible for the process flow diagrams and process and instrumentation diagrams (P&ID) for this study. Computer modeling of the heat and mass balance. Coordination with vendors for equipment quotations, including bid review and economical comparison of different vendors. Client interface for plant design and plant requirements.

Mission-Texaco Screening Studies	Texaco, Bakersfield, California

Completed the cycle design and GTG Screening Study for various configurations of Cogeneration Plants for the Texaco Bakersfield refinery. The study included both on-site and off-site design. Interfaces were with the refinery for feedwater, fuel and power.

BECHTEL POWER CORPORATION (1979 - 1987)

NSSS/STG Lead Mechanical Engineer, Palo Verde Nuclear Generating Station (PVNGS), Arizona
NSSS Responsible Engineer, PVNGS
Mechanical Engineer, PVNGS
Mechanical Engineer, Rancho Seco Nuclear Generating Station, Sacramento, California
Field Engineer, Rancho Seco Nuclear Generating Station
Mechanical/Chemical/Process Engineer, Kuosheng Nuclear Project, Taiwan

Lead Mechanical Engineer for the Nuclear Steam Supply System/Turbine-Generator (NSSS/T-G) Group on the Palo Verde Nuclear Generating Station and responsible for over $400 million of contracts. As a Group Leader, supervised the NSSS/T-G group, assigned tasks to group members, interfaced with management for scheduling, budgeting, and manpower loading, and acted as the main client interface for NSSS/T-G related questions. Attended negotiating sessions with vendors as the client's representative and was responsible for resolving over $100 million NSSS/T-G related backcharges and claims. As the NSSS/T-G Group Leader, responsible for the adequacy of design and performance of all NSSS and T-G related systems. Central focus of all vendor, construction, and start-up activities for these systems.

Exhibit _____ (ML-1)

Previously, the Responsible Engineer for the NSSS contract ($250 million) with Combustion Engineering (C-E) on PVNGS. Served as the client's agent interfacing with C-E on engineering and contractual items. As the NSSS Responsible Engineer, involved in all aspects of NSSS systems. As a Mechanical Engineer on the Palo Verde project, prepared responses to Deficiency Evaluation Reports which were transmitted to the Nuclear Regulatory Commission.

Responsible Engineer in charge of the fire protection contract for the Rancho Seco Nuclear Generating Station. Coordinated activities between the field office and vendors and assisted in troubleshooting activities. A member of the team that updated the existing fire hazards analysis, which also included the addition of new structures for the Rancho Seco project.

At the Rancho Seco jobsite, a Mechanical Field Engineer coordinating activities between engineering and construction for various tasks. The liaison between the client and vendors on various modifications. Interfaced with start-up, operations, scheduling, and construction. Also wrote field purchase requests, dispositioned start-up field reports, analyzed vendor bids and assisted in system troubleshooting and system design.

In an earlier assignment, a Mechanical/Chemical Process Engineer on the Kuosheng Nuclear Project in Taiwan. Designed systems, wrote specifications, ordered equipment, and analyzed bids. Created P&ID's, sized and ordered equipment, coordinated vendor and field activities, and was the Responsible Engineer for several contracts including the $200 million GE-supplied NSSS contract. Assisted field start-up activities and system troubleshooting.

TRAINING:

Windows 3.1, cc:Mail, Lotus, Ami Pro

ASSOCIATIONS:

National Society of Professional Engineers

PUBLICATIONS:

"Advanced Computer Simulation and Modeling for Solving Single-Phase Hydraulic Problems", presented at Power-Gen, December, 1989

"Utilization of Air Blowing for Line Cleaning of Power Plants", presented at ASME Cogen-Turbo IV, August 1990

"Computer Modelling of an IGCC Plant - Performance and Cost", presented at Power-Gen '94 Americas, December, 1994

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Witness: Locascio
Exhibit _____ (ML-2)
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NEW SMYRNA BEACH POWER PROJECT
PROJECT PROFILE

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

Project 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 (71F, 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 application filed, anticipate filing Site Certification application Fall 1998

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

Exhibit _____ (ML-2)

TABLE 1

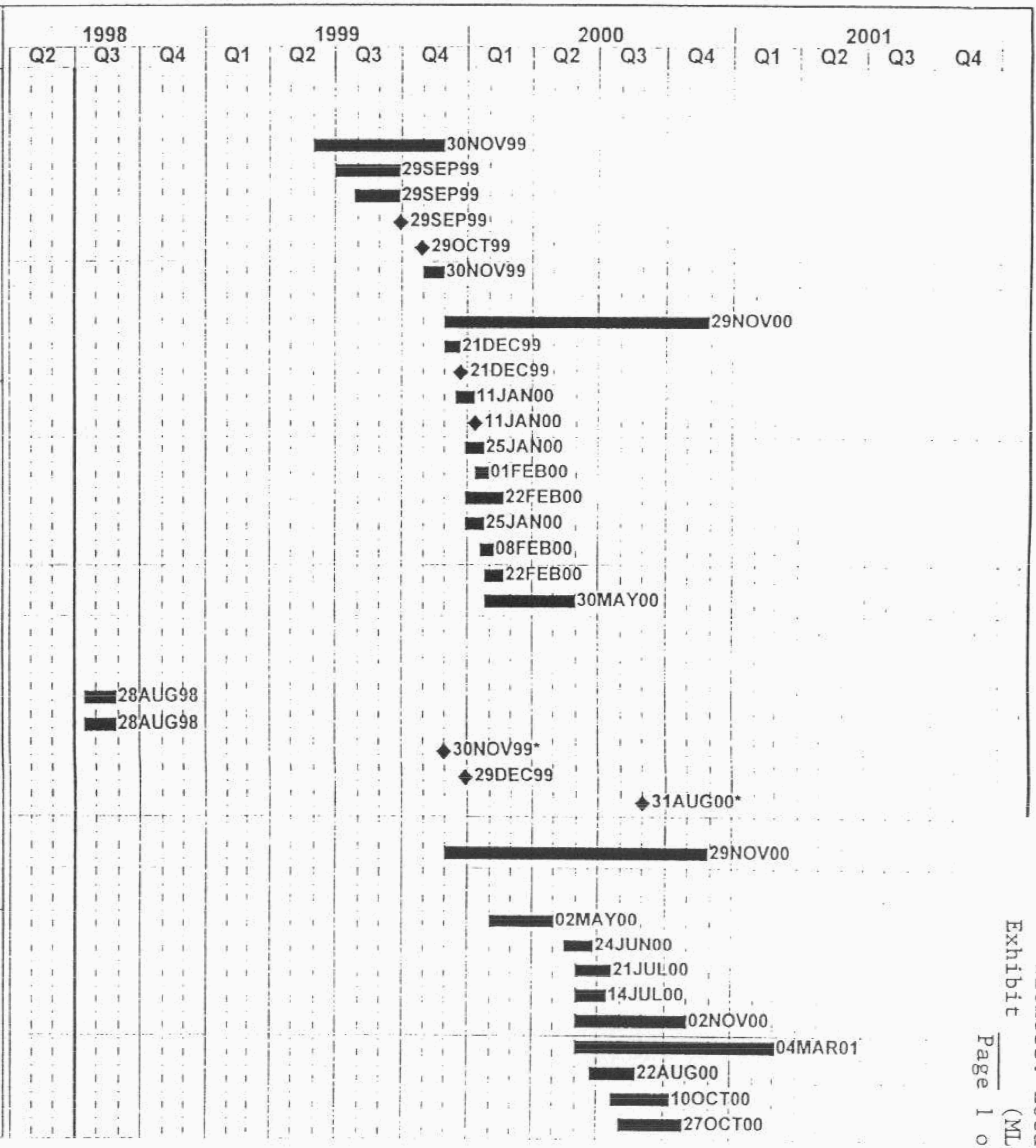
NEW SMYRNA BEACH POWER PROJECT
PROJECT PROFILE

(CONTINUED)

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) (59°F, 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 ($/kW per year):	Proprietary
Variable O&M ($/MWH):	Proprietary
K-Factor:	Not applicable
Project Life:	30 years

Expected Plant Air Emissions:	NOx: 12 ppmvd @15% O_2 CO: 12 ppmvd PM: 18 lbs./hour SO_2: 20 lbs./hour Uncombusted Hydrocarbons: 7 ppmvw
Transmission Lines Required:	Approx. 150 feet of 115 kV conductor from step-up transformer to bus at Smyrna Substation
Gas Pipeline Required: (per Duke Energy)	Approx. 42 miles of 16-inch (tentative size) lateral pipeline
Water Requirements:	Approx. 3.8 MGD, annual average (71°F, 78%RH), at full load
Wastewater Discharge:	Zero offsite discharge: wastewater returned to UCNSB treatment plant for reuse



Activity ID	Activity Description	
ENGINEERING		
PRELIMINARY ENGINEERING		
680	PRELIMINARY ENGINEERING	30NOV99
1000	PREPARE MAJOR EQUIPMENT SPECIFICATIONS	29SEP99
1010	PREPARE MAJOR EQUIPMENT RFQ	29SEP99
1020	ISSUE RFQ	◆29SEP99
1030	RECEIVE QUOTES	◆29OCT99
1040	MAJOR EQUIPMENT BID EVALUATIONS	30NOV99
DETAILED ENGINEERING		
690	DETAILED ENGINEERING	29NOV00
1050	REVIEW DESIGN BASIS	21DEC99
1060	ISSUE DESIGN BASIS FOR CLIENT REVIEW	◆21DEC99
1070	REVIEW HEAT & MATERIAL BALANCE	11JAN00
1080	ISSUE HEAT & MATERIAL BALANCE AFD	◆11JAN00
1090	DEVELOP MAJOR EQUIPMENT DATA SHEETS	25JAN00
1100	DEVELOP MECHANICAL EQUIPMENT LIST	01FEB00
1110	DEVELOP PIPING & INSTRUMENTATION DIAGRAMS	22FEB00
1120	DEVELOP WATER BALANCE	25JAN00
1130	DEVELOP BOP EQUIPMENT DATA SHEETS	08FEB00
1140	SIZE UG & CRITICAL AG LINES	22FEB00
1150	PLOT PLAN DEVELOPMENT	30MAY00
PROCUREMENT		
INITIAL PROCUREMENT		
700	GEOTECHNICAL INVESTIGATION CONTRACT	28AUG98
710	SITE AND TOPOGRAPHIC SURVEY CONTRACT	28AUG98
1160	AWARD CTG & STG	◆30NOV99*
1170	AWARD HRSG, CONDENSER, & MAIN TRANSFORMER	◆29DEC99
1175	AWARD COOLING TOWER	◆31AUG00*
PROCUREMENT		
730	DETAILED ENGINEERING PROCUREMENT	29NOV00
POWER PLANT CONSTRUCTION		
1195	WELL FIELD & DISTRIB. SYSTEM	02MAY00
1200	SITE MOBILIZATION	24JUN00
1210	IMPROVEMENTS TO ACCESS ROAD	21JUL00
1225	CLEAR & GRUB	14JUL00
1230	SITE PREPERATION (CUT & FILL)	02NOV00
1235	DEWATERING	04MAR01
1250	STORMWATER DETENTION & SEDIMENTATION	22AUG00
1270	UNDERGROUND PIPE	10OCT00
1280	UNDERGROUND ELECTRICAL	27OCT00

Project Start	30MAR98	▬	Early Bar
Project Finish	01OCT01	▬	Progress Bar
Data Date	01JUL98	▭	Critical Activity
Run Date	06AUG98		

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BEAC

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NEW SMYRNA BEACH POWER PROJECT
PROJECT SCHEDULE

DUKE/FLUOR DAN

FPSC Docket No. 981042-EM
UCNSB/Duke New Smyrna
Witness: Locascio
Exhibit ___ (ML-11)
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Activity ID	Activity Description	
POWER PLANT CONSTRUCTION		
1300	PILING	27OCT00
1310	ADMIN/WAREHOUSE & CONTROL ROOM	01FEB01
1320	CONCRETE	21FEB01
1330	PIPERACK ERECTION	17FEB01
1335	REUSE WATER SYSTEM TO PLANT	01APR00
1340	BOP MECHNICAL	22JUL01
1370	CTG 1 DELIVERY	◆01NOV00*
1380	CTG 1 INSTALLATION	13MAY01
1400	CTG 2 DELIVERY	◆01DEC00
1410	CTG 2 INSTALLATION	30MAY01
1420	HRSG 1 DELIVERY	18DEC00
1430	HRSG 2 DELIVERY	02JAN01
1440	HRSG INSTALLATION (1 & 2)	14JUN01
1442	STG DELIVERY	01FEB01
1444	STG INSTALLATION	15JUN01
1450	COOLING TOWER BASIN	17MAY01
1460	COOLING TOWER ERECTION	30JUL01
1480	ERECT TANKS & CLARIFIERS	24JUN01
1482	SUBSTATION	31MAY01
1484	115 KV XMISSION LN. DBL. CIRCUITING	30JUL01
1486	TRANSFORMER INSTALLATION	06JUL01
1488	BOP ELECTRICAL	31JUL01
1490	CEMS	30JUL01
1492	DCS	30JUL01
1494	PAINTING & INSULATION	30JUL01
1496	GAS SUPPLY PIPELINE & METERING STATION	30JUN01
1500	MECHANICAL COMPLETION	◆30JUL01
1505	IN-PLANT ROADS	01SEP01
1510	PAVING PLANT ACCESS ROAD FROM SR 44	15SEP01
COMMISSIONING, STARTUP, & PERF. T		
770	COMMISSIONING, STARTUP, PERFORMANCE	30SEP01
COMMERCIAL OPERATION		
780	COMMERCIAL OPERATION	◆01OCT01

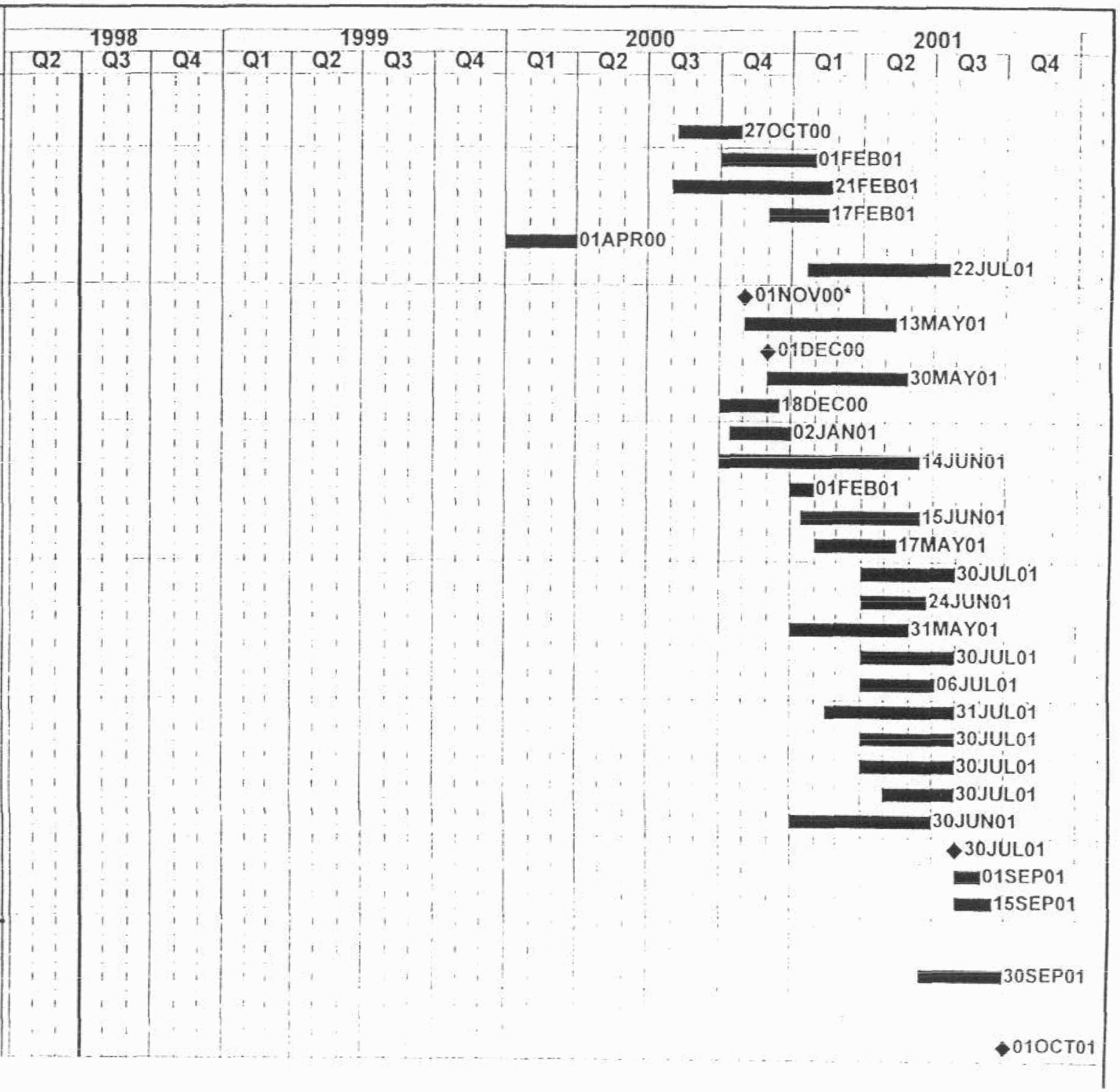

Exhibit ___ (ML-11)
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Exhibit ____ (ML-10)
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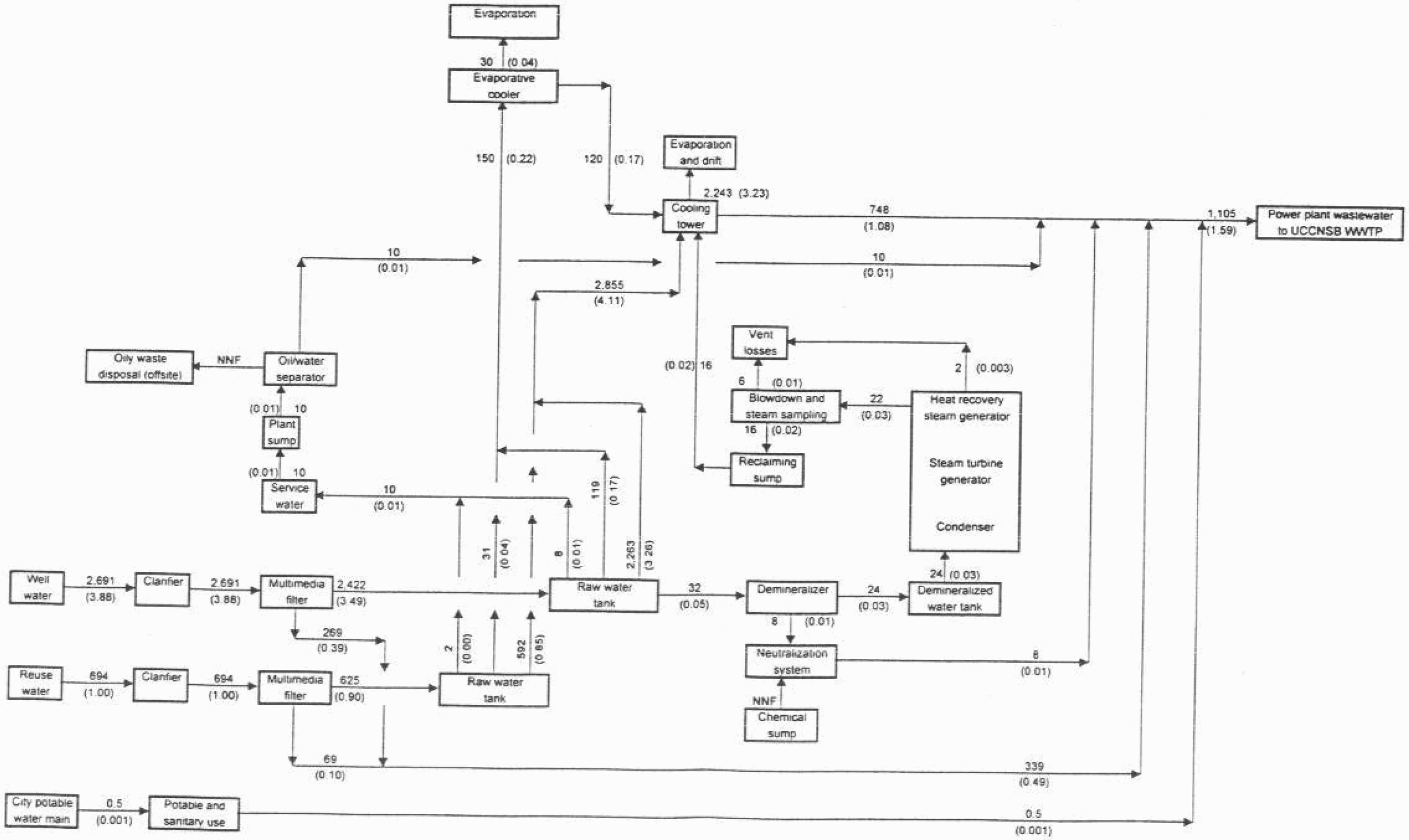
Duke Energy Power Services
New Smyrna Beach Power Project
New Smyrna Beach, Florida

Duke/Fluor Daniel
Contract 06-605102
September 21, 1998

PRELIMINARY WATER BALANCE - MAXIMUM DAILY CASE



NOTES

1) Flows are in shown in gallons per minute and in (million gallons per day)

2) Cooling tower blowdown is based on four cycles of concentration

3) NNF - normally no flow

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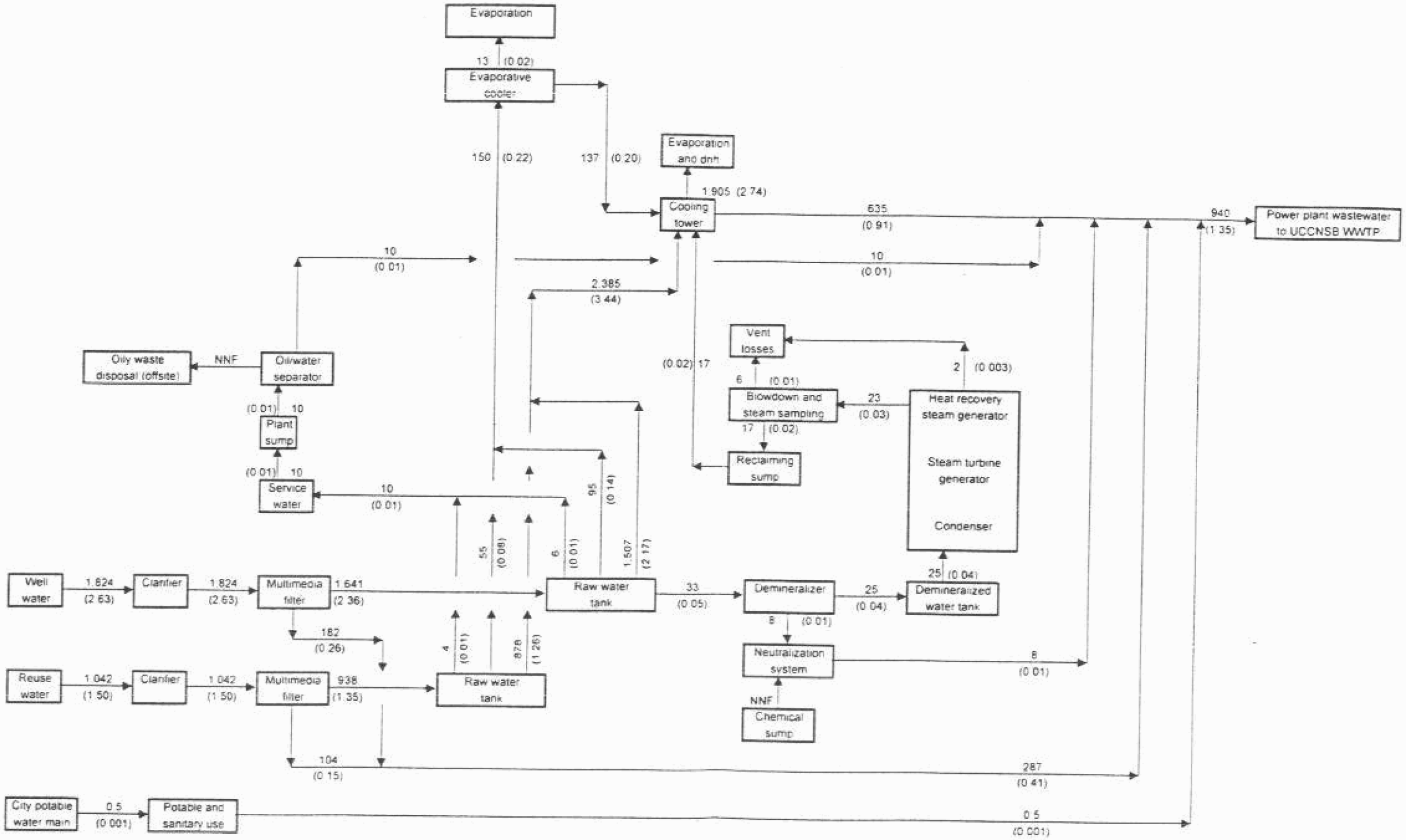
Exhibit ____ (ML-10)
Page 2 of 3

Duke Energy Power Services
New Smyrna Beach Power Project
New Smyrna Beach, Florida

Duke/Fluor Daniel
Contract 06-605102
September 21, 1998

PRELIMINARY WATER BALANCE - MAXIMUM MONTHLY 24 HOUR CASE



NOTES
1) Flows are in shown in gallons per minute and in (million gallons per day)
2) Cooling tower blowdown is based on four cycles of concentration
3) NNF - normally no flow

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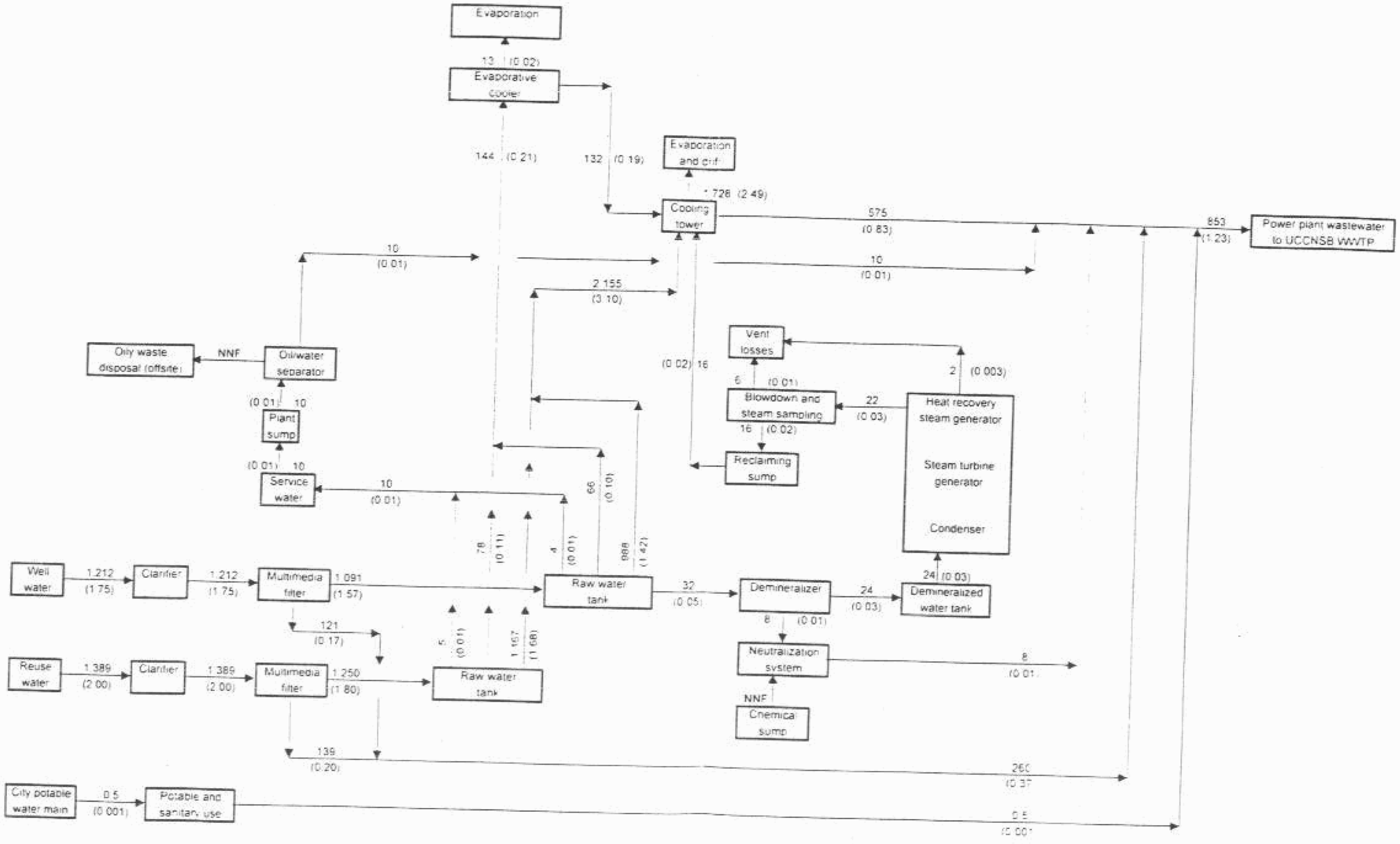
FPSC Docket No. 981042-EM
UCNSB/Duke New Smyrna
Witness: Locascio
Exhibit ____ (ML-10)
Page 1 of 3

Duke Energy Power Services
New Smyrna Beach Power Project
New Smyrna Beach, Florida

Duke/Fluor Daniel
Contract 06-605102
September 24, 1998

PRELIMINARY WATER BALANCE - MAXIMUM ANNUAL 24 HOUR CASE



NOTES
1) Flows are in shown in gallons per minute and in (million gallons per day)
2) Cooling tower blowdown is based on four cycles of concentration
3) NNF - normally no flow

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Design Basis
New Smyrna Beach Combined Cycle Project

I. Plant Description

1. General Arrangement

The facility will be located adjacent to the City of New Smyrna Beach Utilities Commission's existing 115 kV ring bus high voltage electrical substation and soon to be constructed six million gallons per day wastewater treatment plant. The proposed site lies approximately one-half mile northwest of the intersection of SR 44 and Interstate 95 in central Volusia County. Refer to the site plan for details.

The site is not subject to flooding. Insurance underwriters' requirements will be used as a basis for flooding and drainage design.

The site fence will enclose the plant boundary area as shown on the plot plan.

The site layout will provide maintenance access to all equipment. Mobile crane access will be provided in the areas not serviced by other cranes and monorails.

Storm water will be sheet runoff to culverts and diverted to an area used by the water treatment plant for storm water retention.

2. Site Description

General Site

The site is adjacent to an existing Utilities Commission high voltage electrical substation. The gas turbine will have an approximate elevation of 30 feet above mean sea level.

General Site Data

Site Elevation (at gas turbine)		30 feet
Ambient Conditions	Dry Bulb / RH	Max. 102°F / 63% Annual Avg. 71°F / 78% Min. 15°F / 78%
	Relative Humidity	Max. 100% Avg. 78% Min. 20%
Prevailing Wind	East to West	
Structural (Wind) Design		
	Design Code	per local code requirements
	Exposure	Per local code requirements
	Basic Wind Speed	Per local code requirements
Airborne Contaminant		New source requirements of FDEP / USEPA

Rainfall	(later)
Snowfall	None
Seismology	Per local code requirements
Backup Power	Available from the utility

Noise Requirements
Equipment
Limit to 90 dBA within 3 feet of all equipment (outside of equipment enclosures)
Facility
Nearest receptor is ½ mile from plant.

II. Mechanical System Description

1. Plant Capacity

A nominal 500 MW net power plant will utilize advanced gas turbine / steam turbine combined cycle power plant technology to generate electricity.

2. Steam Cycle

The plant will utilize a three-pressure level reheat closed loop steam cycle.

3. Major Equipment

The power plant will include two gas turbine generators (GTGs) with natural gas as the fuel and evaporative coolers for inlet air cooling, two unfired three-pressure level heat recovery steam generators (HRSGs), and a reheat, condensing steam turbine generator (STG). The plant will utilize a multiple cell cooling tower and a steam surface condenser.

4. Plant Operating Modes

Base load: this plant will normally be operated as a base load plant running an average of 8,500 hours per year, except for major overhaul years; that equates to 97% availability for non-overhaul years, and 88% availability for overhaul years

Daily Start-up Capability: less than 40 plant starts /annum

GTG: 60 –100% Load with commensurate steam turbine load; the system will not be designed to allow the GTGs to operate in simple cycle mode (bypassing the HRSG)

5. Gas Turbine Generators (GTG)

Two (2) advanced firing gas turbines, GE Frame 7FA or equivalent will be provided. The GTGs will be capable of delivering electric power in continuous operation, and will include all associated auxiliary systems and accessory equipment. An evaporative cooler will be supplied for cooling of inlet air. A dry, low NOx combustor for turbine exhaust emission control will be furnished. The emissions under all operating conditions will satisfy the requirements of the site discharge limit. Fuel oil firing is not included.

6. Steam Turbine Generator (STG)

The STG will be a condensing type, with reheat capability. The unit will include all of the associated auxiliary systems and accessory equipment.

7. Heat Recovery Steam Generators (HRSG)

One HRSG will be provided for each gas turbine unit to recover the waste heat from gas turbine exhaust and generate steam. The HRSG will be of an unfired three-pressure level, natural circulation design with steam reheat and superheater sections, complete with steam desuperheaters. Space will be provided for future installation of SCR catalyst. All associated auxiliary systems and accessory equipment, and a 150 feet high stack will be provided.

8. Fuel Gas System

The plant will utilize natural gas as the fuel, supplied at a sufficient pressure at the plant boundary so that no additional fuel compression will be required. Fuel oil back up will not be used. Fuel gas liquids removal and gas preheating will be utilized as part of the fuel gas system. Gas metering facilities will be provided by others and located just outside the plant battery limits.

9. Steam System

The steam system will consist of HRSG steam drums, superheaters and economizers, steam piping to and from the steam turbine, steam turbine bypass piping, steam piping to gland seal and steam jet air ejector system, steam deaeration, solids and chemistry control. No export steam is produced at this plant.

10. Condensate System

The condensate system will be designed to provide water sufficiently deaerated and with the proper water chemistry to meet HRSG requirements. The system will provide sufficient capacity for operation over the entire ambient range.

11. Feedwater System

Feedwater from the boiler feedwater system is also used as spray water for superheater desuperheaters. A three-element feedwater control system will be provided for each section of the HRSG.

12. Cooling Water System / Steam Condensing

The cooling water system will provide cooling for condensing the steam turbine exhaust and the plant auxiliary equipment. The system will consist of a multiple-cell cooling tower constructed of Douglas Fir and a steam surface condenser with vacuum system. The cooling tower will be complete with pumps, water chemistry control (including biocides), and fire protection. The cooling tower approach is 11°F and the range is 12°F at an ambient of 71°F / 78% R.H. (wet bulb of 66.2°F). The condenser will operate at a nominal 1.68" HgA on a 71°F day.

13. Closed Loop Auxiliary Cooling Water System

The closed loop auxiliary cooling water system provides cooling for auxiliary equipment. The system will utilize demineralized water with corrosion inhibitor.

14. Fire Protection System

A complete fire protection will be provided for the plant. It will include fixed water fire suppression systems, fire hose stations, hydrants, portable fire extinguishers, detection and control systems, etc. It will be designed and installed in accordance with the National Fire

Protection Association (NFPA) standards and recommendations. All fire protection equipment and systems will be UL or FM approved, and will comply with the local fire protection authority's and owner's insurance carrier requirements and recommendations. The primary source of firewater is the city 12" water main. The secondary source will be the raw water system.

15. Raw Water System

Raw water is supplied as make up water lost from cooling tower losses and as feed to the demineralizer. This water will be provided from two sources. The primary source will be treated effluent from the nearby municipal wastewater treatment plant, at a maximum daily flow of 2,000,000 gallons / day. This water will flow through a clarifier, a pressure filter, and an activated carbon filter, then to a raw water storage tank. The secondary source is well water, supplied by the city water utility, which will flow through a clarifier and a pressure filter, then into a separate raw water storage tank. The wells will be owned by the city water utility, which will supply the wells, pumps, piping up to the plant battery limit, and the electrical connects / power. The well pumps will be controlled via the raw water storage tank level control system. The raw water storage tank will be sized to provide four (4) hours of water storage at the maximum flow required.

16. Demineralizer

Demineralized water is supplied as makeup water to the steam cycle lost as boiler blowdown and steam losses. Raw water will be processed by the demineralizer system, which reduces the dissolved solids to the final requirements by using synthetic ion exchange resins. The system will be a cation, anion, and mixed bed vessel type, complete with two 100% capacity trains. The ion exchange resins will be regenerated with a strong acid and a caustic. The effluent from the demineralized system will be directed to the demineralized water storage tank. The demineralized water storage tank will provide demineralized water for condenser hotwell makeup. The storage tank will be sized to provide 7 days of storage at the normal flowrate.

17. Waste Water System

A regeneration waste neutralization system will receive the regeneration wastes from the demineralized waste system and the chemical waste sump. This system will agitate the regeneration wastes and inject acid or caustic to adjust the pH of the wastes into compliance with permit limits.

Process wastewater contaminated with oils will be segregated from other wastewater and treated in the oily waste water system. Oil contaminated wastewater will be collected in the oily waste water sump then pumped to an oil / water separator to remove the oil.

Treated wastewater and waste from the cooling tower will be directed to the nearby municipal wastewater treatment plant. Storm water will be routed via sheet flow to culverts and directed to a nearby retention area.

18. Miscellaneous Systems

- Hose stations will be supplied around the plant, complete with water and service air.
- Instrument air and service air will be supplied with two 100% capacity compressors.
- Potable water will be supplied via the city water system.

- A sanitary lift station will be provided for sewage waste, which will be sent to the nearby municipal wastewater treatment plant.
- Sump systems
- Continuous Emissions Monitoring System (CEMS) monitoring NOx, CO, opacity and diluent gas
- Miscellaneous lifting equipment

III. Electrical System Description

1. Utility Interface

The electrical interconnection with the utility will be at 115 kV. The electrical interface will be at the existing 115 kV substation. Transmission lines will connect the high side of the generator step-up transformers to circuit breakers located in the substation extension.

2. Substation

The existing 115 kV substation will be utilized. Modifications to the substation are in the scope of the city utility.

3. Cathodic Protection

Cathodic protection will be provided, as required by the soil analysis.

4. Intraplant communication

A system for intraplant communication will be provided.

4. Plant Lighting

A complete plant lighting system, including emergency lighting will be supplied.

5. Backup Power

An UPS system (battery backup) will be included. Normal backup power will be from the utility.

IV. Instrument and Control System Description

1. DCS

A plant Distributed Control System will be supplied to monitor, record and control plant functions. Local control panels (PLC's) will be used for some equipment, such as the water treatment system, GTGs, and STG. Local panels will be connected to the DCS for monitoring and reporting. An historical plant recorder will also be included.

2. Control Philosophy

Environmental monitoring will be collected in the DCS. Control systems will have feedback / feedforward systems as required, and will be monitored in the control room. Operator intervention will be required on an as needed basis.

3. Freeze Protection / Heat Tracing System

Although freezing temperatures are occasionally encountered at the site, they are not of sufficient duration to warrant winterization of the facility.

V. Civil Structural System Description

1. Site Geotechnical Conditions

   It is anticipated that piling will be required. Details will be available after review of the site geotechnical survey.

2. Structural Design

   Standard power plant structural design, taking into account site seismic zone and wind loads, will be used.

3. Buildings

   A 4,800 square foot warehouse / administration / maintenance building will be built at the plant entrance. A 3,850 square foot control room will be provided to house the DCS and plant operations personnel.

VI. Environmental Concerns

1. NOx and other emissions limit to be permitted.

2. Far field noise limitations on housing ½ mile away.

3. Waste water / effluent conditioning: temperature, biocide, etc.

FPSC Docket No. 981042-EM
UCNSB/Duke New Smyrna
Witness: Locascio
Exhibit _____ (ML-9)

NEW SMYRNA BEACH POWER PROJECT GENERATING ALTERNATIVES EVALUATED

I. GENERATION TECHNOLOGIES CONSIDERED

Combustion Turbine (Gas/Oil)	Not cost-effective based on Florida market projections
Combined Cycle - Gas	Selected
Combined Cycle - Oil	Not cost-effective against Combined Cycle - Gas
Pulverized Coal	Not cost-effective against Combined Cycle
Coal Gasification Combined Cycle	Not cost-effective against Combined Cycle
Nuclear	Not cost-effective against Combined Cycle
Gas/Oil Steam	Not cost-effective against Combined Cycle
Waste to Energy	Not cost-effective against Combined Cycle

II. COMBINED CYCLE MANUFACTURERS CONSIDERED

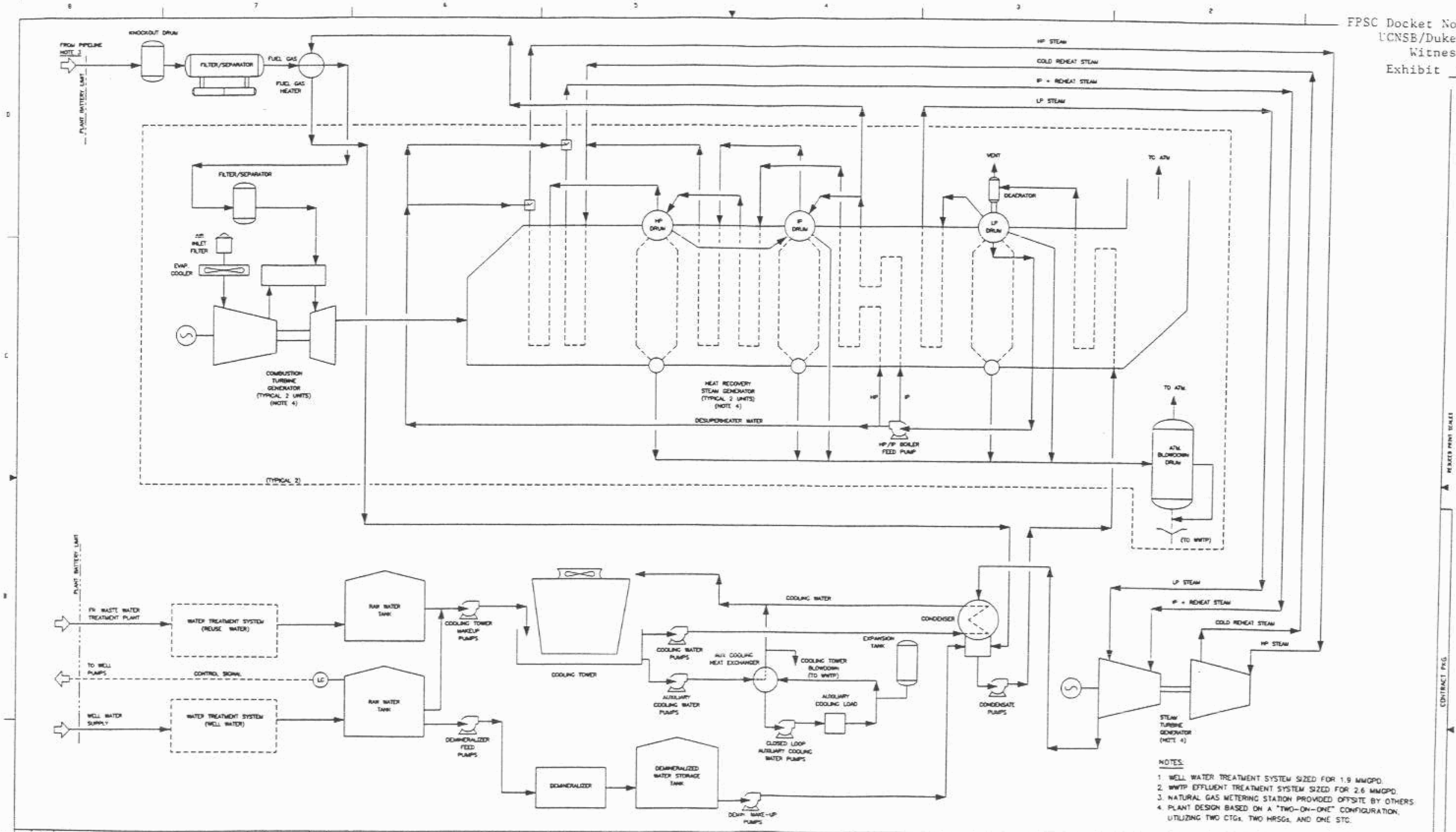
General Electric

Westinghouse

Siemens

ASEA Brown Boveri (ABB)

FPSC Docket No. 981042-EM
UCNSB/Duke New Smyrna
Witness: Locascio
Exhibit _____ (ML-7)



NOTES:

1. WELL WATER TREATMENT SYSTEM SIZED FOR 1.9 MMGPD.
2. WWTP EFFLUENT TREATMENT SYSTEM SIZED FOR 2.6 MMGPD.
3. NATURAL GAS METERING STATION PROVIDED OFFSITE BY OTHERS.
4. PLANT DESIGN BASED ON A "TWO-ON-ONE" CONFIGURATION, UTILIZING TWO CTGs, TWO HRSGs, AND ONE STG.

REV.	DATE	REVISION DESCRIPTION	CHK.	APPROVED	REV.	DATE	REVISION DESCRIPTION	CHK.	APPROVED	DWG.NO.	REFERENCE DRAWINGS
0.	8/21/98	ISSUED FOR SCA	DE								

DUKE/FLUOR DANIEL
POWER ENGINEERING • CONSTRUCTION • OPERATIONS & MAINTENANCE

DESIGNED BY: S. DROVA
CHECKED BY:
SUPERVISED: BCS
PROJECT: 0687740
CLIENT: DEPS

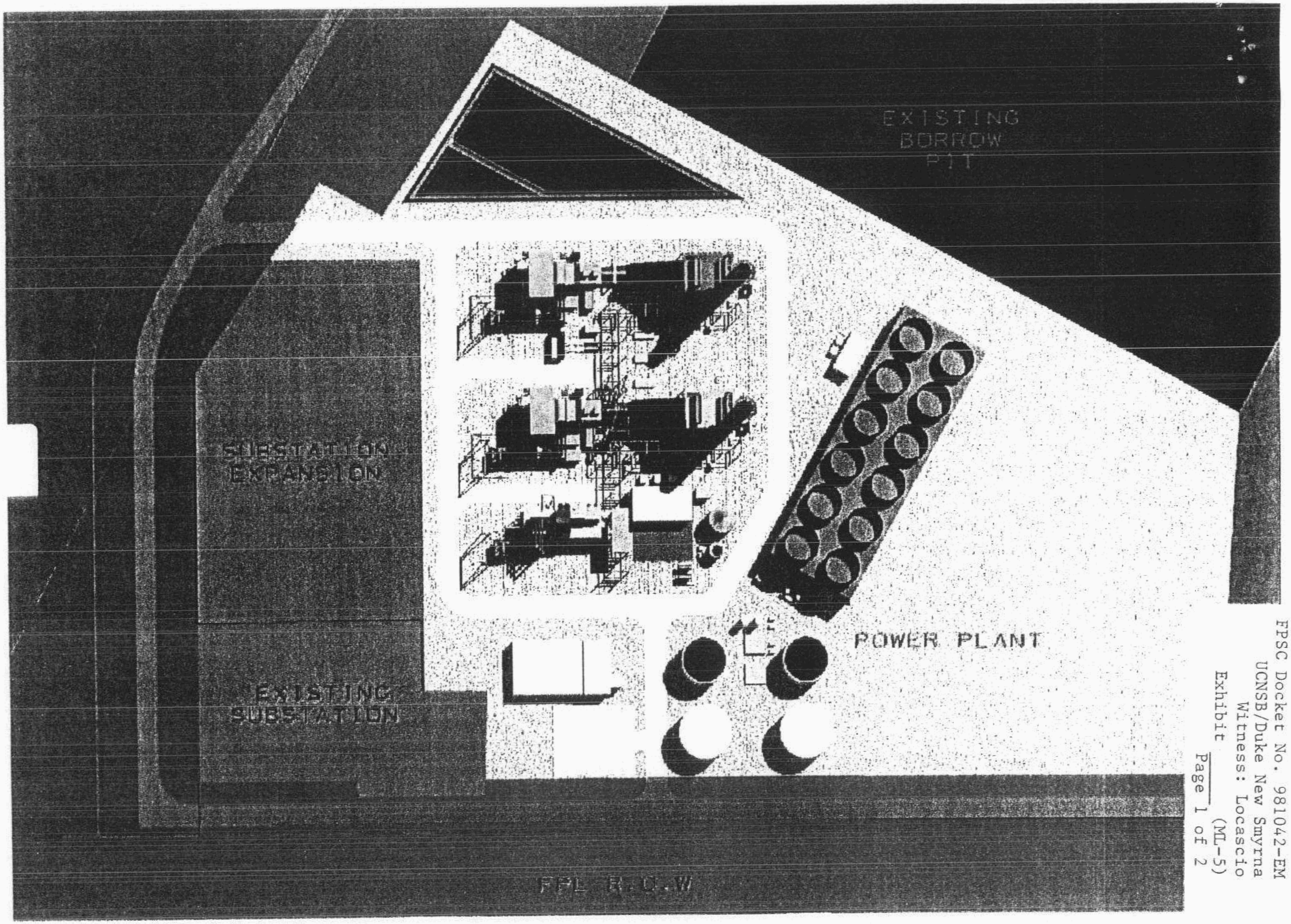
PROCESS FLOW DIAGRAM
DUKE ENERGY POWER SERVICES
NEW SMYRNA BEACH POWER PROJECT

SCALE: NONE
DRAWING NUMBER: 06877401-PFD-001
REV: 0

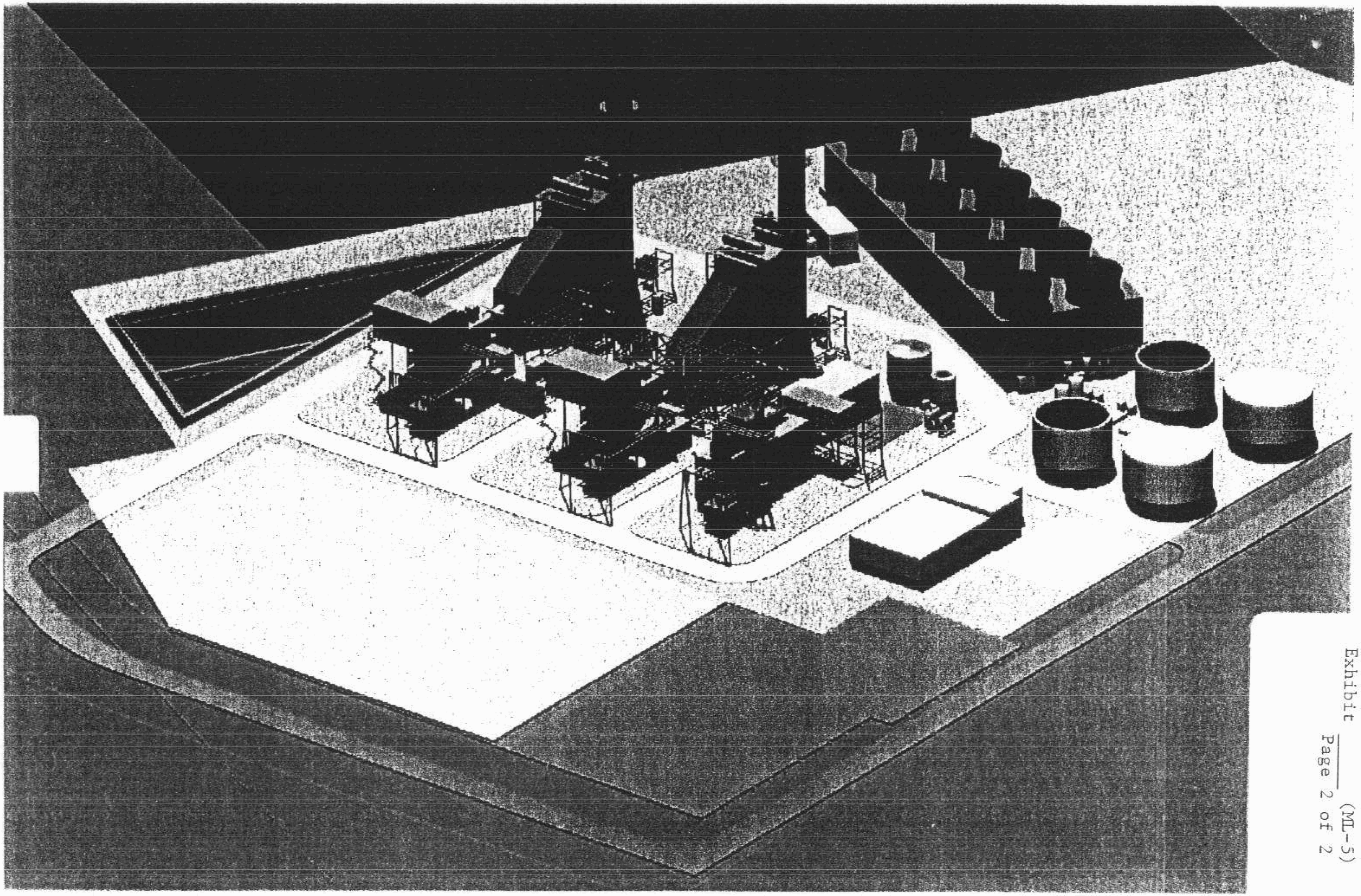
MANUAL CHANGES MADE - YES ☐ NO ☐ DWG. FILE UPDATED - YES ☐ NO ☐ MODEL UPDATED - YES ☐ NO ☐

CAD DRAWING No. PFD001_0

FPSC Docket No. 981042-EM
UCNSB/Duke New Smyrna
Witness: Locascio
Exhibit ___ (ML-5)
Page 1 of 2



NEW SMYRNA BEACH POWER PROJECT
OVERHEAD RENDITION



NEW SMYRNA BEACH POWER PROJECT
PERSPECTIVE RENDITION

Exhibit ____ (ML-5)
Page 2 of 2

FPSC Docket No. 981042-EM
UCNSB/Duke New Smyrna
Witness: Locascio
Exhibit _____ (ML-6)

Duke Energy Power Services
New Smyrna Beach Power Project
New Smyrna Beach, Florida

Duke/Fluor Daniel
Contract 06-605102
September 28, 1998

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.

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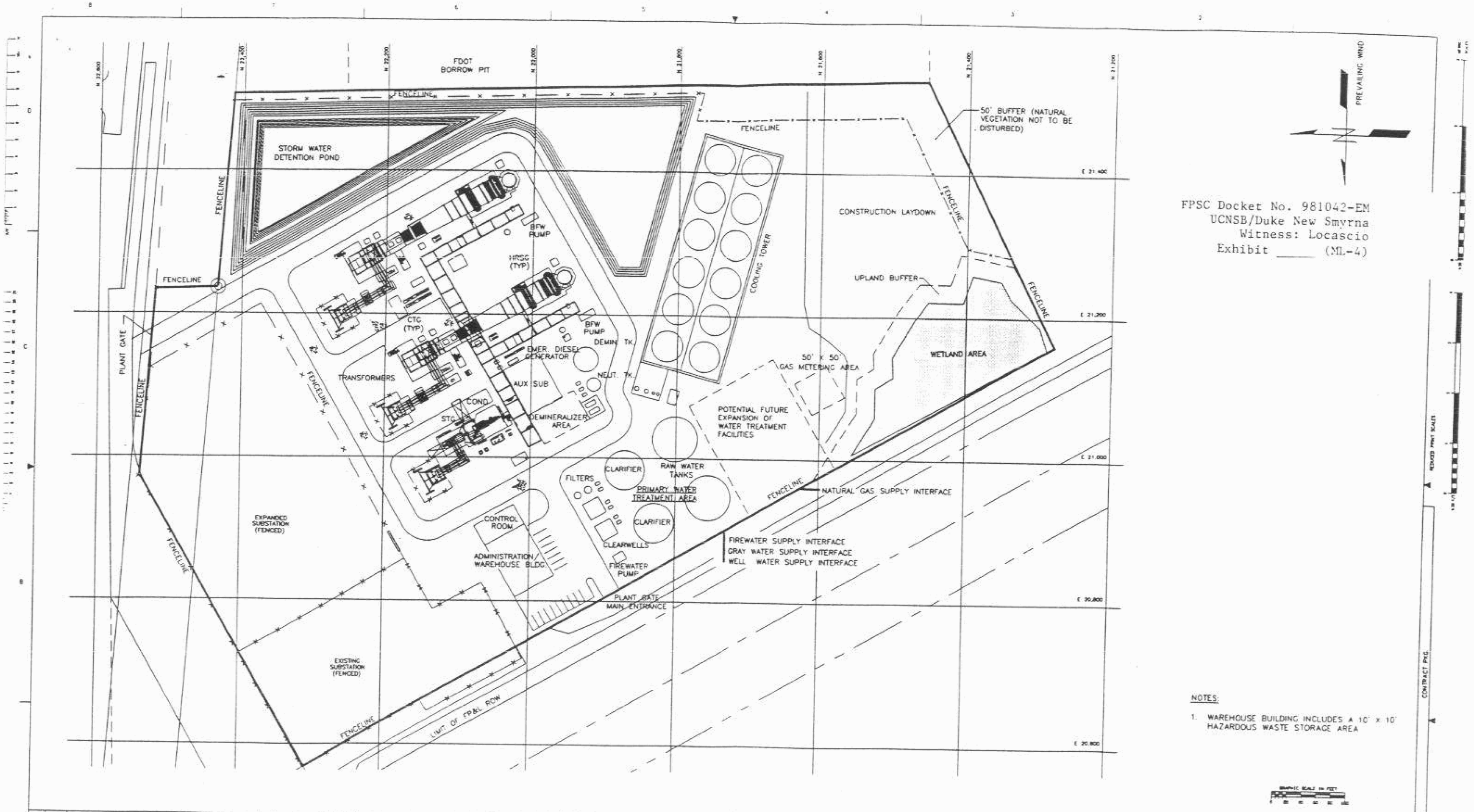
FPSC Docket No. 981042-EM
UCNSB/Duke New Smyrna
Witness: Locascio
Exhibit _____ (ML-4)



NOTES:

1. WAREHOUSE BUILDING INCLUDES A 10' x 10' HAZARDOUS WASTE STORAGE AREA

REV	DATE	REVISION DESCRIPTION	CHK	APPROVED
0	9/18/98	ISSUED FOR SCA	DB	DS

DUKE/FLUOR DANIEL
POWER ENGINEERING • CONSTRUCTION • OPERATIONS & MAINTENANCE

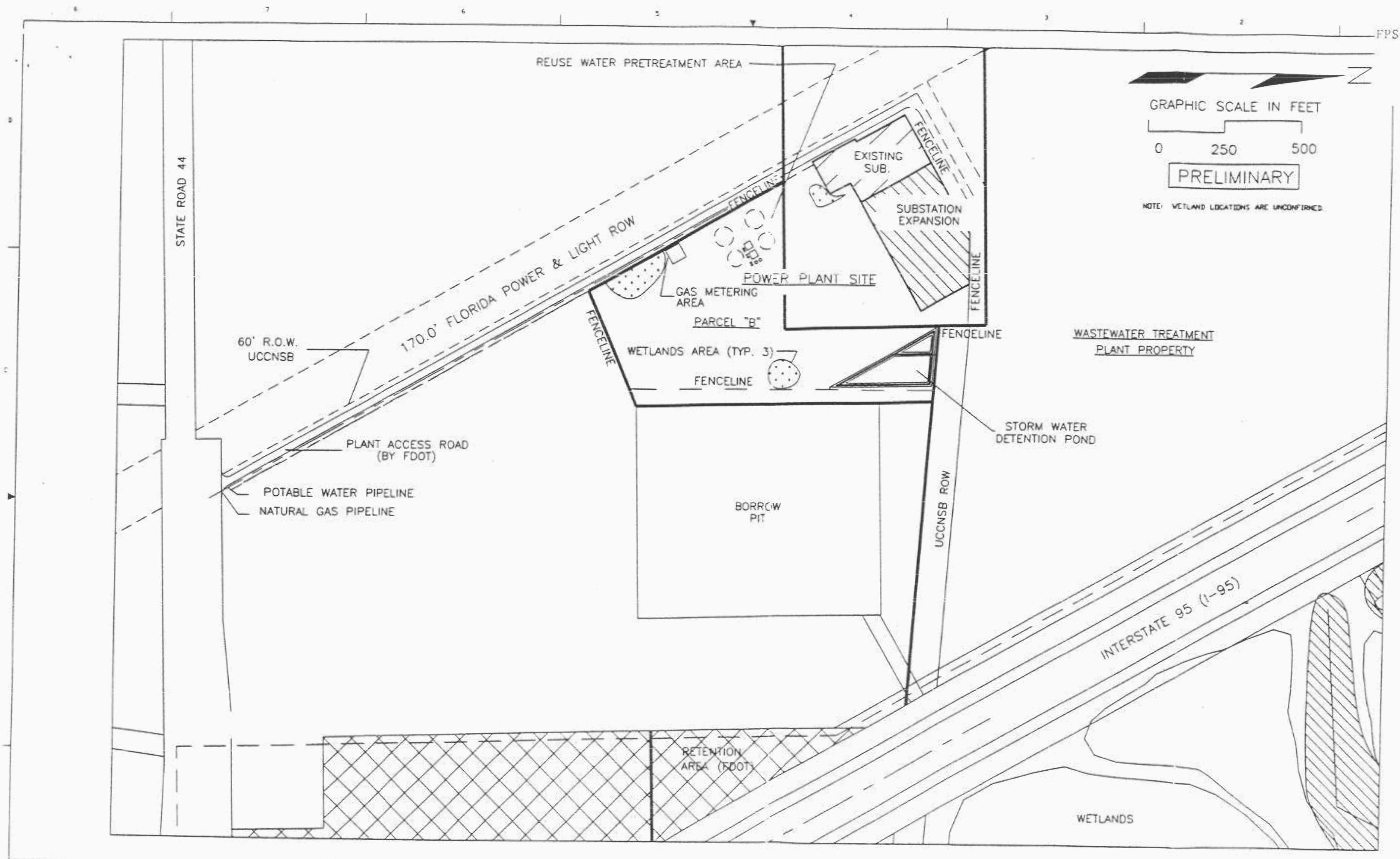
DESIGNED BY: D. BROWN
SUPERVISOR: DCS 4/6/98
PROJECT: 8877401
CLIENT: DEPS

PROPOSED PLOT PLAN
DUKE ENERGY POWER SERVICES
NEW SMYRNA BEACH POWER PROJECT

SCALE: 1" = 80'
DRAWING NUMBER: 877401-1-PP-5-00-1 REV: 0
CAD DRAWING No. 51T01_0.DWG

*DATE*TIME* MANUAL CHANGES MADE - YES ☐ NO ☐ DWG FILE UPDATED - YES ☐ NO ☐ MODEL UPDATED - YES ☐ NO ☐

FPSC Docket No. 9810
UCNSB/Duke New Sm
Witness: Loca
Exhibit ____ (M



REV.	DATE	REVISION DESCRIPTION	CHK.	APPROVED	REV.	DATE	REVISION DESCRIPTION	CHK.	APPROVED	DWG.NO.	REFERENCE DRAWINGS
A	7/29/98	ISSUED FOR INFORMATION	DB								

DUKE/FLUOR DANIEL
POWER ENGINEERING • CONSTRUCTION • OPERATIONS & MAINTENANCE

FIGURE 4
NEW SMYRNA BEACH POWER PROJECT
SITE PLAN

SCALE: NONE
06877401-00-51T-03
REV. A

CAD DRAWING No. 0051T03A

*DATE*TIME*